

Efforts To Improve Science Learning Outcomes Through Demonstration Learning Models In Class Vi Students Of SDN 019 Tanjung Sawit Tapung District Kampar District

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Abstrak

Penelitian ini bertujuan untuk meningkatkan prestasi belajar siswa kelas VI Sekolah Dasar Negeri 019 Tanjung Sawit melalui pembelajaran model Demonstrasi tentang konsep benda-benda konduktor dan isolator. Metode yang digunakan dalam penelitian ini adalah Penelitian Tindakan Kelas (PTK). PTK dalam penelitian ini terdiri dari 5 tahapan yaitu: perencanaan, tindakan, observasi, refleksi. Hasil penelitian menunjukkan: (1) Dengan menggunakan pembelajaran demonstrasi, hasil belajar siswa setiap siklusnya mengalami peningkatan secara signifikan. Hasil belajar siswa pada siklus I sebesar 80 dengan ketuntasan 95 %, siklus II sebesar 86 dengan ketuntasan 100 %. (2) Pembelajaran klasikal pada siklus I sebesar 78,61% meningkat menjadi 91,39% pada siklus II dan pembelajaran kelompok dari siklus I adalah 81,25% meningkat signifikan pada siklus II menjadi 100%.

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Abstract

This research aims to improve the learning achievement of class VI students at State Elementary School 019 Tanjung Sawit through demonstration model learning about the concept of conductors and insulators. The method used in this research is Classroom Action Research (PTK). PTK in this research consists of 5 stages, namely: planning, action, observation, reflection. The research results show: (1) By using demonstration learning, student learning outcomes in each cycle have increased significantly. Student learning outcomes in cycle I was 80 with 95% completeness, cycle II was 86 with 100% completeness. (2) Classical learning in cycle I was 78.61%, increasing to 91.39% in cycle II and group learning from cycle I was 81.25%, increasing significantly in cycle II to 100%.

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1. INTRODUCTION

The old paradigm of the learning process which originates from John Lock's tabula rasa theory where a child's mind is like a blank sheet of paper and is ready to wait for the teacher's scribbles seems to be no longer appropriate for use by educators today. The demands of education have changed a lot. Educators need to organize and implement teaching and learning activities where children can actively build their own knowledge. This is in accordance with the constructivist view, namely that learning success does not only depend on the learning environment or conditions, but also on students' prior knowledge. Learning involves the formation of "meaning" by students from what they do, see and hear.

One indicator of low student learning outcomes is that the use of learning methods and strategies in learning activities in these subjects is not optimal. In general, the methods used in the science teaching and learning process are still dominated by lecture methods, question and answer and giving assignments. On the other hand, cooperative learning strategies that are able to motivate students to interact, innovate, be creative, and socialize are often ignored, especially in learning activities regarding the concept of conductor objects and heat insulator objects.

A. Demonstration Learning Model

Demonstration is a very effective model, because it helps students to find answers on their own based on correct facts or data. The demonstration method is a method of presenting lessons by demonstrating and demonstrating to students a particular process, situation or object, either actually or just an imitation. As a presentation method, demonstration cannot be separated from verbal explanation by the teacher.

The advantages of the demonstration learning method are (a) Through the demonstration method, verbalism can be avoided, because students are told to immediately pay attention to the lesson material being explained. (b) The learning process will be more interesting, because students will not only hear, but also see the events that occur. (c) By observing directly students will have the opportunity to compare theory and reality. In this way, students will be more confident in the truth of the learning material.

The disadvantages of the demonstration learning method are (a) The demonstration method requires more thorough preparation, because without adequate preparation the demonstration can fail, which can cause this method to no longer be effective. In fact, it often happens that to produce a demonstration of a particular process, the teacher has to try it several times first, so it can take a lot of time. (b) Demonstrations require adequate equipment, materials and space, which means that using this method requires more expensive funding compared to lectures. (c) Demonstrations require special teacher abilities and skills, so teachers are required to work more professionally. Apart from that, demonstrations also require good teacher will and motivation for the success of the student learning process.

B. Learning achievement

Learning achievement is a value that shows the high learning outcomes achieved by children in pursuing something at a certain time. Sumartono (1992: 18) thus learning outcomes can be interpreted as something that shows the learning outcomes that have been achieved by students after studying learning material.

According to Wasty Sumanto, factors that influence learning achievement are classified into three groups, namely: stimulus factors, teaching method factors, and individual factors. Apart from the stimulus factor, the teacher's teaching method greatly influences student learning, in other words the method used by the teacher is very determining in achieving student learning achievement. A method is a method, which in its function is a means to achieve a goal." (Winarno Surachmand, 1980: 80). So it is clear that the method determines the achievement of learning objectives.

Apart from stimulus and method factors, individual factors have a huge influence on students' learning activities, that is, growth and age go hand in hand with their growth and development. As an individual matures, the maturity of various physiological functions increases. Many teaching methods are used by teachers in the teaching and learning process. All teaching methods can be applied. From the definition above, it can be concluded that teaching methods are the most appropriate way, how teachers teach subject matter in a directed, efficient and systematic manner to achieve learning goals. One of them is the demonstration learning method.

C. Science learning in elementary school

Natural Science (IPA) is related to ways of finding out about nature systematically, so that science is not only mastery of a collection of knowledge in the form of facts, concepts or

principles but is also a process of discovery. It is hoped that science education can become a vehicle for students to learn about themselves and the natural world around them, as well as prospects for further development in applying it in everyday life.

At the elementary school level, it is hoped that there will be an emphasis on Salingtemas learning (Science, environment, technology and society) which is directed at learning experiences to design and create work through the wise application of science concepts and scientific work competencies. Science learning should be carried out using scientific inquiry to develop the ability to think, work and behave scientifically as well as communicating it as an important aspect of life skills. Therefore, science learning in elementary school emphasizes providing direct learning experiences through the use and development of process skills and scientific attitudes.

Based on the contents of Permendiknas Number 22 of 2006, the aim of science learning in elementary schools is for students to have the following abilities. (1) Gaining confidence in the greatness of God Almighty based on the existence, beauty and order of His natural creation. (2) Develop knowledge and understanding of science concepts that are useful and can be applied in everyday life. (3) Develop curiosity, positive attitudes and awareness about the mutually influencing relationship between science, the environment, technology and society. (4) Develop process skills for investigating the natural environment, solving problems and making decisions. (5) Increase awareness to participate in maintaining, guarding and preserving the natural environment. (6) Increase awareness to respect nature and all its order as one of God's creations. And (7) Obtain natural science knowledge, concepts and skills as a basis for continuing education to SMP/MTs.

2. RESEARCH METHOD

The research was conducted from February 6 2022 to March 30 2022 on science learning. The research location is SD Negeri 019 Tanjung Sawit, Tapung District, Kampar Regency. The action research design is to carry out planning stages, action stages, observation and assessment stages, and reflection stages which will be carried out in 2 (two) cycles, each cycle consisting of 3 meetings,

The subjects of Classroom Action Research were class VI students at State Elementary School 019 Tanjung Sawit, Tapung District, Kampar Regency for the 2022/2020 academic year with a total of 20 students consisting of 10 girls and 10 boys. The data sources obtained by researchers came from students, teachers and student learning outcomes documents. Data originating from students are in the form of classical student learning activities and group work results as well as learning outcomes during the learning process, while those originating from teachers are in the form of records of student learning outcomes during the learning process.

Data collection carried out was observation of student activities during the ongoing learning process. The data collected through observation is student activity data and group work results data, while student learning outcomes are obtained by researchers by conducting tests in the form of action tests in the form of science practicum. In this research, researchers used qualitative descriptive analysis techniques, namely a research method that describes reality or facts according to the data obtained with the aim of knowing the learning outcomes achieved by students as well as to obtain student responses to learning activities and student activities during the learning process.

3. RESEARCH RESULTS AND DISCUSSION

3.1 Research Results

A. Cycle I

Meeting 1

Held on Wednesday, February 12 2022 in the first and second hours for 2 class hours, namely 2 x 35 minutes. The results of the first face-to-face student formative test obtained the following data:

Table 1. List of Student Learning Outcome Values for Cycle I Meeting 1

No	Absence Code	Assessment Aspects					Σ Score	Mark	Completeness	
		1	2	3	4	5			Q	TT
1	1	3	2	2	2	2	11	73	1	
2	2	2	2	2	2	2	10	67		1
3	3	2	2	2	2	2	10	67		1
4	4	2	3	2	2	2	11	73	1	
5	5	2	3	2	2	2	11	73	1	
6	6	2	2	2	2	2	10	67		1
7	7	3	2	3	2	2	12	80	1	
8	8	2	2	2	2	2	10	67		1
9	9	2	2	2	3	2	11	73	1	
10	10	2	2	3	2	2	11	73	1	
11	11	2	3	2	2	2	11	73	1	
12	12	3	2	2	3	2	12	80	1	
13	13	2	3	3	2	2	12	80	1	
14	14	3	3	2	2	3	13	87	1	
15	15	2	2	3	2	2	11	73	1	
16	16	2	3	2	2	2	11	73	1	
17	17	3	3	2	2	2	12	80	1	
18	18	3	2	2	2	2	11	73	1	
19	19	3	2	2	3	2	12	80	1	
20	20	3	2	3	2	2	12	80	1	
Amount		48	47	45	43	41	224	1493	16	4
Average		2.4	2.4	2.3	2.2	2.1	11.2	75	80	20

In the reflection activity, things that happened during the learning process were conveyed by both researchers and observers. Positive and negative things that happened that were conveyed by researchers and observers include:

- All students actively learn science using number card teaching aids.
- Carrying out remedial measures for students who experience difficulties in learning.
- Notes from Observers are considered and reviewed for improvement in the next cycle
- The test scores obtained by students have reached an average of 75 and there are 4 students who have not reached the criteria for learning completeness. Classically, learning completeness has been achieved because the criteria set is that the class is declared to have completed learning if it has reached a score of 70% -> 70%.

Meeting 2

on Wednesday, February 19 2022 in the first and second hours for 2 class hours, namely 2 x 35 minutes. At the evaluation stage, researchers give formative tests to students. The results of the first face-to-face student formative test are as follows:

Table 2. List of Student Learning Outcome Values for Cycle I Meeting 2

No	Absence Code	Assessment Aspects					Σ Score	Mark	Completeness	
		1	2	3	4	5			Q	TT

1	1	3	3	2	2	3	13	87	1	
2	2	3	2	2	2	2	11	73	1	
3	3	2	2	2	2	2	10	67		1
4	4	2	3	2	2	2	11	73	1	
5	5	2	3	3	2	2	12	80	1	
6	6	2	2	2	2	2	10	67		1
7	7	3	2	3	2	2	12	80	1	
8	8	2	2	2	2	2	10	67		1
9	9	3	2	2	3	2	12	80	1	
10	10	3	2	3	2	2	12	80	1	
11	11	2	3	2	3	2	12	80	1	
12	12	3	2	2	3	2	12	80	1	
13	13	2	3	3	2	2	12	80	1	
14	14	3	3	2	2	3	13	87	1	
15	15	2	2	3	3	2	12	80	1	
16	16	2	3	2	3	2	12	80	1	
17	17	3	3	2	2	2	12	80	1	
18	18	3	2	2	3	2	12	80	1	
19	19	3	2	2	3	2	12	80	1	
20	20	3	2	3	2	2	12	80	1	
Amount		51	48	46	47	42	234	1560	17	3
Average		2.6	2.4	2.3	2.4	2.1	11.7	78	85	15

In reflection activities, things that happened, both positive and negative, were conveyed during the learning process.

Positive and negative things that happened that were conveyed by researchers and observers include:

- All students actively carry out science learning using teaching aids provided by the researcher.
- Carrying out remedial measures for students who experience difficulties in learning.
- The formative test scores obtained by students reached an average of 78 and there were still 3 students who scored below the criteria for learning completeness.

Overall, at this meeting, the students' learning outcomes had not yet reached learning completeness. However, when compared with previous learning results, there is an increase in the development of student learning outcomes.

Meeting 3

Held on Wednesday, February 26 2022 in the first and second hours for 2 class hours, namely 2 x 35 minutes. The results of the third face-to-face student formative test are as follows:

Table 3 List of Student Learning Outcome Values for Cycle I Meeting 3

No	Absence Code	Assessment Aspects					Σ Score	Mark	Completeness	
		1	2	3	4	5			Q	TT
1	1	3	3	2	2	3	13	87	1	
2	2	3	3	2	2	2	12	80	1	
3	3	3	2	2	2	2	11	73	1	
4	4	2	3	2	2	2	11	73	1	
5	5	2	3	3	2	2	12	80	1	
6	6	3	3	2	2	2	12	80	1	
7	7	3	2	3	2	2	12	80	1	
8	8	2	2	2	2	2	10	67		1
9	9	3	2	2	3	2	12	80	1	
10	10	3	2	3	2	2	12	80	1	
11	11	2	3	2	3	2	12	80	1	

12	12	3	2	2	3	2	12	80	1	
13	13	2	3	3	2	2	12	80	1	
14	14	3	3	3	2	3	14	93	1	
15	15	2	2	3	3	2	12	80	1	
16	16	2	3	2	3	2	12	80	1	
17	17	3	3	2	2	2	12	80	1	
18	18	3	2	2	3	2	12	80	1	
19	19	3	2	2	3	2	12	80	1	
20	20	3	2	3	2	2	12	80	1	
Amount		53	50	47	47	42	239	1593	19	1
Average		2.7	2.5	2.4	2.4	2.1	11.95	80	95	5

In reflection activities, things that happened, both positive and negative, were conveyed during the learning process. Positive and negative things that happened included:

- a) All students actively learn science using teaching aids.
- b) Carrying out remedial measures for students who experience difficulties in learning.
- c) The test scores obtained by students have reached an average of 81, classically they have completed their studies, but individually there is still 1 student who received a score below the predetermined criteria for learning completeness, namely 70 - > 70.

B. Cycle II
Meeting 4

Held on Wednesday, March 2 2022 in the first and second hours for 2 x class hours, namely 2 x 35 minutes. At the evaluation stage, researchers give formative tests to students. The results of the fourth face-to-face student formative test are as follows

Table 4. List of Student Learning Outcome Values for Cycle II Meeting 4

No	No absence	Assessment Aspects					Amount Score	Mark	Completeness	
		1	2	3	4	5			Q	TT
1	1	3	3	2	3	3	14	93	1	
2	2	3	3	2	2	2	12	80	1	
3	3	3	2	2	2	2	11	73	1	
4	4	2	3	2	2	3	12	80	1	
5	5	2	3	3	2	2	12	80	1	
6	6	3	3	2	2	2	12	80	1	
7	7	3	2	3	2	2	12	80	1	
8	8	2	2	2	2	3	11	73	1	
9	9	3	2	2	3	2	12	80	1	
10	10	3	2	3	2	2	12	80	1	
11	11	2	3	2	3	2	12	80	1	
12	12	3	2	2	3	2	12	80	1	
13	13	2	3	3	2	2	12	80	1	
14	14	3	3	3	2	3	14	93	1	
15	15	2	2	3	3	2	12	80	1	
16	16	2	3	2	3	2	12	80	1	
17	17	3	3	2	2	2	12	80	1	
18	18	3	2	2	3	2	12	80	1	

19	19	3	2	2	3	2	12	80	1	
20	20	3	2	3	2	2	12	80	1	
Amount		53	50	47	48	44	242	1613	20	0
Average		2.65	2.5	2.35	2.4	2.2	12.1	81	100	0

In reflection activities, things that happened, both positive and negative, were conveyed during the learning process. Positive and negative things that happened that were conveyed by researchers and observers include:

- a) All students actively learn science using teaching aids.
- b) Conduct remedial services for 2 students who are experiencing learning difficulties.
- c) The test scores obtained by students classically meet the criteria for learning completeness, namely 70 - > 70.

Meeting 5

Held on Wednesday, March 9 2022 in the first and second hours for 2 x class hours, namely 2 x 35 minutes. The results of the fifth face-to-face student formative test are as follows:

Table 5. List of Student Learning Outcome Values for Cycle II Meeting 5

No	No absence	Assessment Aspects					Amount Score	Mark	Completeness	
		1	2	3	4	5			Q	TT
1	1	3	3	2	3	3	14	93	1	
2	2	3	3	2	2	2	12	80	1	
3	3	3	3	2	2	2	12	80	1	
4	4	2	3	2	2	3	12	80	1	
5	5	2	3	3	2	2	12	80	1	
6	6	3	3	2	2	2	12	80	1	
7	7	3	2	3	2	2	12	80	1	
8	8	2	3	2	2	3	12	80	1	
9	9	3	3	2	3	3	14	93	1	
10	10	3	2	3	2	2	12	80	1	
11	11	2	3	2	3	2	12	80	1	
12	12	3	2	2	3	2	12	80	1	
13	13	2	3	3	2	2	12	80	1	
14	14	3	3	3	2	3	14	93	1	
15	15	3	3	3	3	2	14	93	1	
16	16	2	3	2	3	2	12	80	1	
17	17	3	3	2	2	2	12	80	1	
18	18	3	3	2	3	2	13	87	1	
19	19	3	2	2	3	2	12	80	1	
20	20	3	3	3	3	2	14	93	1	
Amount		54	56	47	49	45	251	1673.33	20	0
Average								83.67	100	0

In reflection activities, things that happened, both positive and negative, were conveyed during the learning process. Positive and negative things that happened that were conveyed by researchers and observers include:

- a) All students are actively learning science
- b) At the 5th cycle II meeting, all students had achieved the criteria for learning completeness, namely 100% achieving a score of 70 - >70.

Meeting 6

Held on Wednesday, March 16 2022 in the first and second hours for 2 class hours, namely 2 x 35 minutes. At the evaluation stage, researchers give formative tests to students. The results of the students' formative tests in the sixth face-to-face meeting are as follows:

Table 6 List of Learning Outcome Values for Cycle II Meeting 6

z	No absence	Assessment Aspects					Amount Score	Mark	Completeness	
		1	2	3	4	5			Q	TT
1	1	3	3	3	3	3	15	100	1	
2	2	3	3	2	2	2	12	80	1	
3	3	3	3	2	2	2	12	80	1	
4	4	2	3	2	2	3	12	80	1	
5	5	2	3	3	2	2	12	80	1	
6	6	3	3	2	2	2	12	80	1	
7	7	3	2	3	2	2	12	80	1	
8	8	2	3	2	2	3	12	80	1	
9	9	3	3	3	3	3	15	100	1	
10	10	3	2	3	2	2	12	80	1	
11	11	2	3	2	3	2	12	80	1	
12	12	3	2	2	3	2	12	80	1	
13	13	2	3	3	2	2	12	80	1	
14	14	3	3	3	3	3	15	100	1	
15	15	3	3	3	3	3	15	100	1	
16	16	2	3	2	3	3	13	87	1	
17	17	3	3	2	2	3	13	87	1	
18	18	3	3	2	3	2	13	87	1	
19	19	3	2	2	3	3	13	87	1	
20	20	3	3	3	3	2	14	93	1	
Amount		54	56	49	50	49	258	1720	20	0
Average								86.00	100	0

In reflection activities, things that happened, both positive and negative, were conveyed during the learning process. Positive and negative things that happened that were conveyed by researchers and observers include:

- a) All students actively learn science using teaching aids.
- b) Carrying out remedial measures for students who experience difficulties in learning.
- c) The formative test scores of all students have reached the criteria for learning completeness, namely a score of 70-> 70.

3.2 Discussion

The researcher carried out 2 cycles of classroom action. Each cycle was held three times, so in this class action there were a total of 6 meetings or face-to-face meetings. Each meeting is held for 2 hours, namely 2 x 35 minutes. The action was carried out on Wednesday, namely in the first and second hours. This is adjusted to the lesson schedule in class VI State Elementary School 019 Tanjung Sawit semester I of the 2022/2020 academic year

Actions are carried out using the demonstration cooperative learning model. In the classroom action process, observers observe the classical learning process and group activities and carry out assessments of student learning outcomes at the end of each learning process.

To find out the progress in improving student learning outcomes from cycle I, meeting 1 to meeting 3 and cycle II, meeting 4 to meeting 6, it is explained in detail through a discussion of the results of the following class actions.

Table 7. Summary of Research Results from Meetings 1 to 6

Cycle/Meeting	CRITERIA			
	Classical Activity (%)	Group Activities	Average value	KKM Achievement (%)
CYCLE I				
Meeting 1	75.56	56.25	75	80
Meeting 2	77.22	75	78	85
Meeting 3	78.61	81.25	80	95
CYCLE II				
Meeting 4	82.22	87.5	81	100
Meeting 5	84.17	93.75	83.61	100
Meeting 6	91.39	100	86	100

To find out the progress of increasing the results of the learning process and learning outcomes from the initial conditions, cycle I and cycle II below, Figure 4.8 shows the graph of the increase in the results of the learning process and learning outcomes from the initial conditions and each action cycle, namely cycle I and cycle II.

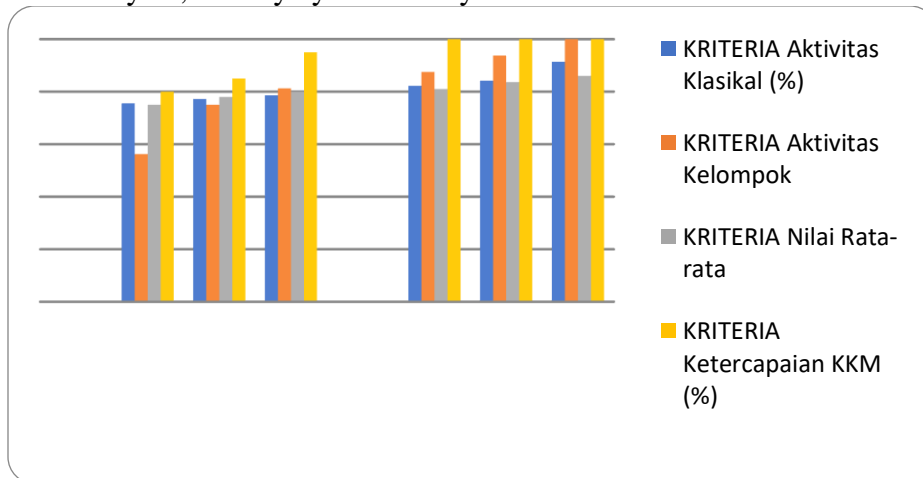


Figure 1. Development of Improvement in Learning Process Results and Learning Outcomes from Initial Conditions, Cycle I and Cycle II

This data proves that if the group learning process is developed well by paying attention to several aspects that can be developed, for example neatness, suitability of work results and assignments received, correctness of answers, and responsibility, the results of group work will undoubtedly improve and the role of students in the group will function optimally. The graph in Figure 4.8 also shows that the development of improvement is not only in the learning process that occurs, but student learning outcomes also increase. Individual student learning outcomes have reached 100% of the set criteria for learning completeness, namely 70 - > 70. Meanwhile, classical learning completeness has also reached 100% above the set criteria for classical learning completeness, namely 70 - > 70.

Based on the description of the results of the discussion of initial conditions, cycle I and cycle II, it is proven that the use of the Demonstration learning model can improve the science learning

outcomes of class VI students in the first semester of Tanjung Sawit State Elementary School 019 for the 2022/2020 academic year.

So from the problem formulation proposed, "Can the Demonstration cooperative learning model improve the science learning outcomes of class VI students at State Elementary School 019 Tanjung Sawit, Tapung District in the 2022/2020 academic year?"

- The classical learning process has achieved a score of 91.39% above the specified target, namely a score of 75% - > 75%, so the target has been achieved.
- The group learning results have reached a score of 100% above the specified target, namely a score of 75 - > 75%, so the target has been achieved.
- Completeness of individual and classical learning has reached 100% above the specified target, namely 100% reaching a score of 70 -> 70, then the target has been achieved.

Based on the data above, the problem formulation can be answered, that the Demonstration learning model can improve the science learning outcomes of class VI students at State Elementary School 019 Tanjung Sawit, Tapung District for the 2022/2020 academic year. So it can be concluded that learning through the Demonstration Model can improve students' science learning outcomes. class VI State Elementary School 019 Tanjung Sawit school year 2022/2020.

4. CONCLUSION

Based on the results of data analysis and discussion, it can show some of the progress achieved during learning, both through classical learning, group learning results, and learning outcomes. So the results of this classroom action research can be drawn as follows:

- a. Demonstration model learning can encourage students to learn science more enthusiastically, improving the learning process and learning outcomes.

Demonstration model cooperative learning can motivate students' learning to be more enthusiastic so that their learning outcomes increase.

5. THANK-YOU NOTE

Thank you to the Principal and teachers at SDN 019 Tanjung Sawit.

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