THE EFFECT OF THE STEAM APPROACH (SCIENCE, TECHNOLOGI, ENGINEERING, ART, MATHEMATICS) TO INCREASE THEMATIC LEARNING OUTCOMES IN CLASS IV SD NEGERI 007 RAMBAH SAMO

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Abstract , *This study aims to determine that the application of the STEAM approach to improve thematic learning outcomes of fourth grade students of SD Negeri 007 Rambah Samo. The background of this research is that the teacher has difficulty developing learning, the lack of variety of teachers in using the learning approach, this causes student learning outcomes to decline. Meanwhile, to embed a concept requires the application of a certain approach. Based on the results of the researcher's observations, it was found that the results of the test in thematic learning in the Odd Semester of 2021 were that there were still many students who did not achieve minimum completeness (KKM) with a KKM score of 75, the number of students was 25, the percentage of students who completed 30%, and the percentage of students who did not complete 70%. The data analysis technique used is the model of collecting several instruments in the form of student and researcher activity sheets and question sheets. The results of the research can be stated that through the steam approach it can improve learning outcomes of Theme 4 Caring for Living Creatures, Sub Theme I and Sub Theme 2 students of class 1V SD Negeri 007 Rambah Samo. Improved Completeness Learning outcomes in the initial conditions became (34.7%) pre-early, and in cycle 1 (60.9%) and became 85% in cycle 2. The conclusion of this study is that the application of the STEAM approach to improve student learning outcomes in thematic learning Grade IV of SD Negeri 007 Rambah Samo was successful.*

Keyword : Learning Outcomes, Thematic Learning, STEAM Approach

I. INTRODUCTION

Elementary school education is part of national education which has a very important role in improving the quality of human resources, providing basic abilities to children such as knowledge and skills. Education also plays an important role in the development and progress of the state and nation. Education in advancing the state and nation is reflected in Law Number 20 of 2003 concerning the National Education System that education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life, aiming at developing the potential of students to become human beings who have faith and fear of God

Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent and become democratic and responsible citizens. In achieving quality and better education, the government created a new curriculum, namely the 2013 curriculum. The 2013 curriculum is a curriculum that applies thematic learning in all classes, from grade 1 to grade 6 using a scientific approach.

Thematic learning implemented by the 2013 curriculum at every grade level requires the readiness of teachers to implement learning so that learning objectives can be achieved properly.

SD Negeri 007 Rambah Samo is one of the schools that implements a thematic learning process.

The thematic learning process at SD Negeri 007 Rambah Samo is still not ideal as evidenced by the finding of several problems related to student learning outcomes, this is due to the fact that there are still many teachers who have not applied new methods, strategies, or learning approaches in the learning process. In addition, teachers still use conventional methods that make students unable to solve problems, think critically, creatively, inactive, not concentrated, do not understand the material, so that learning is less effective and meaningful, so that it affects the results or values of children in learning. low. The low score of

children is evidenced by the results of observations with class teachers on Friday, October 1, 2021, the fact that there are teachers still using conventional methods, strategies and approaches or teachers still using teacher centered methods, namely learning that does not involve students, causing problems. such as student learning outcomes are still low, this is evidenced in the results of the Deuteronomy in Thematic learning in the Odd Semester of 2021, namely there are still many students who do not achieve minimum completeness (KKM) with a KKM score of 75, the number of students 25, the percentage of students who complete 30%, and the percentage of students who did not complete 70%.

Based on these data, it shows that at least students are complete in learning, and there are still many students' scores who have not reached the KKM. This is also influenced by the students themselves, namely the lack of motivation to learn in students, students tend to prefer playing games while studying, lack of student curiosity, and lack of teachers in conveying learning with dancing methods, strategies or approaches so that students are bored. and lazy in studying which makes the value of the Middle Semester Examination Students tend to be low. To improve student learning outcomes, teachers must be able to choose the right

models, methods, strategies and learning approaches for students so that students are motivated to participate in learning.

Based on the description above, researchers are interested in applying the Steam Approach (Science, Technology, Engineering, Art, Mathematics) to Improve Thematic Learning Outcomes in Class IV SD Negeri 007 Rambah Samo. The Steam approach is an approach that seeks to develop critical thinking skills in solving problems related to the real world by integrating several subjects so that students are able to think creatively and innovatively in finding forms, concepts and solving problems that refer to abilities and understanding related to phenomena that are around. student. Integration in STEAM will be able to provide new opportunities for students to carry out the design learning process directly and produce products with good creativity and problem solving abilities, Buinicontro (2017).

Elementary school thematic learning with a scientific approach is very suitable to be combined with a STEAM-charged approach, because learning is carried out in various contexts that bring subject matter closer to everyday life or themes that are close to the world of students. By using the STEAM approach, it is expected to improve student learning outcomes and can make the learning process more effective, meaningful, can make students rely more on their way of thinking, broaden students' horizons, and easily solve various problems. Therefore, researchers are interested in conducting a study entitled "Application of the STEAM Approach in Thematic Learning in Class IV SD Negeri 007 Rambah Samo".

II. RESEARCH METHOD

This type of research is Classroom Action Research (CAR). Classroom action research is a research activity carried out on a number of targeted subjects, namely students, aiming to improve the learning situation in the classroom so that there is an increase in the quality of learning. (Suharsimi Arikunto, 2010). Aqib et al, (2011) stated that classroom action research is research conducted by teachers in their own class through self-reflection with the aim of improving their performance so that student learning outcomes increase. Meanwhile, according to Arikunto (2006) said that classroom action research is an observation of learning activities in the form of an action that is deliberately raised and occurs in a class to Based on the understanding of Classroom Action Research according to these experts, it can be concluded that classroom action research is one of the studies that is an effort to observe and

collect information in learning activities, through an action that is deliberately raised by the teacher as self-reflection in order to improve and improve student learning outcomes towards positive ones.

III. RESEARCH RESULTS AND DISCUSSION

1. Research Results

The results of this study were carried out on thematic learning on theme 4 caring for living things sub theme 1. The first meeting was held on Monday, October 11, 2021. With a total of 20 students, with a lesson time of 2 hours or 2x35 minutes. The researcher was accompanied by a grade IV teacher at SD Negeri 007 Rambah Samo. Pre-action activities were carried out to obtain initial data regarding student learning outcomes on theme 4 caring for living things. The results of preliminary observations before the action showed that learning was teacher-centered, students seemed not enthusiastic about participating in learning, the teacher continued to provide guidance to students, but the teacher's lack of clarity in delivering the material made learning ineffective. From the test results obtained data in the form of numbers about the value of each student. Complete learning data in the initial conditions can be seen in the table below:

Table 1. Application of the STEAM Approach

No	Researched Aspect	Achievemet Percentage		Enhancement
		Cycle 1	Cycle 2	
1	Troubleshooting	70%	85%	15%
2	Group Division	80%	85%	5%
3	Group Discussion Direction	70%	80%	10%
4	Problem solving	75%	90%	15%
5	Reflection or evaluation	75%	85%	10%
	Average	74%	85%	11%

Field Data 2021

Based on the data in the table above, it can be seen that in the first cycle of action, the problem-giving aspect is 70%, the group division aspect is 80%, the group discussion direction aspect is 70%, the problem-solving aspect is 75%, the reflection or evaluation aspect is 75%. While in the second cycle the problem-giving aspect increased 15% to 85%, the group division aspect increased 5% to 85%, the discussion direction aspect increased 10% to 80%, the problem-solving aspect increased 15% to 90%, and the reflection or evaluation aspect increased 10% to 85%. The average yield increased from the first cycle was 74%, the second cycle increased to 85%.

Data on student learning outcomes can be seen in the following table:

Table 2. Student Learning Outcomes

No	Researched Aspect	Achievemet Percentage		Enhancement
		Cycle 1	Cycle 2	
1.	Feeling happy	80%	95%	15%
2.	Will	70%	85%	15%
3.	Awareness	75%	85%	10%
4.	Attention	75%	85%	10%
Average		75%	87,5%	12,5%

Field Data 2021

Based on the results of student learning in table 2 above, it can be seen in the action of cycle 1 that the aspects of feeling happy are 80%, aspects of willingness are 70%, aspects of awareness are 75%, aspects of attention are 75%. The average yield increased from cycle 1 was 75% to 87.5% in cycle 2.

Meanwhile, student learning participation can be seen from the following table:

Table 3. Student Learning Participation

No	Researched Aspect	Achievemet Percentage		Enhancement
		Cycle 1	Cycle 2	
1	Interaction and Apperception	70%	85%	15%
2	Cooperation and Group Discussion	75%	85%	10%
3	Expressing Opinion	75%	85%	10%
4	Asking question	65%	80%	15%
5	Doing questions and assignments	75%	90%	15%
	Average	72%	85%	13,00%

Based on student learning outcomes in table 3 above, it can be seen that the action of cycle 1. Aspects of interaction and apperception 70%, aspects of cooperation and group discussion 75%, aspects of expressing opinions 70%, aspects of asking questions 65% and aspects of working on questions and assignments 75%. There was an increase in cycle 2 which had an average yield in cycle 1 of 72%, an increase in cycle 2, which was 85%.

To find out the completeness of student learning outcomes can be seen in the table below:

Table 4. Completeness of Student Learning Outcome

Criteria	Total Achievements	
	Cycle 1	Cycle 2
Complete	10	15
Not	15	10

Completed		
Total	25	25

Field Data 2021

. Based on the results of student learning mastery in table 4 above, it can be seen that there are 7 students who have completed the first cycle of action and 18 students who have not completed it. And there is an increase in cycle 2, completed 18 students and 7 students who have not completed

IV. DISCUSSION

This Classroom Action Research applies 2 learning cycles with the same approach in each cycle, namely the STEAM Approach. This Classroom Action Research is carried out in 2 cycles, each cycle is carried out in 4 stages, namely the planning stage, implementation, observation stage and reflection stage. At the stage of the second cycle, namely the improvement of the first cycle. The results obtained through the learning outcomes test after carrying out thematic learning activities using the STEAM approach. The STEAM approach is used to provide understanding to students in recognizing, understanding various materials. The results of the two cycles are used to determine the increase in student learning outcomes at SD Negeri 007 Rambah Samo. At the time of the initial observations made by researchers in

the thematic learning of grade IV SD the learning process was still not ideal, and there were still many obstacles faced by teachers in developing learning, to overcome the problem of researchers applying the STEAM Approach..

The learning process using the STEAM Approach based on the research results, it can be stated that through the STEAM Approach students are able to formulate problems (by asking a lot of questions), not just solving problems by answering them. Cycle 1 and Cycle 2 discuss the theme 4 Caring for Living Creatures, Sub Theme I and Sub Theme 2 so that researchers are not so difficult to relate the learning process.

The data obtained before and after the action was carried out showed an increase in learning outcomes. Based on the results of the study, it can be stated that through the steam approach it can improve learning outcomes of Theme 4 Caring for Living Creatures, Sub Theme I and Sub Theme 2 students of class 1V SD Negeri 007 Rambah Samo. Improved Completeness Learning outcomes in the initial conditions became (34.7%) pre-initial, and in cycle 1 (60.9%) and became 85% in cycle 2.

V. CONCLUSIONS AND SUGGESTIONS

Based on the results of the research and discussion, it can be concluded that

the application of the STEAM approach can improve student learning outcomes in the Thematic learning of Theme 4 Caring for Living Creatures, Sub Theme I and Sub Theme 2 students of class 1V SD Negeri 007 Rambah Samo. This can be seen in the percentage of completeness that is respectively 34.7% in the pre-cycle and 60.9% in the first cycle and 85% in the second cycle.

REFERENCES

Arikunto,Suharsimi. (2010). *Penelitian Tindakan Kelas.* Jakarta:Bumi Aksara.

Agus Widayoko. (2020). *Bahan Ajar STEAM dengan Tema*. Yogyakarta: Deepublish Grup Penerbitan CV Budi Utama.

Buinicontro. (2019). *Analisis Penerapan Pembelajaran Tematik Bermuatan STEAM Kelas III SD*
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Muhammadiyah 3 Assalam. Tesis. Pascasarjana Universitas Muhammadiyah Malang.

Daryanto.(2014). *Pendekatan Pe,belajaran STEAM Kurikulum 2013*. Yogyakarta: Penerbit Gava Media.

Lickona. (2012). *Penerapan Science Technology Engineering Art Mathematics Pada Tema Air*. Tesis. Pascasarjana Universitas Pendidikan Indonesia.

Majid. (2014). *Pembelajaran Tematik Terpadu.* Jakarta:Rajawali Pers.

Munawar. (2019). *Implementasi Of STEAM) Based Early Chilhood Learning In Semarang City*. Jurnal Ceria, Volume 5(2).

Sugiyono.(2016). *Statistika Untuk Penelitian*. Bandung : Penerbit Alfabeta.

Sukri. (2013). Efektivitas Model Pembelajaran STEAM Pada Siswa Kelas IV SD. Jurnal Kajian Pendidikan Dasar. Volume .