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Efforts to Improve the Fourth-Grade Elementary Students' Learning Outcomes Using Audio Visual Media-Assisted Scientific Learning Models

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ABSTRACT

This paper examines the improvement of students' learning outcomes by using the scientific learning model assisted by audio-visual media and determines the process of implementing the scientific learning model assisted by audio-visual media in class IV at SD Negeri 116906 in the academic year 2022/2023. The research method used in this research is classroom action research. The research subjects consisted of 26 students. Based on the analysis and discussion of the research, the learning outcomes in individual student pre-tests were five students who completed the classical test, which indicates 17% with an average score of 46.5. In cycle I, 13 students individually completed the results with a classical score of 43% and an average score of 60.76. In cycle II, 25 students individually completed the results with a classical score of 83% and an average score of 79.8. It shows that in cycle I to cycle II there was an increase. Based on the result of learning implementation using the scientific learning model assisted by audio-visual media, teacher activity observation in cycle I was 62% in the sufficient category and in cycle II it increased to 88% in the very high-quality category. Meanwhile, the results of student activity observation in cycle I indicated 66% in the sufficient category and in cycle II it increased to 86% in the good category. Thus, the scientific learning model assisted by audio-visual media can improve students' learning outcomes.

Keywords*: *scientific learning model, audio-visual media, students' learning outcomes

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INTRODUCTION

Education in Indonesia is currently still far from expectations. Many factors cause a decline in the quality of education, such as students, teachers, facilities and infrastructure and the learning models used. Apart from that, low student interest and motivation, poor teacher performance, and inadequate facilities and infrastructure will result in less successful learning. A less successful learning process can cause students to be less interested in learning. Lack of student interest is shown by the lack of learning activities, interaction in the learning process and student preparation in participating in teaching and learning activities. In the modern era and with the many variations of learning methods and models that exist, teachers should be able to apply them in the classroom so that the learning atmosphere becomes more active and enjoyable so that optimal learning outcomes can be achieved.

Law No. 20 of 2003 Article 3 states that national education functions to develop and shape the character and civilization of a dignified nation in order to make the nation's life more intelligent. Apart from that, education also aims to develop the potential of students to become human beings who believe in God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. Thus it appears that for our nation education is very important because education is one of the needs in human life and lasts a lifetime. Education will also go well if the individual has a good self-concept. Situmorang, (2020:1359). Education makes Indonesian people more faithful and devoted to God Almighty, able to develop their abilities to become more knowledgeable, independent and creative.

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To develop the abilities of every citizen, various methods have been implemented in the world of education, starting from Kindergarten, Elementary School, Middle School, High School, to University. The Ministry of Education and Culture issued additional regulations regarding the educational curriculum regarding the implementation of the learning process in elementary schools. This regulation is contained in the attachment to the Minister of Education and Culture Regulation Number 67 of 2013 concerning the Primary School Curriculum which states that the implementation of the 2013 Curriculum in elementary schools/madrasahs is carried out through learning with an integrated thematic approach from class I to class VI.

Based on the results of observations and interviews with class IV teachers at SD Negeri 116906 Pulau Harapan. Learning tends to be boring where teachers only tend to use textbooks rather than learning models so that learning is monotonous, which means that teaching is only in one direction, such as lectures, giving assignments continuously so that students are bored and not focused on the teaching and learning process because it is not accompanied by various methods or models. challenge students to be interested in learning. This is in line with data obtained from student exam results.

The quality or learning achievement of students is influenced by various aspects, for example attitudes, talents, motivation, level of intelligence, curriculum, models, methods, strategies, approaches, media, techniques, learning environment, facilities and infrastructure, and so on. Teachers rarely use learning strategies and models that can help students understand how to learn, think and motivate themselves (Self Motivation).This can be seen from the daily test results obtained by students which are not in accordance with the standards for student learning completeness, where the student's scores can be seen in the following table.

Table 1. Student Learning Outcome Data

Subjects	Value	The number of students	Percentage	Description
Bahasa Indonesia	>70	7	23 %	Complete
	<70	23	76 %	Not Completed
IPA	>70	6	20 %	Completed
	<70	24	80 %	Not Completed
SBdp	>70	10	33 %	Completed
	<70	20	66 %	Not Completed

Data source: SD Negeri 116906 Pulau Harapan

Based on table 1, it is known that the minimum completion criteria (KKM) that has been determined is 70. The average grade IV exam score is 60. 7 students or 16% of students who achieved the KKM completed it and 23% of students who did not complete it or 76% of the 30 students who did not complete class IV at SD Negeri 116906 Pulau Harapan. Looking at the facts that have been presented, it is necessary to improve learning so that student learning outcomes increase after knowing the problems above, there is a need for appropriate solutions and follow-up to improve student learning outcomes in theme 2 Always Save Energy Class IV SD Negeri 116906 Pulau Harapan.

Low student learning outcomes are caused by a lack of teachers in using learning models and inappropriate application of learning media. Learning still tends to be centered on students' books so that students are less active in the learning process, and the system of opening book pages means that students only function as recipients of treatment. Therefore, it is necessary to use a learning model and learning media that can place students as subjects (actors) of learning and educators only act as facilitators in the learning process. One of them is by using the Scientific model with the help of audio-visual media, where students are required to be more active and analytical in solving a problem. The Scientific Model has advantages. The

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advantages of using the Scientific model include helping students to improve and enhance cognitive skills and processes.

LITERATURE REVIEW

Scientific Learning Model

According to Fadlillah in Ghozali, (2017: 3) The scientific learning approach is the approach used in learning carried out through a scientific process. In that sense, what students learn and obtain is done with their own senses and mind, so that they are directly in the process of gaining knowledge. With this approach, students are able to face and solve the problems they face well. Kadir, (2018:11-12) Scientific approach or scientific approach, learning is a scientific process. Learning that uses inductive reasoning. Inductive reasoning is looking at a specific and detailed phenomenon or situation and then drawing overall conclusions. The method in this approach refers to researching phenomena or symptoms, obtaining new knowledge, correcting, integrating previous knowledge. The scientific learning process is a combination of learning processes which were originally focused on exploration, elaboration and confirmation, complemented by observing, asking, reasoning, trying, communicating.

According to Akhyar (Ghozali, 2017:4) The scientific approach is an approach that is based on facts or phenomena that can be explained with certain logic or reasoning, not based on guesswork, imagination or fairy tales. According to Lusiana Ghozali, (2017:5). The scientific criteria referred to in the scientific learning process are: Learning materials are based on facts or phenomena that can be explained using certain logic or reasoning; not just mere guesswork, imagination, legend, or fairy tale, Explanations from the teacher, student responses, and teacher-student educational interactions that are free from immediate prejudice, subjective thinking, or a handful of reasoning that deviates from the flow of logical thinking., Encourage and inspire students to think critically, analytically and precisely in identifying, understanding, solving problems and applying lesson material, Encouraging and inspiring so that students are able to think hypothetically in seeing differences, similarities and links to each other from the learning material, Able to encourage and inspire students to understand, apply and develop a rational and objective mindset in responding to learning material, Concepts, theories and empirical facts that can be accounted for, Formulate learning objectives in a simple and clear manner but with an interesting presentation system.

From several expert opinions above, it can be concluded that the Scientific learning model is systematic knowledge obtained from observation, research and trials which leads to the principles of something being researched. Scientific learning is student-centered learning while the teacher is a facilitator, mediator and motivator.

Steps for Implementing the Scientific Learning Model

The steps for learning with a scientific approach according to Mahmudi, (2015:562) are as follows: 1. Observing, Observing with the senses (reading, hearing, listening, seeing, observing, and so on) with or without tools to identify things you want to know in order to carry out certain actions, 2. Asking (questioning), Making and asking questions, asking questions, discussing information that is not yet understood, additional information you want to know, or for clarification, 3. Gathering information/trying (experimenting). Carrying out experiments, reading other sources and textbooks, observing objects/events/activities, interviewing sources to collect data/information relevant to the question, 4. Reasoning/Associating, Processing information that has been collected to answer questions/draw conclusions, 5. Communicate , Present reports/conclusions in the form of charts, diagrams or graphs; prepare written reports; and present reports including processes, results and conclusions verbally, 6. Make. Innovate, create, design models, designs, products (works) based on 'constructed' or acquired knowledge.

In line with this, Kurniasih, et al (Isha, 2018:23-24) stated that the scientific learning approach is presented as follows: 1. Observation, the observation method prioritizes the meaningfulness of the learning process (meaningful learning). This method has certain advantages, such as presenting media objects in a real way, making students happy and challenged, and being easy to apply. The observation method is very useful

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for fulfilling students' curiosity. So that the learning process has high meaning, 2. Ask questions. An effective teacher is able to inspire students to improve and develop their attitudes, skills and knowledge. When the teacher asks questions, that's when he guides or guides his students, that's when he encourages them to be good listeners and learners, 3. Gathering Information, The activity of "gathering information" is a follow-up to asking questions. This activity is carried out by exploring and collecting information from various sources through various methods. Students can read more books, pay closer attention to phenomena or objects, or even carry out experiments. From these activities a number of information was obtained. In Permendikbud Number 81a of 2013, information gathering activities are carried out through experiments, reading sources other than textbooks, observing objects/events, interviewing sources and so on, 4. Associating/Processing Information/Reasoning. The activity of "associating/processing information/reasoning" in learning activities as stated in Minister of Education and Culture Regulation Number 81a of 2013, is processing information that has been collected both from the results of observation activities and collection/experiment activities as well as the results of collection/experiment activities and the results of activities observation. and information gathering activities, 5. Draw conclusions. Closing activities in learning with a scientific approach are a continuation of data or information processing activities. After finding relationships between information and finding various patterns of these relationships, then together in groups, or individually, make conclusions, 6. Communicate. In a scientific approach, teachers are expected to provide opportunities for students to communicate what they have learned. This activity can be done by writing or telling what is found in the activities of searching for information, associating and finding patterns. These results are presented in class and assessed by the teacher as the learning outcomes of a student or group of students. The activity of "communicating" in learning activities as stated in the Minister of Education and Culture Regulation Number 81 A of 2013 is conveying the results of the analysis orally, in writing, or through other media.

From several expert opinions above, it can be concluded that there are steps that must be followed in learning activities using a scientific model. The steps for learning using a scientific model are: 1. Observing, namely using all the sensory organs to recognize an object that is observed, 2. Asking, which is a thinking process driven by the child's curiosity about an object or event, 3. Collecting information, namely conducting trials, discussing, reading books, asking questions, and concluding results from various sources, 4. Associating, namely connecting the knowledge he already has with new knowledge he has acquired or that is around him, 5. Communicating, namely conveying things learned, for example through stories, movements and by showing work in the form of pictures. Learning will be more meaningful and enjoyable if these steps are realized in learning activities. If this is what happens in learning activities, then there is no longer the term that in learning students are passive in class, but active. With meaningful and enjoyable learning, it certainly has a positive effect on student learning outcomes.

Advantages and Disadvantages of the Scientific Learning Model

Each learning model has advantages and disadvantages in the process of implementing it in the classroom. The advantages and disadvantages of these models may be similar or the same, but some are different. Likewise with the scientific model, which will be applied by researchers in their research. According to Khairiah Rahman, (2019: 24), there are many advantages and disadvantages to scientific learning. The advantages of the scientific learning model are as follows: 1. The learning process is more student-centered, allowing students to be active and creative in learning, 2. The learning steps are systematic, making it easier for teachers to manage learning implementation. Giving teachers opportunities to be more creative and inviting students to be active with various learning resources, 3. Learning steps involve scientific process skills in constructing legal concepts or principles, 4. The learning process involves cognitive processes that have the potential to stimulate intellectual development, especially students' higher-order thinking skills, 5. Can develop students' character, 6. The assessment covers all aspects, 7. Guide students to solve problems through careful planning activities, data collection, data analysis to produce conclusions, 8. Develop students' sensitivity to problems that occur in their environment, 9. Get students used to taking learning risks, 10. Developing students' abilities in argumentation and communication.

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The weaknesses of the scientific learning model are as follows: 1. High creativity is required from the teacher to create a learning environment using a scientific approach so that if the teacher does not want to be creative then learning cannot be carried out in accordance with the learning objectives, 2. Teachers rarely explain subject matter because many teachers think that with the latest curriculum teachers do not need to explain the material and teachers are only facilitators, 3. Can hinder the pace of learning which takes up time, 4. Failure and errors in conducting experiments will result in erroneous conclusions, 5. If there are students who are less interested in the material being studied, it can cause learning to be ineffective.

The scientific approach itself has advantages and disadvantages, one of the advantages of the scientific approach is to create a pleasant learning situation Budianto, (2016: 12). According to Baldwin Kodir, (2018:24) the advantages of the scientific learning model are: 1. Student-centered, 2. Involves science process skills in constructing concepts, laws or principles, 3. Involves cognitive processes that have the potential to stimulate intellectual development, especially students' higher order thinking skills, 4. Can develop students' character.

A student-centered learning approach has advantages and disadvantages Kodir, (2018:24). The advantages of this learning are as follows: 1. Students will be able to feel that learning is their own because students are given ample opportunities to participate, 2. Students have strong motivation to take part in learning activities, 3. The growth of a democratic atmosphere in learning so that dialogue and discussion will occur for students to learn from each other, 4. Increase insight and knowledge for teachers because something experienced and conveyed by students may not be known to the teacher. The weaknesses of a student-centered learning approach are: 1. Requires longer time than the previously determined learning time, 2. Activities and conversations in learning tend to be dominated by ordinary students or those who like to talk so that many other students follow the thoughts of students who like to talk, 3. Discussions can deviate from previously established learning directions. The scientific approach has advantages, namely as follows Aprianita, (2015: 37): 1. Guide students to solve problems through careful planning activities, data collection, analysis or to produce conclusions, 2. Guide students to think systematically, critically, creatively, carry out research activities and build conceptualization of knowledge, 3. Develop students' sensitivity to problems that occur in their environment, 4. Get students used to taking learning risks, 5. Developing students' abilities in argumentation and communication, 6. Develop student character. The scientific approach also has weaknesses, including the following: 1. Can hinder the pace of learning which takes up time, 2. Failure and errors in conducting experiments will result in erroneous conclusions, 3. If there are students who are less interested in the material being studied, it can cause learning to be ineffective.

From several expert opinions above, it can be concluded that this learning model has many advantages and also weaknesses. The advantages of this learning model are what makes each learning model unique and also what differentiates it from other models. Meanwhile, the weaknesses of this learning model should be anticipated so that the learning process runs well. Learning is in accordance with the goals to be achieved both by students, educators, schools, curriculum and education as well as by the community such as students' parents and the surrounding environment.

Audio Visual Learning Model

Video media is media that shows auditive (hearing) and visual (sight) elements so that Anitah's voice can be seen or heard (Krissandi, 2018:61). The aim of using this media is to provide a more interesting explanation regarding the knowledge that the teacher will provide to students and the information provided is expected to be in accordance with the learning objectives. Audiovisual media can be used for learning in thematic lessons in the 2013 curriculum.

According to Dewi, Putra, and Gani (2017:4) Learning with the help of animated audio-visual media, students are invited to see and hear directly the animated images shown via the video which contain messages and information. This is where the advantages of audio-visual media lie because this media utilizes two senses, namely the sense of sight and the sense of hearing, so that it is easier for students to understand an abstract concept to become more concrete. Animated audio-visual media contains cartoon images so that the message

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and information conveyed attracts students' attention more, students can understand a concept in its entirety, not only as knowledge but can also be applied in learning process activities and in everyday life.

According to Setiadarma (2006:21-22) audio visual learning media is audio visual technology, a way of producing or delivering material using mechanical and electronic machines to present audio and visual messages. The main characteristics of audio visual media technology are: 1. It is linear, 2. Present dynamic visuals, 3. Used in a manner previously determined by the designer/maker, 4. Is a physical presentation of real ideas or abstract ideas, 5. Developed according to the psychological principles of behaviorism and cognitive, 6. Teacher-oriented with a low level of student interactive involvement.

Steps for Implementing Audio Visual Media

The procedure for developing this thematic video media learning tool consists of five steps that have been modified from the 10 steps in research and development that have been proposed by Sugiyono (Krissandi, 2018: 70). The five steps are: 1. Analysis of learning program development needs, 2. Review of competency standards and learning materials, 3. Development of learning programs, 4. Producing audio visual media in the form of learning videos, 5. Testing and revising the product, to produce a prototype of an audiovisual media product in the form of a learning video and learning tools for theme 2, subtheme 2, learning 3, 2013 curriculum.

METHOD

Research Approach and Methods

The approach used in this research is a mixed approach, which is a combination of two methods, namely qualitative methods and quantitative methods. The use of these two methods is seen as providing a more complete understanding of the research problem than using either method. The research method used in this research is classroom action research (PTK). Classroom action research is practical research carried out by teachers to improve the teaching and learning process in terms of tools, media, sources, methods, strategies and models used by teachers. Classroom action research is research carried out by educators in their own classrooms in a participatory manner to improve educators' performance regarding the quality of learning and improve student learning outcomes, both from academic and non-academic aspects through reflective action in the form of cycles or recycling.

Data Collection Techniques and Tools

Observation

Observation is one of the ways researchers use to obtain data by observing and recording during the activity process. Observations are carried out to observe learning activities in the classroom. Activities observed in the learning process are:

teacher activities and student activities in class. According to Hadi (Sugiyono, 2015:145) Observation is a complex process or a process composed of various biological and psychological processes. In this research, when observing data collection, activities were carried out by observing the research object. This activity involves researchers and teachers as observers, observations are carried out to obtain authentic data, namely about the extent of the effectiveness of teachers and students in carrying out the teaching and learning process while using the Scientific model assisted by audio-visual media.

1. Teacher Activity Observation Sheet

Observation sheets on teacher activities are used to see the implementation of learning carried out by teachers in the classroom during the learning process using the Scientific learning model assisted by audio-visual media. In carrying out observations on activities, the teacher is assisted by an observer with the aim of obtaining data. The aspects observed in teaching activities during the learning process are as follows:

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Table 2. Steps for Observing Teacher Activities using the Scientific Learning Model Assisted by Audio Visual Media

Num	Observed Aspects	Evaluation				
		1	2	3	4	5
1.	Greet and greet students attentively					
2.	Ask students to observe the information contained in the worksheet (observe)					
3.	Provoking students to ask questions about how to solve problems on the distributed worksheets (asking)					
4.	Directing students to actively discuss in groups in answering the problems in the worksheet (reasoning)					
5.	Directing students to formulate a pattern that corresponds to the steps in solving a problem or problem (associating)					
6.	Appoint or ask voluntarily, student group representatives present the results of their discussions (communicate)					
7.	Pointing out or asking students to conclude the main learning activities that have been given					
Amount						
Percentage						
Criteria						

Student Activity Observation Sheet

Observation of student activities is used to see how students carry out activities during the learning process. In carrying out observations in activities, students are also assisted by observation with the aim of obtaining data. The aspects observed in student activities during learning are as follows:

Table 3. Steps for Observing Student Activities

Num	**Observed Aspects**	**Evaluation**				
		1	2	3	4	5
1.	Students answered the teacher's greetings enthusiastically					
2.	Students read and observe the information contained in the worksheet					
3.	Students ask the teacher how to solve the problems in the worksheet					
4.	Students actively discuss in their groups to answer the problems in the worksheet					
5.	Students can create formulas or patterns that suit the shape of the problem					
6.	Group representatives or students who dare to present their group's results					
7.	Group or student representatives are appointed to convey conclusions from the material that has been studied					
Amount						
Percentage						
Criteria						

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Written test

A written test is a test where the questions and answers are given to students in written form, or usually in the form of multiple choices, true or false choices and matching. According to Muttaqqin and Kusaeri (2017:3), a written test in the form of a description is a set of questions in the form of assignments, questions that require students to organize and state the answers in their own words. These answers can take the form of recalling, compiling, organizing or combining the knowledge they have learned in a series of well-structured sentences or words.

Learning outcomes

Individual Completeness

Each student is said to have completed learning (individual completeness) if the proportion of students' correct answers has reached the Minimum Completeness Criteria (KKM) set by the school, namely 75. To calculate the completeness of students' (individual) learning outcomes, the following formula can be used:

Information:

KB = $\frac{The\ total\ score\ obtained\ by\ students}{total\ score}$ X 100% Trianto,(Tampubolon, 2019:282)

Information:

KB = Completeness of learning

T = Total score obtained by students

Tt = Total score

Classical Completeness

The criterion for classical completeness is that in the learning process, a class is said to have completed its learning outcomes classically, at least if in that class there are 75% of students achieving the predetermined KKM score, namely 75. To calculate students' classical learning completeness, it can be calculated using the following formula, Tampubolon (2019:283) :

P = $\frac{Complete\ number\ of\ students}{Number\ of\ test\ students}$ X 100%.....Aqib (Tampubolon,2019 : 283)

Information:

P = Classical completeness of learning outcomes

Average Student Learning Outcomes

The research will add up the students' scores, then divide them by the number of students to obtain an average score. According to Aqib et al (Sahputra, 2018:22) to calculate this average value can be obtained using the following formula:

X = $\frac{\Sigma X}{\Sigma N}$ X 100%

Information:

X = Average value

ΣX = Sum of all student grades

ΣN = Number of students

Indicators of Research Success

Tampubolon (Sahputra, 2018:23) said that "classroom action research is assumed to be successful if actions are taken to improve the quality of learning, which will have an impact on improving student behavior and learning outcomes". According to the order of indicators, they are logically arranged into: 1. The indicator of success in the quality of the learning process is at least good (this indicator is for the general purpose of the research), 2. Indicators of success in classical learning outcomes are at least 75% of the number of students who reach the specified KKM, 3. The indicator of success in observing teacher activities and observing student activities is a minimum of 75% of the maximum score.

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RESULTS AND DISCUSSION

Initial Condition Description

In the initial stage, observations were carried out which aimed to find out descriptions and information about how the learning process and student learning outcomes had been carried out by the class teacher. Based on the results of conversations with the homeroom teacher, it is known that the model that is often used in the learning process is the lecture method, namely a method where the learning process is teacher-centered so that students are less active and motivated in learning.

The results of initial observations are used as consideration in planning to improve student learning outcomes in class IV in the 2022/2023 academic year by applying the scientific learning model, especially in lesson 3. The type of research used is Classroom Action Research (PTK). This research was carried out in two cycles which included planning, implementation, observation and reflection. In carrying out this research, the researcher acts as a teacher, and the class teacher acts as an observer in the learning process in the classroom.

Before carrying out the research, the researcher first gave a pretest to students to determine students' initial knowledge in lesson 3. From the results of the students' pretest, it was concluded that students' understanding of lesson 3 was still low. Students' low understanding can be seen from their answers to the questions given by the teacher. The completeness of individual student learning outcomes in the pre-test can be seen in the table below:

Table 4. Description of Students' Individual Completeness in the Pre Test

No	The number of students	Description
1	5 students	Complete
2	25 students	Not Complete

The completeness of individual student learning outcomes in the initial action or pre-test can be seen in the graph below:

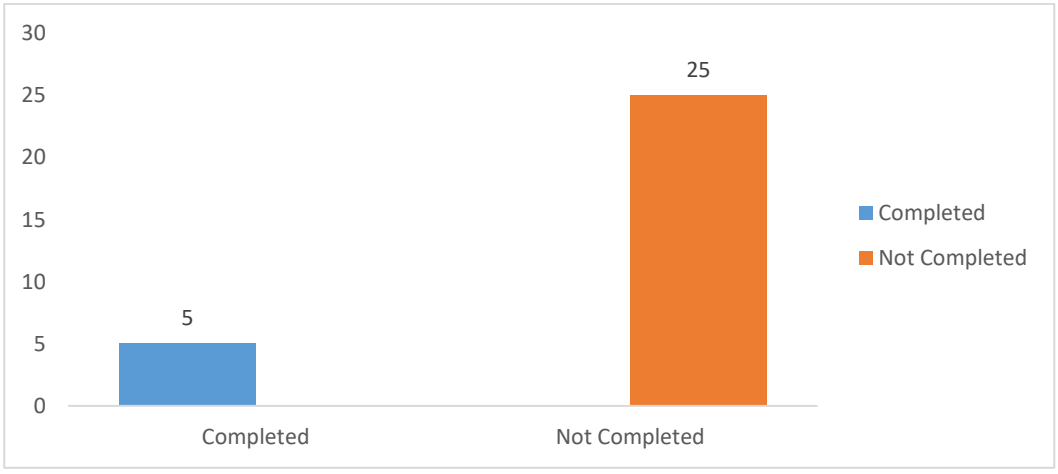

Figure 1. Graph of Individual Student Learning Results

Based on table 4, it can be seen that out of 30 students, only 5 students got a complete score and reached the minimum completion criteria score, while 25 students got an incomplete score and did not reach the minimum completion criteria that had been determined, namely 70.

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Completeness of classical student learning outcomes in the Pre Test

Once individual completeness is known, then classical completeness is summarized from the learning outcomes of students who have completed and the learning outcomes of students who have not yet completed. Students can be said to have completed classical learning if in the class there are 75% of students who have completed their learning. Classical completion in the pre-cycle is shown in table 5 below.

Table 5. Completeness of Classical Learning Outcomes in Pre-Cycle

Mastery learning	Pre Cycle	
	The number of students	Percentage
Completed	5 students	17%
Not Completed	25 students	83%
Amount	30 students	100%

The completeness of individual student learning outcomes in table 5 when drawn in diagram form can be seen in the image below:

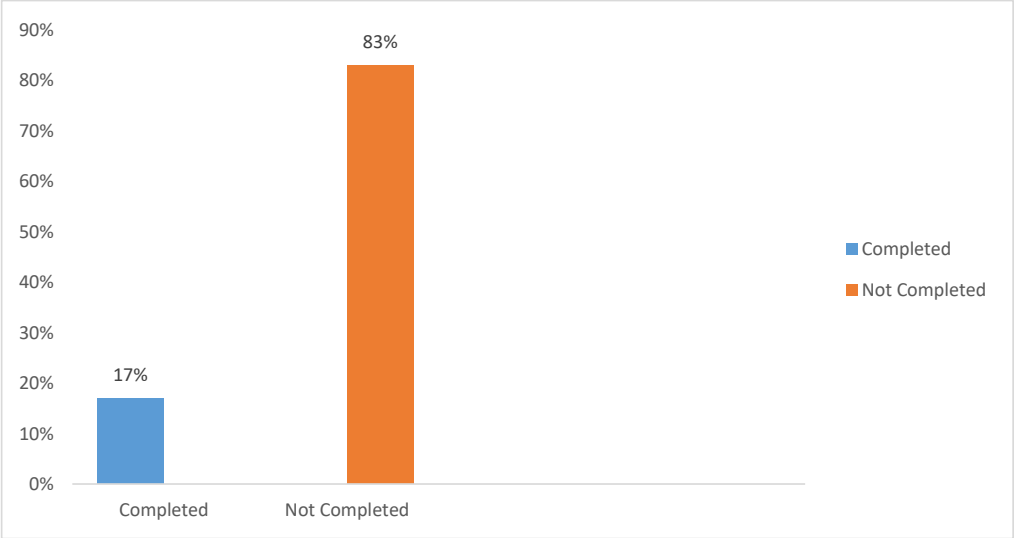

Figure 2. Completeness of Student Learning Outcomes in Pre-Cycle

Average Student Learning Results in the Pre-Test

From the results of individual learning completeness and classical completeness, learning results can be obtained using the following formula:

$X = (\sum N)/N = 1395/30 = 46.5$

For more details, we can see below:

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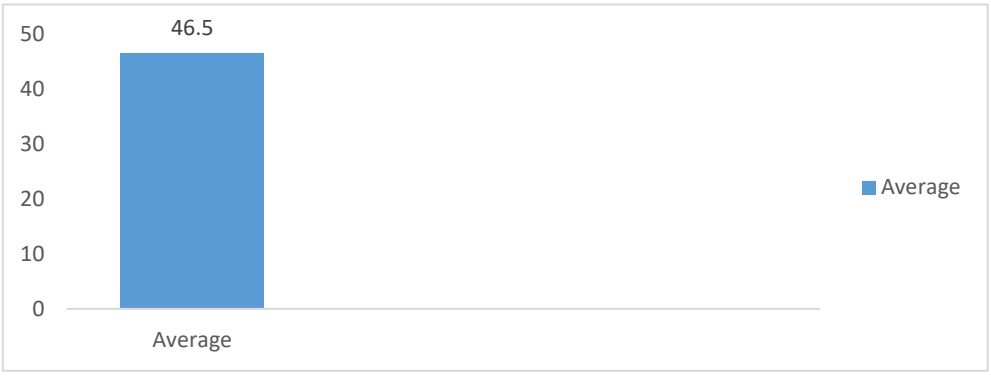

Figure 3. Graph of Average Student Learning Results in the Pre Test

From the description above, the average student learning outcomes before applying the scientific method to the theme of always saving energy, sub theme 3, learning 3 and 4, obtained 58 results. These results were still relatively low and not as expected. To overcome this, the researcher took action by applying scientific methods to the theme of always saving energy, sub-theme 3, learning 3 and 4.

Cycle 1 Action Results

a. Action Planning Stage

At this stage the researcher and the class teacher discuss techniques for implementing classroom actions, including: a) collecting information about learning outcomes, b) designing learning implementation (RPP) in accordance with the Inquiry method learning steps, c) making teacher and student observation sheets, d) make problem solving and conclusions.

b. Action Implementation Stage

Implementation of the actions that will be carried out in cycle 1 by highlighting the method that will be applied using the scientific method. Where in cycle 1, 1 meeting was held with a time allocation of 2 x 30 minutes. Before starting learning, the teacher first prepares the learning tools.

Cycle 1 actions are the initial actions taken to improve and improve student learning outcomes in theme 2, always save energy, sub-theme 3, learning 3 and 4, so that they can influence learning outcomes. In this case the researcher acts as a teacher, while the teacher acts as an observer. The teaching and learning process refers to the learning implementation plan (RPP) in accordance with the steps of the scientific learning model that have been prepared. To find out student learning outcomes, at the end of the lesson the researcher gave 16 multiple choice questions. The completeness of individual student learning outcomes in the pre-test can be seen in the table below:

Table 6. Description of Students' Individual Completeness in Cycle 1

Num	The number of students	Information
1	13 students	Complete
2	17 students	Not Complete

From the data obtained, it can be seen that of the 30 students, only 13 students completed their studies, while the 17 students who did not complete their studies on theme 2 always save energy. Based on the data above, it can be described as follows:

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Cycle I

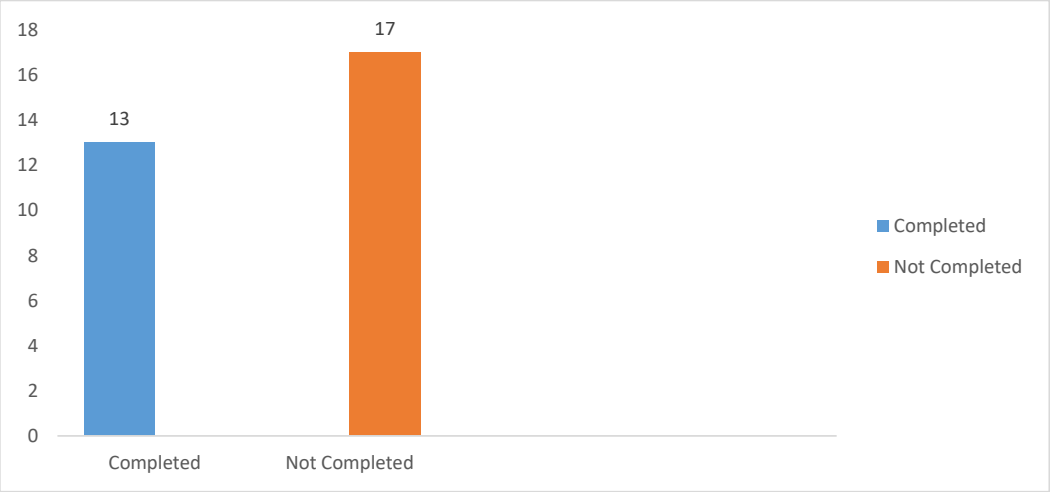

Figure 4. Cycle I

In accordance with the minimum completeness criteria (KKM) that has been determined, namely 70, while students who do not complete are students who get a score below the minimum completeness criteria (KKM).

1. Completeness of Classical Student Learning Outcomes in Cycle 1

After knowing the individual's completeness, then the classical learning outcomes are seen from the learning outcomes of students in one class. Students who are said to have completed their learning results in a classical manner if in the class there are 75% of students who received a complete score and achieved a score below the minimum completion criteria (KKM) that has been set. The completeness of classical student learning outcomes can be seen as follows.

Table 7. Completeness of Classical Student Learning Outcomes in Cycle 1

Information	Cycle 1	
	The number of students	Percentage
Number of students who completed	13	43%
Number of students who did not complete	17	57%
The number of students	30	100%

To see the classical comparison of completeness, you can see it in the diagram below:

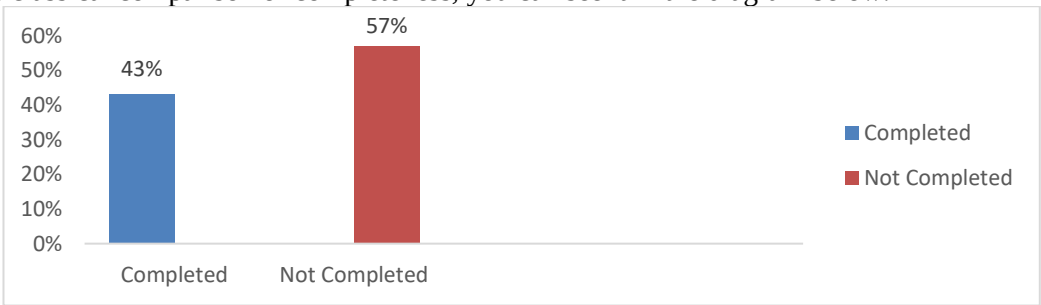

Figure 5. Diagram of Completeness of Student Learning Outcomes in Cycle I

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Average Student Learning Outcomes in Cycle I

From the results of individual learning completion and classical completion, learning outcomes can be obtained using the following formula:

$\chi = \Sigma N/N = 1.823/30 = 60.76$

Based on the data obtained in cycle I, it can be seen that out of 30 students after being given action, namely using the Scientific learning model, it shows that in cycle I there were 13 students who completed their learning outcomes with a percentage of 43% while as many as 17 students did not complete their learning outcomes. with a percentage of 57% and the class average score is 60.76.

Action Observation Stage

The observation stage in cycle I was carried out by researchers assisted by the class teacher, namely from the beginning of implementing learning actions on the theme of always saving energy using the Scientific learning model. This observation was carried out during the teaching and learning process to observe the extent to which researchers and students were successful in the teaching and learning process by applying the scientific learning model. The observations made are as follows:

Observation of Teacher Activities in Cycle I

During the learning process activities using the Scientific learning model, the two made observations at learning activity meetings in class. Researchers carry out predetermined aspects from the beginning of the learning process activities to the end of the learning process activities which consist of several indicators. Researchers have the role of observing all teacher activities during the learning process.

Based on the results of observations by class IV teachers in cycle I, it can be seen in the table above that research activities during the teaching and learning process took place using the Scientific learning model in Theme 2 Always Save Energy Learning 3 in class IV at SD Negeri 116906 Pulau Harapan for the 2022/2023 Academic Year. In cycle I, conveying apperception, learning objectives, skills in creating groups, taking into account the time given to students, guiding students to work on assignments and presentations, conducting evaluations and making learning conclusions were still low. The results of teacher observation data reached 62%, including good criteria.

Observation Results of Student Activities in Cycle I

Researchers also observed the level of students' abilities with the aim of this observation being to assess how students' attitudes (effectiveness) and skills (psychomotor) in participating in the learning process were carried out by applying the Scientific learning model in Theme 2 Always Save Energy Learning 3 in class IV of SD Negeri 116906 Pulau Expectations for the 2022/2023 Learning Year.

Based on the results of observing student activities above, the activities carried out by researchers who act as teachers during the learning process use the Scientific learning model in readiness to receive learning, listening to teacher explanations, student activity, cooperation, punctuality, increasing learning activities, and being able to provide learning conclusions are still low. This can be seen from the observation results obtained, namely 33 with a value of 66 with sufficient criteria.

Reflection

Based on the results carried out above in cycle I, action can be taken to improve exploration in cycle II. The following are the problems obtained in cycle I. a. Skills in opening learning are still sufficient in implementation, b. Holding an apperception is still sufficient in its implementation, c. Conveying learning objectives is still lacking in implementation, d. Teachers' skills in creating groups are still lacking in implementation, e. Teachers prioritize accuracy, and take into account that the time given to students is still sufficient for implementation, f. Skills to change situations and conditions that create optimism in students and guide them in carrying out assignments and presentations are still lacking in implementation, g. Teachers conducting evaluations, making conclusions and closing learning are still sufficient in their implementation, h. Students' readiness for learning and listening well to teacher explanations is still sufficient in implementation, i. Students can listen and understand the teacher's explanation well regarding the material being explained and it is still sufficient in its implementation, j. Students' activeness in answering questions

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is still sufficient, k. Cooperation and punctuality provided by teachers is still lacking.
l. Students can do the same things as teachers do, student enthusiasm, increased learning outcomes and making conclusions are still sufficient in implementation, m. Students' ability to answer practice questions has not yet reached the classical level of completeness, namely 75%. During cycle I, the classical learning results obtained were 47% (14 students), while the incomplete learning results were 53% (16 students).

This shows that learning actions using the Scientific learning model are still lacking in improving students' learning outcomes. When actions are taken on learning outcomes for the theme Always Save Energy, sub theme 3, learning 3 and learning 4, the level of completion is only 47%, so the teaching and learning process needs to be continued in next cycle because it is not considered successful.

Results of Cycle II Actions

The actions in this research are a follow-up to the reflection in cycle I. The actions in cycle II were carried out as an effort to improve and solve problems that arose in cycle I. The description of the results of the cycle II research is shown as follows:

Action Planning

Based on the results of the evaluation and reflection in cycle I, the next researcher will carry out cycle II by improving things that happened in cycle I. The improvements that will be made in cycle II include the following: a) Identify deficiencies that occurred in the implementation of exploration and student learning outcomes in cycle I, b) Improve the Learning Implementation Plan (RPP) according to the steps of the Scientific learning model that have been created and prepare questions or problems that students want to answer, c) In dealing with students who do not understand the material being taught, researchers guide students to find patterns in constructing their own problems, d) Allow students to solve problems with various solutions and various answers, e) Make teacher and student observation sheets to observe the learning process, f) Prepare cycle II research tests.

Implementation of Actions

The implementation of cycle II was carried out with the aim of improving the learning process which increases student learning outcomes. In cycle II the teacher is more systematic in carrying out learning process activities using the Scientific learning model. In the initial activity the teacher reminds them of previous lessons that have been studied with the aim of making students remember the learning better. So that students are more enthusiastic about learning and better understand learning, the teacher gives awards to students who are more active in learning activities in cycle II. Students become more enthusiastic about participating in learning process activities and are more enthusiastic about listening to the teacher's explanations.

At the end of the lesson the teacher again gives a test which aims to determine the level of success of the actions given. From the test results obtained by classroom action researchers carried out at SD Negeri 116906 Pulau Harapan Theme 2 Always Save Energy, subtheme 3 learning 3 and learning 4 using the Scientific learning model, individual student learning was achieved.
The completeness of individual student learning outcomes in cycle II can be seen in the table below:

Table 8. Description of Student Individual Completeness in Cycle II

Num	The number of students	Information
1	25 students	Completed
2	5 students	Not Completed

The completeness of individual student learning outcomes in cycle II can be seen in the graph below:

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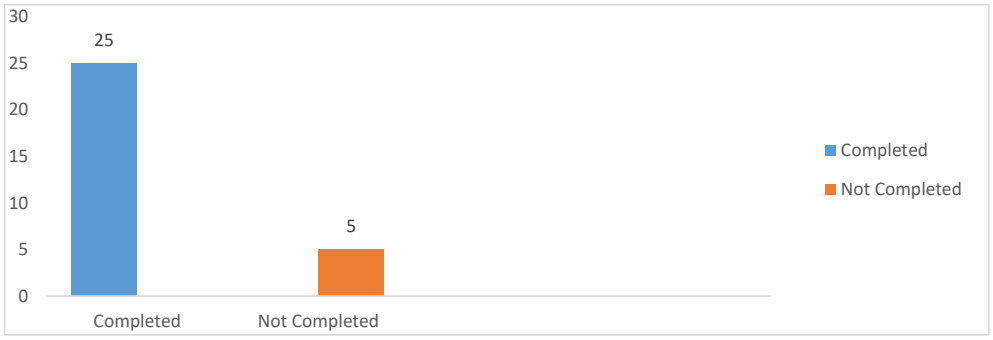

Figure 6. Description of Student Individual Completeness in Cycle II

Based on the table above, it can be seen that out of 30 students, 25 students got a complete score and achieved the KKM score, while 5 students did not complete it and did not reach the KKM standard. Based on figure 4.7, students who are said to have completed their studies are students who achieve a score according to the minimum completeness criteria determined by the school, namely 70.

Completeness of Classical Student Learning Outcomes in Cycle II

Based on the learning results obtained by researchers in cycle I, classical student learning outcomes were 47% incomplete, while only 53% were completed. In the implementation of cycle II, there was an increase in classical student learning outcomes. For more details, see the table below.

Table 9. Completeness of Classical Student Learning Results in Cycle II

Indormation	Cycle II	
	The number of students	Persentase
Number of Students Completed	25	83%
Number of students who did not complete	5	17%
The number of students	30	100%

To see the classical comparison of Completeness, you can see it in the diagram below:

Classical Completeness Cycle II

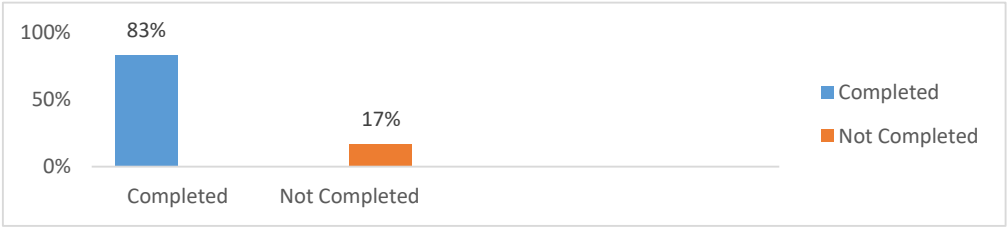

Figure 7. Classical Completeness Cycle II

Average Student Learning Outcomes in Cycle II

From the results of individual learning completeness and classical completeness, learning results can be obtained using the following formula:

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X = ΣN/ΣN =2395/30=79.8

Based on the data obtained in cycle II, it can be seen that out of 30 students after being given action, namely using the Scientific learning model, it shows that in cycle II there were 25 students who completed their learning outcomes with a percentage of 83% while as many as 5 students did not complete their learning outcomes. with a percentage of 17% and the class average score is 79.8.

Action Observation Stage

The observation stage in cycle II was carried out by researchers assisted by the class teacher, starting from the beginning of implementing learning actions on theme 2 Always Save Energy using the Scientific learning model. This observation was carried out during the teaching and learning process to observe the extent to which researchers and students were successful in the teaching and learning process by applying the Scientific learning model. The observations made are as follows:

Observation of Teacher Activities in Cycle II

During the teaching and learning process using the Scientific learning model, the two observers made observations at teaching and learning activities in class. Observers carry out predetermined aspects from the beginning of the learning process activities to the end of the learning process activities which consist of several indicators. Observers have the role of observing all teacher activities while the teaching and learning process is taking place.

Based on the results of observations by class V teachers in cycle II, it can be seen in the table above that research activities during the teaching and learning process took place using the sub-theme 2 Learning 4 learning model in class IV at SD Negeri 116906 Pulau Harapan for the 2021/2022 academic year in cycle II reached 88% is included in the very high quality criteria.

Results of Observation of Student Activities in Cycle II

Researchers also observed the level of students' abilities with the aim of this observation being to assess how students' attitudes (effectiveness) and skills (psychomotor) in participating in the learning process were carried out by applying the Scientific learning model in Theme 2 Always Save Energy, sub-theme 3 Learning 4 in class IV elementary school. State 116909 Academic Year 2022/2023.

Based on the table of observation results of student activities above, the activities carried out by researchers who act as teachers during the learning process using the Scientific learning model have been maximized to improve student learning outcomes, this can be seen from the observation results obtained, namely 43 points 86 with the criteria Good.

Reflection

Cycle II is carried out in accordance with the steps in cycle I, but the difference is that learning is carried out in sessions/groups consisting of 3-4 students at 1 table but still complying with health protocols, namely maintaining a distance of 1 chair for each student so that each session/group is carried out. 20 minutes of learning.

Based on the difficulties and lack of optimal results from implementing learning using the Scientific learning model in cycle I, the researcher made improvements in this cycle by improving, conveying learning objectives clearly and directed so that students understand better. From the results of the analysis carried out in cycle II it can be obtained the following changes: a. Skills in opening learning are very good in implementation, b. The teacher held an apperception which was good in its implementation, c. Conveying learning objectives and the teacher's skills in creating groups are very good in implementation, d. Teachers prioritize accuracy, and take into account the time given to students to be good in implementation, e. The skills to change situations and conditions that create optimism in students and guide them in carrying out assignments and presentations are very good in implementation, f. The teacher conducts evaluations, makes conclusions and closes the lesson which is still very good in its implementation, g. Students' readiness in learning and listening well to the teacher's explanations is very good in its implementation, h. Students can listen and understand the teacher's explanation well about the material being explained and its implementation is very good, i. Students' activeness in answering questions is good in its implementation, j. The cooperation and punctuality provided by the teacher is good, k. Students can do the same things as teachers do, student

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enthusiasm, increased learning outcomes and making conclusions are very good in implementation, l. Students' ability to answer practice questions correctly in cycle II has reached the level of completeness of classical learning outcomes. The learning outcomes obtained by students in cycle II were 77% (23 students) while those who had not achieved completeness were 23% (7 students).

This shows that learning actions using the Scientific learning model experienced a very good improvement when the actions in cycle II were implemented. They could also improve learning outcomes for theme 2 Always Save Energy, sub theme 3 learning 3 and 4, by achieving a completeness level of 77%, the teaching and learning process actions no longer needs to be continued in the next cycle because it is considered successful.

Discussion

Comparison of Action Learning Results Between Cycles

From the results of observations of learning outcomes or learning completion starting from the pretest, cycle I and cycle II, it can be seen that students have achieved good improvements. This proves the research hypothesis, namely that the Sciemtific learning model in the learning process has been implemented optimally and in accordance with the expected objectives. Based on the pre test analysis, cycle I and cycle II can be seen in the following table:

From the data, an increase in the pretest results showed an average value of 46.5, in cycle I there was an average value of 60.76 and in cycle II there was an average value of 79.8. So it can be concluded that learning using the Scientific learning model in Theme 2 Always Save Energy, Sub-theme 3 can improve student learning outcomes.

Comparison of Classical Learning Results

After summarizing the results of individual student learning completion, then the classical student learning results can be seen in the table below:

Table 10. Comparison of Classical Learning Results

No	Test Scores			Information
	Pre Test	Cycle I	Cycle II	
1	17%	43%	83%	Increase

For more clarity regarding this comparison, you can see the graph below:

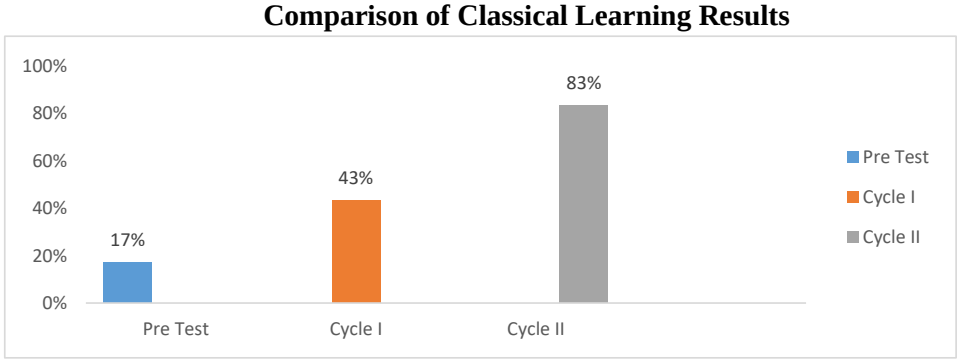

Figure 8. Comparison graph of classical learning outcomes

From the table and graph above it can be seen that there has been an increase in student classical

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learning outcomes. In the pre-test, learning outcomes were 17%, in cycle I it was 43%, while in cycle II it was 83%. This shows that the classically expected learning completeness, namely 75%, has been achieved.

Comparison of Average Student Results

To find out whether the actions carried out in the research were successful or not in accordance with the research objectives, the average value in the class in cycle I and cycle II was also looked for in the table below:

Table 11. Comparison of Average Student Results

Num	Test Scores			Information
	Pre Test	Cycle I	CycleII	
1	**46,5**	**60,76**	**79,8**	Increase

For more clarity regarding this comparison, you can see the graph below:

Comparison of Average Values of Student Learning Outcomes

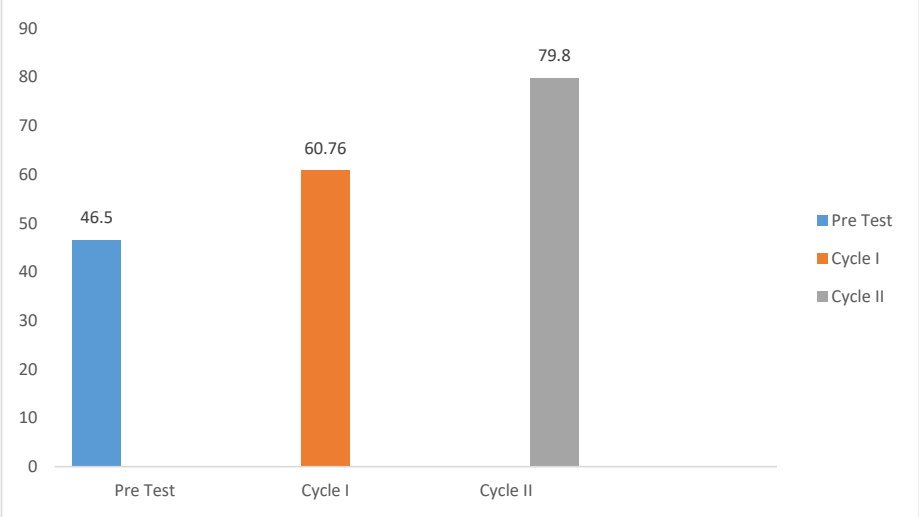

Figure 9. Comparison graph of average student learning outcomes

From the table and graph above, it shows that there was an increase in the class average score, where in the pre-test the class average score was 46.5, in cycle I there was an increase of 60.76 and in cycle II there was also an increase of 80.53. This proves that using the Scientific learning model can improve student learning outcomes

Comparison of the Results of Teacher Activity Actions between Cycles

Based on data obtained from observing teacher activities in cycle II, it can be seen that there has been an increase. In cycle I, teacher observations obtained 66% (sufficient) and in cycle II it increased to 88% (very high quality). Based on the increase in these two cycles, it can be seen that cycle I to cycle II experienced an increase. For more clarity regarding the results of observing teacher activities, you can see the diagram below.

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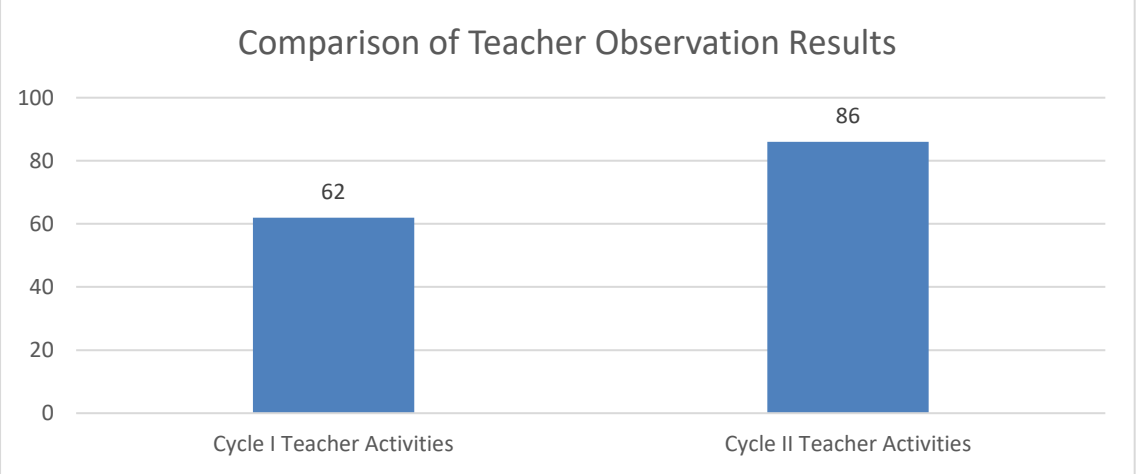

Figure 10. Comparison of Teacher Observation Results in Cycle I and Cycle I

Comparison of the Results of Student Activity Actions between Cycles

Based on data obtained from observing student activities in cycle I and cycle II, an increase can be seen. Where in cycle I the results of observing student activities were obtained at 66 adequate criteria and in cycle II it increased to 86 very good criteria. Based on the increase in these two cycles, it can be seen that cycle I to cycle II increased. For more clarity regarding the increase in student observations, you can see the diagram below.

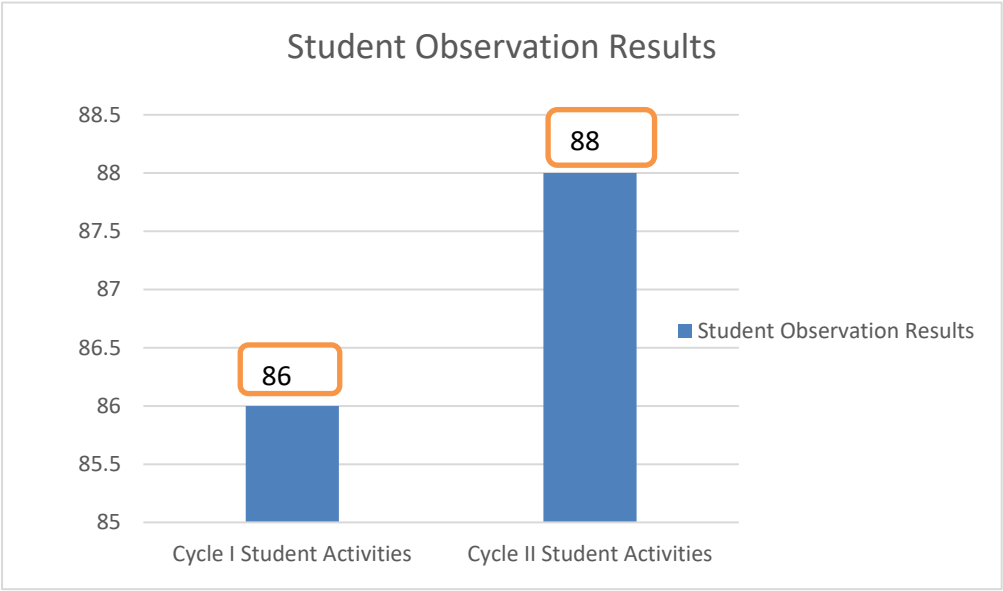

Figure 11. Comparison of Student Observation Results in Cycle I and Cycle II

Action Hypothesis

From the discussion that researchers have obtained, there is a good increase in learning outcomes from cycle I and cycle II. This researcher is said to be successful if the students' classical learning outcomes reach 75% and in cycle II the classical learning outcomes reach 83%. Based on the problem formulation and thinking framework in this research, the results of observing the action hypothesis are as follows: 1. There is

an increase in learning outcomes in theme 2 Always Save Energy, subtheme 3 learning 3 and 4 using the Scientific learning model for class IV students at SD Negeri 116906 Pulau Harapan for the 2022/2023 Academic Year, 2. There is an increase in teacher and student activity in theme 2 Always Save Energy, subtheme 3 learning 3 and 4 using the Scientific learning model for class IV students at SD Negeri 116909 Pulau Harapan for the 2022/2023 Academic Year.

So it can be concluded that through the findings obtained, researchers can provide answers to the action hypotheses that have been stated previously, namely that using the Scientific learning model in Indonesian, Science and Civics subjects can improve learning outcomes in theme 2 Always Save Energy, subtheme 3 learning 3 and 4 using the Scientific learning model for class IV students at SD Negeri 116909 Pulau Harapan for the 2022/2023 Academic Year.

CONCLUSIONS AND RECOMMENDATION

Based on the analysis and discussion of the results of research carried out in class IV of SD Negeri 116909 Pulau Harapan for the 2022/2023 academic year, the following conclusions can be drawn. By applying the Scientific learning model to the thematic subject theme 2 Always Save Energy subtheme 3 learning 3 and 4 in class IV students at SD Negeri 116909 Pulau Harapan for the 2022/2023 academic year, student learning outcomes can be improved and they have met the minimum completion criteria (KKM) that are applied by the school, namely 70. This can be seen in the learning outcomes obtained by students individually, classically, and the average student score, namely in the individual student pre-test, namely 5 students who completed, classically 17% with an average score of 46, 5. In cycle I, 13 students individually completed the results, with a classical score of 43% with an average score of 60.76. In cycle II, 25 students individually completed the results, with a classical score of 83% with an average score of 79.8. This shows that in cycle I to cycle II there was an increase.

The implementation of learning using the Scientific learning model in thematic subjects theme 2 Always Save Energy subtheme 3 learning 3 and 4 in class IV students at SD Negeri 116909 Pulau Harapan for the 2022/2023 academic year is categorized as good. This can be seen from the results of observing teacher activities in the first cycle, which was found to be 62% in the sufficient category and in the second cycle it increased to 88% in the very high quality category. Meanwhile, the results of observations of student activities in cycle I obtained 66% in the sufficient category and in cycle II it increased to 86% in the good category.

REFERENCES

Akbar, S. D. (2018). *Implementasi Pembelajaran Tematik di Sekolah Dasar*. Malang: PT. Remaja Rosdakarya.

Anitah, S. (2010). *Media Pembelajaran*. Surakarta: Yuma Pustaka.

Aprianita, R. (2015). *Menerapkan Pendekatan Saintifik yang Berorientasi pada Kemampuan Metakognisi dan Keterampilan Sosial.* ISBN: 978-602-73403-0-5.

Dimyati, & Mudjiono. (2015). *Belajar dan Pembelajaran.* Jakarta: PT Rineka Cipta.

Fadhilaturrahmi, F. (2017). Penerapan pendekatan saintifik untuk meningkatkan kemampuan komunikasi matematik peserta didik di Sekolah Dasar. *EduHumaniora| Jurnal Pendidikan Dasar Kampus Cibiru*, *9*(2), 109-118.

Ginting, I. T. (2018). Upaya Meningkatkan Hasil Belajar Siswa dengan Menggunakan Model Scientific pada Mata Pelajaran IPA Kelas IV SD Negeri 047166 Sukadame Tahun Pembelajaran 2018/2019.

Hanafiah, Nanang, & Suhana, Cucu. (2018). *Konsep Strategi Pembelajaran.* Bandung: PT. Refika Aditama.

Istarani. (2017). *Model Pembelajaran Inovatif.* Medan: Media Persada.

Istirani, & Pulungan, Intan. (2018). *Ensiklopedia Pendidikan.* Medan: Media Persada.

Khairani, H. M. (2017). *Psikologi Belajar.* Yogyakarta: Aswaja Pressindo.

Kodir, A. H. (2018). *Manajemen Pembelajaran Saintifik Kurikulum 2013 Pembelajaran Berpusat pada Siswa.* Bandung: CV Pustaka Setia.

Kompri. (2018). *Motivasi Pembelajaran Perpektif Guru.* Bandung: PT. Remaja Rosdakarya.

Pane, A., & Dasopang, M. D. (2017). Belajar dan pembelajaran. *Fitrah: Jurnal Kajian Ilmu-Ilmu Keislaman*, *3*(2), 333-352.

Prastowo. (2014). *Pengembangan Bahan Ajar Tematik Tinjauan Teoritis dan Praktek* Yogyakarta: Kencana.

Purwanto. (2017). *Evaluasi Hasil Belajar.* Yogyakarta: Pustaka Pelajar.

Simbolon, M. M. (2022). *Interaksi Perilaku Sosial Anak Selama Masa Pandemi Covid-19 Di SDN Desa Dampit, Kec. Windusari. Magelang (periode januari–Februari 2022)* (Doctoral dissertation, Universitas Mercu Buana Yogyakarta).

Rahman, H. (2019). *Model-Model Pembelajaran Anak Usia Dini Teori dan Implementasi.* Yogyakarta: Ar-Russ Media.

Sabri, A. H. (2014). *Strategi Belajar Mengajar.* Padang: Quantum Teaching.

Sani, R. A. (2019). *Pembelajaran Saintifik untuk Implementasi Kurikulum 2013.* Jakarta: Bumi Aksara.

Salim, H., & Haidir. (2019). *Penelitian Pendidikan Metode, Pendekatan dan Jenis.* Medan: Kencana.

Setiadarma, DKK. (2006). Pengembangan Media Pembelajaran Audio Visual Untuk Meningkatkan Prestasi Belajar Menggambar Bentuk Siswa Kelas XI. *Jurnal Pendidikan Seni Rupa*, Volume 03 Nomor 03.

Setiawati, S. M. (2018). Telaah Teoritis: Apa Itu Belajar? HELPER: Jurnal Bimbingan Dan Konseling, 35 (1), 31–46.

Setiani, Ani, & Priansa, Donni J. (2018). *Manajemen Peserta Didik dan Model Pembelajaran Cerdas, Kreatif, dan Inovatif.* Bandung: Alfabeta CV.

Shoimin, A. (2016). *Model Pembelajaran Inovatif dalam Kurikulum 2013.* Yogyakarta: Ar-Russ Media.

Silaban, P. J. (2019). Penerapan Model Pembelajaran Inkuiri untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran Matematika di Kelas VI SD Negeri 066050 Medan Tahun Pembelajaran 2018/2019. *Jurnal Ilmiah Aquinas*, *2*(1), 107-126.

Silaban, P. J. (2019). Penerapan Model Pembelajaran Inkuiri untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran Matematika di Kelas VI SD Negeri 066050 Medan Tahun Pembelajaran 2018/2019. *Jurnal Ilmiah Aquinas*, *2*(1), 107-126.

Silaban, P. J. (2015). *Meningkatkan Motivasi dan Kemampuan Pemahaman Matematis Siswa Melalui Pembelajaran Kooperatif Tipe Tgt Berbantuan Alat Peraga Pada Mata Pelajaran Matematika di Kelas VI SD Methodist-12 Medan Tahun Ajaran 2014* (Doctoral dissertation, UNIMED).

Silaban, P. J., & Hasibuan, A. (2021). Hubungan Lembar Kerja Peserta Didik Berbasis Cat Terhadap Kemampuan Pemahaman Matematis Siswa. *Jurnal Ilmiah Aquinas*, *4*(1), 48-59.

Silaban, P. J. (2019). Efektivitas Pembelajaran Melalui Pembelajaran Kooperatif Tipe Tgt Berbantuan Alat Peraga Di Kelas Vi Sd Methodist-12 Medan Pada Kompetensi Dasar Luas Bangun Datar Sederhana. *Jurnal Ilmiah Aquinas*, *2*(2), 175-199.

Silaban, P. J. (2017). Meningkatkan Motivasi Dan Kemampuan Pemahaman Matematis Siswa melalui Alat Peraga Montessori Pada Mata Pelajaran Matematika Kelas IV SD ASSisi Medan. *Elementary School Journal Pgsd Fip Unimed*, *7*(4), 502-511.

Situmorang, DKK. (2020). Hubungan Antara Konsep Diri Dengan Hasil Belajar pada Siswa Sekolah Dasar. *Jurnal BASICUDE*, Volume 04 Nomor 04.

Slameto. (2017). *Belajar dan Faktor-Faktor yang Mempengaruhinya.* Jakarta: PT. Rineka Cipta.

Susanto, A. (2016). *Teori Belajar dan Pembelajaran di Sekolah Dasar.* Jakarta: Prenadamedia Group.

Sugiyono. (2018). *Metode Penelitian Kualitatif, Kuantitatif dan R & D.* Bandung: Alfabeta CV.

Syah, M. (2017). *Psikologi Pendidikan dengan Pendekatan Baru.* Bandung: PT Remaja Rosdakarya.

Tampubolon, S. (2014). *Penelitian Tindakan Kelas*. Jakarta: Erlangga.

Trianto. (2012). *Mendesain Model Pembelajaran - Inovatif- Progresif.*Jakarta: Prenadamedia Group.