

Improving Student Learning Outcomes in Theme 2 Always Saving Energy Through Problem Based Learning Models Assisted by Audio Visual Media in Class IV SD IT Darussalam Deli Tua

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Abstract. This study aims to determine the Improvement of Student Learning Outcomes in Theme 2 Always Save Energy Through the Problem Based Learning Model Assisted by Audio Visual Media in Grade IV SD IT Darussalam Deli Tua. This research is a Classroom Action Research (PTK) consisting of 3 cycles with 2 meetings in each cycle. Each cycle consists of 4 stages, namely planning, implementation, observation, and reflection. The subjects of this study were teachers and 37 fourth grade students at SD IT Darussalam Deli Tua. Data collection techniques used test and non-test techniques in the form of tests, observation and documentation. Data analysis techniques consisted of qualitative and quantitative analysis. This classroom action research started from April to June 2023. This classroom action research was conducted at SD IT Darussalam, Deli Tua District. Student learning outcomes were measured through final tests, observations, and assessments from the groups. Data on student learning outcomes showed a significant increase after the application of the audio-visual-assisted Problem Based Learning model. It is known that in cycle III, where the learning was carried out for 2 meetings, 30 students who completed or 98% of the total number of students, namely 37 people, completed. This shows that student learning outcomes have reached indicators of success, namely students who achieve KKM 70 have reached 70% at the end of cycle III.

Keywords: Learning Outcomes, Always Save Energy, Problem Based Learning, Audio Visual.

I. INTRODUCTION

Thematic learning is integrated learning using themes. Existing lessons are integrated through predetermined themes so as to provide meaningful experiences to students. Thematic learning is not only subject-based but places more emphasis on providing direct experience and understanding. so that teachers are required to master all the problems of life, and be able to guide students to think analytically and critically.

Creating an interesting learning atmosphere is a separate obligation for a teacher so that students can absorb and understand the material provided to the fullest. Using the right learning model can also create an effective learning atmosphere. However, not all teachers are able to master the class well, there are still teachers who are still accustomed to passive teacher-oriented classes (Rokhimawan et al., 2022).

Based on initial observations in class related to thematic learning at SD IT Darussalam Deli Tua on January 28 2023, learning Theme 2 Always Save Energy on student learning outcomes is still relatively low. This is because teachers rarely use learning media that support these themes and the lack of variety of learning models used by teachers. Teachers more often carry out learning activities using the lecture method such as by presenting material in writing on the blackboard and then explaining it orally. With the presentation of material that is less varied, many students are less enthusiastic and do not have the courage to express their opinions. This is because the teacher has not implemented discussion and group skills such as the *Problem Based Learning Model* and the teacher is not optimal in using varied learning media such as audio visual. Learning outcomes in thematic learning found many students whose scores did not reach the Minimum Completeness Criteria (KKM) limit with scores above 70. Based on the results of the pre-cycle there were 37 students in class IV, but only 6 students scored above 70 while 31 other students get a score below 70. This indicates low student learning outcomes in thematic lessons.

Based on the problems above, a learning strategy is needed in Theme 2 that is fun for students so that students are enthusiastic about learning. In addition, learning activities are also needed that activate students, so that learning activities become more meaningful and can improve student learning outcomes. *The Problem Based Learning (PBL)* model is a relevant model for teaching theme 2, always save energy. This is because in the *Problem Based Learning model* will understand the content of the

lesson, pay attention to the wishes of students, build knowledge from what students know, challenge students' abilities and provide satisfaction to find new knowledge for students.

Learning media is a very important component in learning. The existence of more varied learning media will attract students' attention when learning so that learning is more focused (Wismaya, 2018) . Audio-visual media can help teachers in teaching and learning activities in conveying material that is difficult to convey and audio-visual media can be easily understood by students (Mujahidah et al., 2023) .

It is hoped that by utilizing the *Problem Problem Learning Model* with audio-visual assistance, grade IV students can actively participate in learning so as to improve learning outcomes in Theme 2 Always Save Energy which is not yet effective. As for the title that the researcher will put forward based on the background above, this research is entitled " Improving Student Learning Outcomes on Theme 2 Always Save Energy Through the *Problem Based Learning Model* Assisted by Audio Visual Media in Class IV SD IT Darussalam Deli Tua". The objectives to be achieved based on the formulation of the problem described above are:

1. In order to find out whether there is an increase in student learning outcomes in Theme 2 Always Save Energy through the *Problem Based Learning model* assisted by audio-visual media in class IV SD IT Darussalam Deli Tua.
2. *Problem Based Learning* Learning Model to improve student learning outcomes in Theme 2 Always Save Energy assisted by audio-visual media for students in class IV SD IT Darussalam Deli Tua.

II. METHODS

This research is a Classroom Action Research (CAR). In particular, the process of reviewing the lessons learned and engaging in self-reflection in an effort to solve problems through implementing various planned actions in actual circumstances and analyzing the effects of each treatment (Sujana et al., 2021) research This class action refers to the spiral model from Kemmis & Mc Taggart. This research was carried out in 4 stages, namely: Planning, Action, Observation, and *Reflection*. This classroom action research began in April to June 2023. This classroom action research was carried out at SD IT Darussalam, Deli Tua District. The research subjects in this study were students in class IV of SD IT Darussalam, Deli Tua District. The test method used is multiple choice questions and the non-test method used for observation and documentation is the one used by the researcher to collect research data. Test, Non-test, Documentation, Observation

Reliability is the extent to which reliable measurement results are obtained. If measurements are made on the same group of subjects repeatedly and the findings are largely the same, the results are reliable as long as the measured characteristics of the subjects remain consistent and do not change. The ability of an evaluation instrument to consistently evaluate what is being evaluated is known as reliability (Ariana, 2016) .

III. RESULTS AND DISCUSSION

Implementation of Class Action *Problem Based Learning* Models Assisted by Audio Visual Media Can Improve Student Learning Outcomes in Theme 2 Always Save Energy at SD IT Darussalam Deli Tua

Audio-visual media can also be used as an effective tool in illustrating concepts related to energy saving. For example, the use of videos, animated presentations, or audio materials can help students understand concepts better. This media can help students visualize situations or scenarios that require energy saving. The following are steps that can be followed in implementing the PBL model classroom action assisted by audio-visual media to improve student learning outcomes on the theme "Always Save Energy":

Identify the problem: Begin by introducing the problem or situation that requires saving energy. For example, students may be asked to find ways to reduce electricity consumption in their school or home. Forming groups: Divide students into small groups to work together to solve problems. Make sure each group has diverse representatives so that students can collaborate with each other. Research: Ask students to do research on concepts and strategies related to saving energy. Audio-visual media, such as educational videos about saving energy, can be used as a source of information. Problem solving: Ask each group to plan solutions to the problems found. Encourage them to use the concepts they have learned and explain their solutions using relevant audio-visual media. Presentation: Each group must present their solution to the whole class. In their presentations, they can use audio-visual media, such as short videos or animated presentations, to explain their solutions more clearly and attractively. Discussion and reflection: After each presentation, have a class discussion on the various solutions proposed. Encourage students to share views, compare solutions, and reflect on what they have learned during the process through the *Problem Based Learning model*.

Through class action of the *Problem Based Learning model* assisted by audio visual media, students can be actively involved in learning, deepen their understanding of energy saving concepts, and develop collaboration and problem solving skills. Thus, it is expected that student learning outcomes on theme 2 "Always Save Energy" at SD IT Darussalam. This research was conducted from April to May in order to improve student learning outcomes on theme 2, always save energy through the *Problem Based Learning model* with audio-visual assistance.

Based on results observation on beginning meeting First Teacher more Lots use method lecture. Teacher Not yet can turn on Spiritstudents who are still low in participating in learning. At the second meeting, which was about theme 2, always save energy, the researchers found that the observations teachers are less clear in conveying examples of thematic learning in life daily.

Matter This cause a number of become confusion and ask the teacher. The results of other observations at the second meeting were the teacher approaches the group one by one to observe the group's work and provide guidance to students who are still confused. Observation data learning by using *problem based learning* with the help of audio visual can seen on calculation in lower This:

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

$$P = \frac{10}{37} \times 100\% \quad \text{---}$$

$$P = 37\%$$

Based on the calculation above it is known that learning *problem based learning* has a score of 37%. It means the application of learning *problem based learning* with the help of audio visual on theme 2 is always energy saving still not good done. on sheet teacher's observation of many aspects obtained with a score of 1 and a number of aspect obtain score 2. Teacher carry out all learning according to the RPP but several aspects such as Teachers provide experience and benefit to knowledge Which built participant educate so that raise the brain's natural desire to explore is still not maximally carried out. Results that obtained become not enough maximum so that indicator success action Which previously set, namely 50% has not been reached, then this needs to be held repair on cycle furthermore.

Based on table in on can is known that on cycle I II Which implementation learning during 2 time meeting, student Which complete amounted to 31 people or 98% of the total number of students, namely 37 people. Matter This show that results Study student already reach indicator success, that is student Which reach KKM 70 already reach 98% on end cycle III. In addition, it is important for teachers to ensure that PBL learning activities are linked to the established curriculum. Teachers also need to be active facilitators in guiding and supporting students during the learning process. By applying the PBL model, it is hoped that students will be more actively involved in learning, develop a deeper understanding of integer multiplication, and be able to improve student learning outcomes of integer multiplication.

Student Learning Outcomes Theme 2 Always Save Energy with the *Problem Based Learning Model* With the Assistance of Audio Visual

Table 1 Assessment Theme 2 is always energy efficient Cycle 2

No.	Indicator	Frequency score				Score	Flat-flat
		1	2	3	4		
1.	Readiness of students to accept lessons	20	20	23	18	81	20,25
2.	Students respond to everyday problems presented by the teacher	25	24	25	50	124	31
3.	Students in groups to solve problems.	50	24	29	25	128	32
4.	Students carry out investigations independently and in groups	15	29	15	20	79	19.75
5.	Develop and present results in the form of reports	10	31	25	25	91	22.75
6.	Analyze and evaluate the problem solving process	20	20	15	25	80	20
Amount score						1520	380
Average						253,33	63,33
Success						80 %	
Category						Very good	Very good

Based on these data, it is known that the number of scores obtained is 1520 with an average of 380 in the very good category. Level of success increase compared with cycle III, that is become 80%.

As for results Skills theme 2 always save energy changed to in form mark scale 100 so obtained results as following :

Table 2 Results Study Theme 2 always saves energy Meeting I

No.	Achievement	Cycle I	Cycle II	Cycle III
1.	Mark Lowest	40	60	87
2.	Mark highest	66	87	68
3.	Average	53	73.5	77.5
4.	completeness classic	0.53	0.735	0.775

Assessment results on the observation of teacher and student skills

Results Observation Skills Teachers can be seen in the following table:

Table 3 Results Data Observation Skills Teacher On
Cycle I Cycle II Cycle III

No	Indicator	Cycle I	Cycle II	Cycle III
1.	Open lesson	2	4	4
2.	Orienting problems to students	2	3	4
3.	Organizing students to study	2	3	4
4.	Assist investigations independently and in groups	2	4	4
5.	Help develop and present results in the form of reports	2	3	4
6.	Analyze and evaluate the problem solving process	2	3	4
Amount Score Which obtained		22	12	20
Average score		12	20	24
Percentage		2	3,333	4
Category		17%	0.166	0.166

Skills Teacher in giving advice on learning theme 2 always save energy through *Problem Based Learning* experience enhancement Which significant. Enhancement pills _ Teacher on every meeting.

Research Discussion

This research is a Class Action Research (CAR). The classroom action research that was carried out consisted of three cycles and each cycle consisted of the stages of planning, implementing, observing and reflecting. This research was conducted in order to improve student learning outcomes in Theme 2 Always Save Energy using the *Problem Based Learning Model*. Evaluation is carried out at the end of the implementation stage of each cycle with the aim of obtaining learning outcome data. The results obtained in this study are that learning outcomes always increase in each cycle.

The first meeting discussed various sources of energy and the benefits of solar energy in everyday life. While the second meeting was about the application of *Problem Based Learning*, namely designing experiments from the benefits of solar energy. During the research process in the classroom, the researcher was assisted by the observing homeroom teacher. The researcher asked the constraints of the experimental process and student discussion, then the researcher explained the unclear material and gave conclusions about the material. The series of activities carried out are as follows:

- The learning video is observed by students using audio-visual media on the material "energy sources" and explained by the teacher briefly.
- Students are given the opportunity to think and the teacher encourages students so that they are more enthusiastic about learning.
- After displaying the audio-visual media, the teacher asks several questions to students regarding the real problems that have been broadcast.
- The teacher forms groups with 4-5 groups of 5 people each.
- Students are distributed LKPD for groups that have been divided at the beginning.
- The problems that have been given will be identified by students in groups.

The evaluation in cycle I was carried out on May 3, 2023. The average student learning outcomes in cycle I were 6 students who completed or 19% of the total, namely 37 people.

The reflection of the implementation of this first cycle is that learning using the *Problem Based Learning* (PBL) model is able to improve student learning outcomes in the initial state (pre-cycle), namely obtaining a score of 109.5 with an average of 18.25 and entering the good category. The success rate achieved was 287.67%.

Research in cycle I went according to what was expected. However, there are still problems that occur during the learning process. The first problem is that some students are still not able to follow the learning process using the *Problem Based Learning* (PBL) model, weaknesses in discussions make some groups less than optimal in carrying out the tasks given. Based on the problems that arise, the researcher will motivate students to be more active in cycle II learning and researchers make experiments that are more interesting during cycle II.

In carrying out this teaching and learning activity, the teacher applies the *Problem Based Learning* (PBL) learning model. The learning implementation was carried out using the *Problem Based Learning* (PBL) learning model, while the researcher functioned as an observer when the researcher explained the material, and documentation was carried out by officers (research assistants) during the learning process. The researcher helps students reflect on the experiments that have been carried out and one of the group members comes to the front of the class to present the results of the discussion. Final activity The researcher also asked about the constraints of the experimental process and student discussion, then the researcher explained the unclear material and gave conclusions about the material. Finally, the researcher gave evaluation questions to each individual student.

Cycle II was held in 2 meetings, namely on 19 and 20 May 2023. The teaching material discussed in this study was to identify the benefits of changing energy forms and the benefits of energy in everyday life. During the research process the researcher was assisted by the fourth grade homeroom teacher whose job was to observe.

The teacher pays little attention to 3 students: This student is also embarrassed to ask the teacher and copy the work of his friends and when the teacher asks all students which part they don't understand, they just keep quiet and the teacher thinks this student already understands and turns out not so his test score is relatively low.

Teacher strengths

- a) The teacher has been able to master the classroom atmosphere so that teaching and learning activities take place in an orderly and regular manner.
- b) The teacher is also able to convey material on Theme 2 Always Save Energy using audio-visual media well, although there are still some deficiencies in the delivery steps.
- c) Teachers and students can interact well.
- d) Teachers are getting used to carrying out teaching and learning activities using the *Problem Based Learning model* assisted by audio-visual media in solving problems.

IV. CONCLUSIONS

Based on the research results in cycle 1 which implementation learning during 3 time meeting, student Which complete amounted to 6 people or 19% of the total number of students, namely 37 people. Matter This show that results Study student Not yet reach indicator success, that is student Which reach KKM 70 yet reach 70% on end cycle. assessment on learning Theme 2 Sources of Energy on Cycle1, obtained a score of 109.5 with an average of 18.25 and is in the good category. Level success Which achieved is 287.67 %. Based on research result cycle I I Which implementation learning during 2 time meeting, student Which complete amounted to 30 people or 90 % of the total number of students, namely 37 people. Matter This show that results Study student already reached indicator success, that is student Which reach KKM 70 already reach 90% on end cycle II. Based on these data, it is known that the total score obtained is 77.66 with an average of 19.41 in the good category. Level of success increase compared with cycle II, that is become 400 %. on cycle I II Which implementation learning during 3 time meeting, student Which complete amounted to 30 people or 95% of the total number of students, namely 37 people. Based on these data, it is known that the total score obtained is 1520 with an average of 380 in the very good category. Level of success increase compared with cycle III, that is become 95%.

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