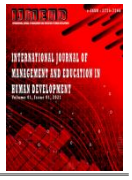
INTERNATIONAL JOURNAL OF MANAGEMENT AND EDUCATION IN HUMAN DEVELOPMENT

International J. of Management & Education in Human Development

ISSN: 2775 - 7765
web link: http://www.ijmehd.com



Improving the Learning Outcomes in Heat Source Materials Through the Application of Group Work Learning Models

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SD NEGERI 35 KENDARI

Received: 02/03/2021 Accepted: 29/03/0000 Published: 24/04/2021

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ABSTRACT

The goal to be achieved is the implementation of this learning improvement, namely to improve the learning achievement of students in class IV SDN 35 Kendari through a group work learning model . The benefits of this research are: (1)for teachers: by conducting classroom action research the teacher can find out the right method so that it can improve and improve the quality of the learning process in the classroom, so that problems faced by students and by the teacher can be minimized, (2) for students: can improve their learning outcomes in Science on the material of Heat Energy Sources, (3) for schools: classroom action research can provide good input for schools to improve the quality of the science learning process. Based on the results of the cycle I action test, it was found that the classical student learning outcomes of the subject matter were 50% or as many as 12 students who scored >65 with an average value of 66.41, while the results of the evaluation of the second cycle of action showed that the classical student learning outcomes of the subject matter were 95.83% or 23 students scored > 65 with an average value of 76.66. From the results of observation, evaluation and reflection in each action cycle, it can be concluded that through the application of the group work learning model it can improve student learning outcomes in the material of Heat Energy for fourth grade students of SD Negeri 35 Kendari.

Keywords: *Group Work Learning Model, Heat Energy Sources, Learning Outcomes*.

I. INTRODUCTION

Education is an important thing in making humans knowledgeable, cultured, pious and able to face future challenges. With this education will also give birth to students who are smart and have the competence and skills to be developed in the midst of society. To make this happen is inseparable from the determining factors in the success of students in education. One of the main factors is the teacher's ability to use the method in the learning process.

In the learning process two-way communication occurs. Teaching is carried out by the teacher as educator, while learning is carried out by students or students. Based on this statement in learning, it is necessary to strive for class management regarding special conditions such as physical, intellectual, or emotional conditions to build a solid foundation, a sense of understanding, a network of sympathy, a sense of belonging as an effort to achieve the learning objectives. Classroom management is a series of teacher actions aimed at encouraging expected behavior and eliminating unexpected behavior, creating good interpersonal relationships and positive emotional conditions and creating and maintaining a productive and effective classroom organization. A good teaching and learning process is based on the existence of a good interpersonal relationship between student-teacher and / or students and the teacher occupies an important position for the formation of emotional conditions. Research shows that the social environment or classroom setting is a major psychological determinant of academic learning.

The low quality of education at every level and unit of education is one of the educational problems currently facing the Indonesian nation. Various attempts have been made to improve the quality of national education through curriculum development, increasing teacher competence, procuring books and teaching aids, educational facilities and improving school management. With these various efforts, it turns out that they have not shown a significant increase. The participation of schools in the delivery of education has been very lacking, teachers' participation in decision making is often neglected, even though changes occur or do not occur in schools, depending on the teacher Teachers need to understand that whatever is done in the classroom when learning takes place has an influence, either positive or negative, on the quality and learning outcomes. The way the teacher presents learning, how learning activities are managed in the classroom, the way teachers interact with students is presumably carried out by the teacher in a planned manner with improvements and changes in both methods, strategies, media, and classroom management that are continuously being carried out so that it is expected to improve student learning outcomes.

Studies show that students learn more when lessons are satisfying, challenging and friendly and have a say in decision making. A network of sympathy and belonging, and understanding needs to be built to attract student involvement in learning.

In the learning process at school, the teacher uses the lecture and question and answer method. The teaching teacher refers to the education unit level curriculum, using teaching materials that are in accordance with the subject matter and media that support the learning process. It is expected that with the learning process, students can play an active role so that the indicator expected in SBC can be achieved.

Based on observations made in class I V SDN 35 Kendari in the 2019/2020 academic year, the students' scores on Heat Energy Sources are not optimal. This can be seen in the data on the acquisition of student scores in that year, namely from 27 fourth grade students of SDN 35 Kendari, only 8 students or 29.62% were able to achieve the standard score of KKM 65, while 19 students or 70.38% had not yet reached the KKM 65 standard. From these data, the authors make improvements and strive for better changes in student scores, the authors conclude that there are several reasons for the difficulty of teachers working on the material of Heat Energy for students, including (1). The learning model used by the teacher is not in accordance with the material being taught, (2). Lack of teacher understanding of the learning model, (3). Limited knowledge of teachers about the use of learning models. In addition, students also find it difficult to understand Heat Energy Sources. This is due to several factors including (1). Boredom of students to the material taught during the learning process for teachers to use it only an method monotonous, (2). Students are less active and care about the material provided during the teaching and learning process.

To answer the above problems, the authors provide an alternative learning model, namely the group work learning model in the learning material of Hot Energy Sources, so that students are expected to be directly involved in the teaching and learning process.

II. LITERATURE REVIEW

2.1 Understanding Learning

Learning in a broad sense is the process of changing behavior which is expressed in the form of mastery, use and research of the attitudes and values of basic knowledge and skills found in various fields of study or in various aspects of life or organized experience. Learning always shows a process of changing a person's behavior or personality based on certain practices or experiences (Rusyan, 1999: 81).

Purwanto (2006: 5) states that learning is any change that is relatively persistent in behavior that occurs as a result of training or experience. Sudjana (1998: 78) states that learning is a relatively permanent change in a behavioral tendency as a result of practice or training. From this opinion it can be concluded that learning is a conscious action taken by individuals to obtain changes in themselves due to environmental stimuli and mental processes, thereby increasing their knowledge.

2.2 Learning outcomes

According to Gagne (Dimyanti 2007: 71) learning is a complex activity. Learning outcomes in the form of capabilities. After learning people have skills, knowledge, attitudes and values. Learning according to Piaget's view, which argues that knowledge is formed by individuals because individuals interact continuously with the environment, and the environment changes. With the interaction with the environment, the function of the intellectual is growing. Learning outcomes are the results achieved by someone after learning which is marked by changes in that person. The change in question is a change in the level of learning outcomes and mastery. To measure learning outcomes must be in accordance with cognitive achievement goals that are tailored to students' abilities.

2.3 Science Learning

The word IPA is usually translated as Natural Science which comes from the word *Natural Science*, Natural Science is the knowledge of the universe and all its contents. As for knowledge itself means everything that is known by humans, Darmodjo (Samatowa 2006: 3). in his book says that the essence of science is a way or method of observing the universe.

According to Abruscato (Khaeruddin 2005: 15) learning science learning in class can: (a) develop student cognitive, (b) develop student affective (c) develop student psychomotor (d) develop student creativity and train students to think critically. Meanwhile, Budi (Samatowa 2006: 6) quotes several opinions from experts and suggests some details of the nature of science including: (1) Science is a building or series of concepts and conceptual schemes that are interconnected as a result of Conan's experimentation and observation (Samatowa 2006: 7), 2) Science is a building of knowledge obtained using the observation method (3) Science is a system for understanding the universe through data collected through controlled observation or experimentation (4) Science is a problem-solving activity by humans motivated by curiosity about nature in around him and the desire to understand, control, and manage him to meet his needs. Proposes 3 criteria that must be met by a theory in science, namely being able to explain phenomena that occur through observation, being able to explain events that will occur (predictions), being able to test the truth through similar experiments (experiment). (Triyanto 2007: 97).

2.4 Science Learning Outcomes

Imron (1995: 3) states that as a result of learning, changes that occur in a person take place continuously, not statically. One change that occurs will cause the next change and will be useful for life or the next learning process. According to Mudzakir and Sutrisno (1997: 38) the learning process can be defined as the stages of changes

in cognitive, effective, and psychomotor behavior that occur in students. These changes are positive in the sense that they are oriented towards a more advanced direction than in the previous situation.

In line with that, Winkel (1991: 161), states that student learning outcomes are one measure of the level of student success after experiencing learning. The learning experienced by students will produce a visible change in the learning outcomes obtained by students regarding the statements and assignments given by the teacher.

The results of the evaluation of these statements and assignments are used as a measure of the level of student learning outcomes. Evaluation can be done face-to-face or at the end of each semester by the subject teacher. Learning outcomes are the results achieved by students obtained by using standard tests used to measure student learning success.

The view of some experts above, it can be concluded that learning outcomes are an indicator of changes that have been achieved by individuals after carrying out learning activities based on certain standards. Thus the results of learning science is the value achieved by students after studying Science, especially Heat Energy Sources, with an assessment based on certain standards.

2.5 Source of Heat Energy

- **Benefits of heat energy sources**

All objects that produce heat energy are called sources of heat energy. So, sources of heat energy are all objects that can produce heat energy. The source of heat energy can come from nature or it can be man-made.

Solar thermal energy is needed by all living things. Solar thermal energy is useful for helping the process of making food in plants which is known as photosynthesis. Food produced from photosynthesis becomes a source of energy for other living things, including humans.

In addition, as a source of heat energy, the sun can illuminate the earth so that the air on earth warms up.

This article was published on Tribunnews.com with the title Sources of Heat Energy: Understanding, Examples, and Benefits for Living Things,

a. Fire

Fire is a source of heat energy that has been used since prehistoric times by early humans. Until modern times, fire was still used primarily to cook food so that it could be safely consumed by humans.

b. Sun

There is no doubt that the Sun is the greatest source of heat energy, illuminating and keeping the Earth warm. It is the existence of the Sun that makes the Earth habitable and plants can make their food by means of photosynthesis. In this era, the sun's heat energy is also used to generate electricity. The sun's heat can generate large amounts of electrical energy and it will never run out

c. Electricity

Electrical energy can produce heat energy. Examples are irons, hair straighteners, room heaters, and various kinds of water heaters such as electric kettles, dispensers, and also water heaters in the bathroom.

d. Geothermal

Geothermal energy or geothermal energy is heat energy that comes from the earth's core. Geothermal heat can come out to the Earth's surface in the form of hot springs, volcanic craters, and geysers. Geothermal energy is used to drive generators for electricity generation and natural gas is also used as fuel. geothermal is an unlimited source of energy that will not run out and is more environmentally friendly than fossil fuels. Geothermal energy is also used for tourism such as hot water swimming pools and volcanic crater tourism.

e. Grill material

Fuel combustion is a source of heat energy that is often used by humans. The fuel used can be in the form of fossil fuels such as kerosene, coal, natural gas, gasoline, aviation fuel, and diesel. But it can also be in the form of natural fuels such as wood, grass and dry leaves.

III. RESEARCH METHODS

3.1 Research Subject, Place, and Time

Implementation of this repair is carried out in grade IV SDN 35 Kendari. The 2019/2020 school year with a total of 24 students. This repair is carried out in three stages, namely the pre-cycle carried out on Monday 1 October 4, 201 9. Cycle I was held on Friday 18 October 2019. Cycle II was held on Friday 25 October 2019.

3.2 Learning Improvement Procedure Design

3.2.1 Pre-Cycle Learning

a. Pre-Cycle Action Plan

The implementation of this learning improvement is carried out in the pre-cycle stage, cycle I and cycle II. Each cycle is carried out in four stages, namely planning, implementation, observation / evaluation and reflection. The work procedure can be broadly explained as follows:

At this pre-cycle planning stage, the writer and the teacher work together in connection with the improvement planning. The cooperation referred to is in terms of planning pre-cycle learning by taking the following steps:

a. Planning learning improvements by identifying problems first through pre-cycle learning.
b. Prepare a Learning Implementation Plan (RPP) material " Hot Energy Sources ".
c. Determine the implementation time and ask peers to observe.

b. Implementing Pre-Cycle Actions

- **Initial activity**
  Delivering the expected indicators and competencies, the subject of " Hot Energy Sources ".
- **Core activities**
  - ***Exploration***
    In exploration activities, the teacher:
    - ✓ Understand the concept map on Heat Energy
    - ✓ Read source of Heat Energy, as well as compare each energy source.
  - ***Elaboration***
    In the elaboration activity, the teacher:
    a) Describing Thermal Energy:
    - ✓ Fire
    - ✓ Electricity
    - ✓ The sun
    - ✓ Geothermal

    b) Students mention the source of heat energy
- **End activities**
  Give conclusions and assign homework assignments.

c. Pre-Cycle Observations

1. According to peer observations as observers, the steps taken by researchers in pre-cycle activities were considered sufficient.
2. Observations on core activities:
3. The explanation of the Heat Energy Sources is carried out sequentially.
4. Only some students can understand the material and are able to answer the practice questions given by the teacher.

d. Pre-Cycle Reflection

The results obtained during the observation or evaluation stage were analyzed by the author's team (peers and school principals). The analysis is aimed at finding the weaknesses that occur in the science learning subject of " Heat Energy Sources " which will be corrected in pre-cycle, cycle I, and cycle II.

3.2.2 Learning Cycle I

a. Cycle action plan I

An action plan to improve learning cycle I, the steps are the same as the pre-cycle and the improvements are focused on the material, namely:

1) Completeness and clarity of Heat Energy Sources
2) Increase students' understanding of science lessons on the subject of Heat Energy Sources.

b. Implementing Cycle I Actions

- **Initial Activities**
  Repeating the previous meeting material.
- **Core Activities**
  - ***Exploration***
    In exploration activities, the teacher:
    - ✓ Collect previous meeting assignments
    - ✓ Describing the Source of Heat Energy
    - ✓ Describing Thermal Energy:
      - Fire
      - Electricity
      - The sun
  - ***Elaboration***
    In the elaboration activity, the teacher:
    - ✓ Show the sources of heat energy in the earth **with *diligence, responsibility* and *carefulness.***
    - ✓ Describe the function of heat energy, based on everyday examples, or observing friends. What happens if the earth does not have heat energy.
    - ✓ Doing activities
    - ✓ Make conclusion of activities.
  - ***Confirm***
    In the confirmation activity, the teacher:
    - ✓ Teacher asks questions about things that students do not know
    - ✓ Teacher and the students ask questions to correct misunderstandings, provide reinforcement and conclusions
    - ✓ Understand that living things need heat energy
- **Final Activity**
  To conclude that: the heat energy comes from the earth

c. Observation Cycle I

After carrying out the improvement of learning cycle I, the researcher immediately asked the observer "How was the learning process he did in cycle I? Are the planned learning steps as in the lesson plan and as expected?

3.2.3 Learning Cycle II

a. Cycle II Action Plan

To further strengthen students' understanding and mastery of learning concepts, especially in hot energy sources and to find out the results of the overall material presented by researchers, it is still necessary to make improvements in cycle II learning.

Improvements in cycle II learning are carried out by providing formative tests with varied and more interesting forms of questions, so that students are more motivated to work on the questions.

b. Implementing Cycle II Actions

- **Initial Activities**

  Repeating the previous meeting material, and reading out the indicators.
- **Core activities**
  - ***Exploration***

    In exploration activities, the teacher:
    - ✓ Describe the benefits of energy on earth
    - ✓ Knowing the origin of heat energy.
  - ***Elaboration***

    In the elaboration activity, the teacher:
    - ✓ Doing activities
    - ✓ Knowing some of the origin of heat energy such as:
      - fire
      - sun
      - fuel
    - ✓ Know how to conserve heat energy
  - ***Confirm***

    In the confirmation activity, the teacher:
    - ✓ Teacher asks questions about things that students do not know
    - ✓ Teacher and the students ask questions to correct misunderstandings, provide reinforcement and conclusions
- **End activities**

  Gives the conclusion that living things reproduce to preserve their kind

c. Observation Cycle II

The results of observations in cycle II were carried out through peer observations, namely that there was a significant increase in the learning material of Heat Energy Sources, this can be seen from the results of students' formative tests in cycle II, namely 72.28.

d. Reflection Cycle II

The learning material for Hot Energy Sources with explanations accompanied by examples on learning media and exercises has been successful.

3.3 Data analysis technique

1. Teacher and student activity data obtained through the observation sheet
2. Student learning outcomes test data:
   a) Individual Completeness Level:
   b) Classical Completeness Level: (Depdiknas, 2006).

There are two kinds of performance indicators in the study, namely:

1. Performance indicators related to teacher teaching and student learning activities.
2. Performance indicators related to improving student learning outcomes, namely if at least 85% of students have reached a minimum score of 65, which is in accordance with the Minimum Completeness Criteria (KKM) set by the school.

IV. RESULTS AND DISCUSSION

The presentation of the results of the improvements in this chapter is divided into two parts, namely a description of the results of the data processing cycle, and a discussion of each cycle.

4.1 Description of Research Results

1. *Description of Pre-Cycle Implementation*

a. Observations of Student Activities

Based on the results of observations of student activities carried out in Science subjects, the material of Identifying Heat Energy Sources for Class I V SDN 35 Kendari can be described as follows:

Table 1 Observation of Student Activities in Pre-Cycle

No.	*List of Student Activities*	*Score of Observation Results*
		Pre-Cycle
1	Students Understand the concept map of heat energy	2
2	Students are motivated to take part in learning activities	2
3	Students explain the function of heat energy sources	2
4	Students Explain Sources of Heat Energy	2
5	Students discuss fire	2
6	Conducting a discussion on Heat Energy Sources	2
7	Carry out a discussion about the sun	2
8	Summing up the results of the discussion and looking for common ground	2
9	Ask and answer about things that are not yet known	2
10	Correcting misunderstanding of the material	2
11	Students do the exercises	2
	Average Score	***2***
	Category	***Enough***

Note: I = Less, 2 = Enough, 3 = Good, 4 = Very Good

b. Observation of Teacher Activities

In this improvement, the activities carried out by the teacher during the learning activities were also observed. Based on the results of observations of teacher activities carried out in class I V SDN 35 Kendari, the results obtained are:

Table 2. Teacher Activities in Pre-Cycle

No.	*Observed Teacher Activity*	*Score of Observation Results*
		Pre-Cycle
1	Give apperception to students	2
2	Provide motivation to arouse students' passion for learning	2
3	Guiding students in Identifying Sources of Heat Energy	2
4	The teacher directs students in Identifying Sources of Heat Energy	2
5	Provide directions regarding the student discussion process	2
6	Summing up how to identify sources of heat energy	2
7	The teacher tests the students' abilities and skills in practice questions	2
8	The teacher provides opportunities for students to ask questions	2
9	Correcting misconceptions provides reinforcement and conclusions	2
10	The teacher reflects on the lesson	2
11	Provide evaluation	2
12	Give homework	2
	Average Score	***2***
	Category	***Enough***

Note: I = Less, 2 = Enough, 3 = Good, 4 = Very Good

c. Evaluation

Evaluation is intended to measure the extent to which the teacher has implemented the learning improvement plan using the discussion method during the learning process. The results of the evaluation of class I V SDN 35 Kendari are:

Table 3 List of Pre-Cycle Learning Outcomes for Class IV SDN 35 Kendari

No.	Student name / initials	KKM	Learning outcomes	Completed	Not complete
1	WA	6 5	60		✓
2	RD	6 5	65	✓	
3	EF	6 5	65	✓	
4	HT	6 5	60		✓
5	MR	6 5	70	✓	
6	VA	6 5	58		✓
7	VT	6 5	60		✓
8	MA	6 5	59		✓
9	AH	6 5	70	✓	
10	AL	6 5	60		✓
11	AD	6 5	62		✓
12	AF	6 5	65	✓	
13	FI	6 5	60		✓
14	MH	6 5	60		✓
15	FD	6 5	60		✓
16	HE	6 5	60		✓
17	M N	6 5	70	✓	
18	MW	6 5	58		✓
19	RG	6 5	59		✓
20	DF	6 5	70	✓	
21	RE	6 5	70	✓	
22	TY	6 5	60		✓
23	HU	6 5	59		✓
24	JH	6 5	60		✓
amount			**1500**		
Average			**62.5**		
Percentage%				**33.33%**	**66.67%**

Information:

Number of students completed: 8

Number of incomplete students: 16

Calcical: Incomplete

d. Reflection

From the results of the observation of the teacher's observation sheet, student observation sheet and the results of the evaluation of learning, it can be concluded that the results achieved in this pre-cycle are not in accordance with the specified KKM. This is caused by several factors including:

1. The average score of student activity in the pre-cycle was 2 which was in the sufficient category. Scores above shows that the activity of students in basic science learning process Source Heat Energy using group work on the pre-cycle is still lacking. This is because students have not been able to discuss the material on Identifying Heat Energy Sources, students have not been able to identify Heat Energy Sources.
2. The average score obtained from the teacher's observation sheet is 2 which are in the sufficient category. From the observations made on teacher activities, it was found that several things made the assessment score vulnerable to a score that was considered sufficient, namely: the teacher was not able to provide an understanding of the material of Heat Energy Sources, and was not able to provide direction to students in discussing properly and wisely.
3. The average score for the evaluation of science learning outcomes of class I V SDN 35 Kendari who was taught using the group work method was 62.50.

So, the implementation of learning improvements needs to be done to provide understanding and increase student learning outcomes.

2. Description of Implementation of Cycle I

a. Observations of Student Activities

In cycle I, the student activity sheet was still the same as that used in cycle I. However, in cycle I, the teacher gave more emphasis to students so that the results achieved were maximum. The results of the observations of grade I V SDN 35 Kendari on the science subject of Heat Energy Sources using the group work method are:

Table 4. Student Activities and Results Achieved in Cycle I

No.	*List of Student Activities*	*Score of Observation Results*
		Cycle I
1	Students understand concept maps about human life	3
2	Students are motivated to take part in learning activities	3
3	Students explain the function of heat energy sources	3
4	Students Explain Sources of Heat Energy	2
5	Students discuss fire	2
6	Conducting a discussion on Heat Energy Sources	2
7	Carry out a discussion about the Sun	2
8	Summing up the results of the discussion and looking for common ground	2
9	Ask and answer about things that are not yet known	2
10	Correcting misunderstanding of the material	2
11	Students do the exercises	2
	Average Score	***2, 27***
	Category	***Enough***

Note: I = Less, 2 = Enough, 3 = Good, 4 = Very Good

b. Observation of Teacher Activities

The results of observations of teacher activities in cycle II, which were carried out in class I V SDN 35 Kendari, can be described as follows.

Table 5. Teacher Activities in Cycle I

No.	*Observed Teacher Activity*	*Score of Observation Results*
		Cycle I
1	Give apperception to students	3
2	Provide motivation to arouse students' passion for learning	3
3	Guiding students in Identifying Sources of Heat Energy	3
4	The teacher directs students in Identifying Sources of Heat Energy	3
5	Provide directions regarding the student discussion process	3
6	Summing up how to identify sources of heat energy	3
7	The teacher tests the students' abilities and skills in practice questions	3
8	The teacher provides opportunities for students to ask questions	2
9	Correcting misconceptions provides reinforcement and conclusions	2
10	The teacher reflects on the lesson	2
11	Provide evaluation	2
12	Give homework	2
	Average Score	***2. 6***
	Category	***Enough***

Note: I = Less, 2 = Enough, 3 = Good, 4 = Very Good

c. Evaluation

In cycle I, the teacher provides more motivation for the evaluation that will be given to students. The results of the evaluation of class I V SDN 35 Kendari in cycle I are:

List of Learning Results Cycle I

No.	Student's name	KKM	Learning outcomes	Completed	Not complete
1	WA	6 5	60		✓
2	RD	6 5	77	✓	
3	EF	6 5	77	✓	
4	HT	6 5	60		✓
5	MR	6 5	70	✓	
6	VA	6 5	58		✓
7	VT	6 5	60		✓
8	MA	6 5	62		✓
9	AH	6 5	64		✓
10	AL	6 5	80	✓	
11	AD	6 5	75	✓	
12	AF	6 5	70	✓	
13	FI	6 5	85	✓	
14	MH	6 5	64		✓
15	FD	6 5	67	✓	
16	HE	6 5	64		✓
17	M N	6 5	66	✓	
18	MW	6 5	58		✓
19	RG	6 5	59		✓
20	DF	6 5	65	✓	
21	RE	6 5	67	✓	
22	TY	6 5	60		✓
23	HU	6 5	66	✓	
24	JH	6 5	60		✓
amount		**1594**			
Average		**66.41**			
Percentage%				**50%**	**50%**

Information:

Number of students completed: 12

Number of incomplete students: 12

Calcical: Not finished

d. Reflection

From the observations of the teacher's observation sheets, student observation sheets and the results of the evaluation of learning in the first cycle, it can be concluded that the results of the observations in the first cycle experienced a significant increase compared to the results in the pre-cycle. This is evidenced by the achievement of an average score in every aspect. However, from every aspect of the assessment there are still deficiencies including:

- The mean score of student activity in the first cycle is set at 2, 27, including still included in the category enough. Student activity in this cycle I experienced a significant increase. There are still some students who do not understand the discussion method and the material of heat energy sources.
- The mean score of activities undertaken by teachers during p roses learning on the cycle I was at 2, 6 still included in both categories. This has increased quite drastically from cycle I, although there are still some shortcomings that the teacher has, including: The teacher does not reflect on learning, the teacher does not provide evaluations, the teacher does not give homework.
- The average value of the science learning outcomes of class I V SDN 35 Kendari in the first cycle has increased compared to the scores obtained in the pre-cycle. Where the average score of students in cycle I is 6 6.41. From this percentage, there are 12 (50 %) students who have completed the lesson and 12 (50 %) students who have not completed the lesson.

3. *Description of the Implementation of Cycle II*

a. Observations of Student Activities

The results of observations about changes in attitudes and behavior of class I V SDN 35 Kendari during the implementation of cycle I I can be explained as follows:

Table 7. Student Activities and Achievements in Cycle II

No.	*List of Student Activities*	*Score of Observation Results*
		Cycle II
1	Students Understand the concept map of Heat Energy Sources	4
2	Students are motivated to take part in learning activities	4
3	Students explain the function of heat energy sources	4
4	Students Explain Sources of Heat Energy	4
5	Students discuss fire	4
6	Conducting a discussion on Heat Energy Sources	
7	Carry out a discussion about the Sun	4
8	Summing up the results of the discussion and looking for common ground	4
9	Ask and answer about things that are not yet known	4
10	Correcting misunderstanding of the material	4
11	Students do the exercises	4
	Average Score	***4***
	Category	***Very good***

Note: I = Less, 2 = Enough, 3 = Good, 4 = Very Good

b. Observation of Teacher Activities

Based on the results of observations of teacher activities carried out in class I V SDN 35 Kendari in cycle II, it can be described as follows.

Table 8. Teacher Activities in Cycle II

No.	*Observed Teacher Activity*	*Score of Observation Results*
		Cycle II
1	Give apperception to students	4
2	Provide motivation to arouse students' passion for learning	4
3	Guiding students in Identifying Sources of Heat Energy	4
4	The teacher directs students in Identifying Sources of Heat Energy	4
5	Provide directions regarding the student discussion process	4
6	Summing up how to identify sources of heat energy	4
7	The teacher tests the students' abilities and skills in practice questions	4
8	The teacher provides opportunities for students to ask questions	4
9	Correcting misconceptions provides reinforcement and conclusions	4
10	The teacher reflects on the lesson	4
11	Provide evaluation	4
12	Give homework	4
	Average Score	***4***
	Category	***Very good***

Note: I = Less, 2 = Enough, 3 = Good, 4 = Very Good

c. Evaluation

The results of the evaluation of class I V SDN 35 Kendari in cycle II are:

List of Learning Results Cycle II

No.	Student's name	KKM	Learning outcomes	Completed	Not complete
1	WA	6 5	75	✓	
2	RD	6 5	70	✓	
3	EF	6 5	90	✓	
4	HT	6 5	80	✓	
5	MR	6 5	80	✓	
6	VA	6 5	65	✓	
7	VT	6 5	85	✓	
8	MA	6 5	85	✓	
9	AH	6 5	85	✓	
10	AL	6 5	95	✓	
11	AD	6 5	77	✓	
12	AF	6 5	75	✓	
13	FI	6 5	75	✓	
14	MH	6 5	65	✓	
15	FD	6 5	80	✓	
16	HE	6 5	80	✓	
17	M N	6 5	90	✓	
18	MW	6 5	70	✓	
19	RG	6 5	60		✓
20	DF	6 5	78	✓	
21	RE	6 5	68	✓	
22	TY	6 5	75	✓	
23	HU	6 5	68	✓	
24	JH	6 5	69	✓	
amount			**1840**		
Average			**76.66**		
Percentage%				**95.83%**	**4.16%**

Information:

Number of students completed: 23

The number of students who did not complete: 1

Classical: Already Completed

d. Reflection

Based on the results of student and teacher observations and evaluation, the implementation of learning improvements in cycle II has reached the performance indicators and the minimum learning completeness criteria (KKM) determined by the school. This can be seen from:

- The average score of student activity in cycle II increased from cycle I, this can be seen from the series of scores obtained by students in each aspect of student activity assessment. The average score obtained is 4, including the Very Good category. Based on the results of observations made on students in cycle II the students had fully understood the material about Heat Energy Sources by using the group work method.
- The average score of activities carried out by the teacher during the learning process in cycle II is 4, including the very good category. In cycle II, the teacher really pays attention to all aspects of the assessment given both in terms of understanding the material, providing an understanding of learning methods, so that the learning process becomes more effective and efficient.
- The average value of the science learning outcomes of class I V SDN 35 Kendari in cycle II has increased significantly. Where the acquisition of student evaluation scores in this cycle got an average score of 71.38. Of the 18 students who took the test, only two students had not completed the lesson. At this stage of the evaluation students have understood the material of Heat Energy Sources by using the group work method.

4.2 Discussion of Learning Implementation Results

Based on the results of the improvements made using the discussion method on science learning on the subject of Hot Energy Sources. Shows a very significant improvement from cycle I to cycle II. In science learning, the subject of Heat Energy Sources for 2 cycles, the following data are obtained:

1. In pre-cycle activities based on the evaluation of student learning outcomes, there are no students who have completed learning activities, the average score obtained is 59.55. In this cycle the learning improvement is not in accordance with the achievement indicators so that the learning improvement must be continued in cycle I.
2. The average value of the science learning outcomes of class I V SDN 35 Kendari in the first cycle has increased compared to the scores obtained in the pre-cycle. Where the average score of students in the first cycle is 62.66. From this percentage, there are 6 (33%) students who have completed the lesson and 12 (77%) students who have not completed the lesson.
3. The average value of the science learning outcomes of class I V SDN 35 Kendari in cycle II experienced a very significant increase. Where the acquisition of student evaluation scores in this cycle got an average score of 7 6.66. Of the 12 students who took the test, all students have completed learning. At this stage of

the evaluation, students have understood the material to identify sources of heat energy using the group work method.

From the learning results obtained from each of the cycles above in the Science subject of Heat Energy Sources students of grade I V SDN 35 Kendari have increased significantly and have achieved maximum results. In this section of the discussion, it can be seen between cycles and the comparison of the results. If we look at the results of observations in each cycle, it shows a different trend and continues to increase. This is because in the first cycle there is still a lack of exploration given to students by the teacher, the teacher is still unable to provide an understanding of the characteristics of living things, identifying sources of heat energy. This was then corrected in the second cycle. This causes student learning outcomes to increase, students are more enthusiastic in cycle II and give very significant results. This research was conducted in two cycles, and the completeness of student learning outcomes was known by using the test method. The test was carried out 3 times, namely after the implementation of the pre cycle, cycle I, and cycle II. Where pre- cycle still has not reached the completeness criteria based on tests of pre cycles of 33, 3 % of the criteria that have been determined classical completeness is ≥85% who received grades ≥6 5 While I do as an activity cycle stabilization using material on basic competence the same, the percentage of completeness in cycle I reached 50% and in the implementation of the test in cycle II only 1 student had not completed it, but classical completeness reached 9 5.83 %

Based on the above discussion, it can be seen that learning science subject to the characteristics and needs of living things using the group work learning model can improve student learning outcomes and improve student skills in working among peers so that student learning outcomes also increase and become better.

By continuing to improve the results of the action in each cycle, finally we can say that There is increasing learning and mastery learning outcomes with the application mode l group learning subjects science students of class IV semester of odd SDN 35 Kendari Year Lesson 201 9 - 2020.

V. CONCLUSION

A. Conclusions

Based on the results of learning improvement research, it can be concluded that:

a) There is an increase in student learning outcomes with the application of the group learning method. In the pre- cycle an average of = 62, 5 cycle I = 66.41 cycle II = 76, 66 then there is an increase in learning outcomes with the application of group work learning models in science subjects, the subject of " Heat Energy Sources for fourth grade students of SDN 35 Kendari for the 2019/2020 school year.

b) There is an increasing completeness bell teaching fourth grade student of SDN 35 Kendari on the subjects of science subjects S umber Thermal Energy with the adoption of model learning teamwork. In the pre-cycle, the percentage of pre-cycle = 3 3.33 %, cycle I = 50%, cycle II = 9 5.83 %, so there is an increase in completeness in learning science on the subject of Heat Energy Sources for Class IV students of SDN 35 Kendari for the 2019/2020 academic year with the application of the group work learning model.

B. Suggestions

The suggestions that can be given are:

a) The material presented should use varied and appropriate methods.

b) Use of the media should be in accordance with the material Energy Sources Heat.

c) Create PAKEM lessons.

d) The application of the group work learning model must always be implemented

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