



Improving student learning outcomes in thematic learning of picture and picture type cooperative model through the tpack approach in elementary schools

Nasra¹, Hamna², Mustakim³

^{1,2,3}Faculty of Teacher Education, Elementary School Teacher Education, Madako Tolitoli University

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ABSTRACT

This research is based on the background of the problem in students, namely the low learning outcomes of students in thematic learning in grade 5 SDN 3 Tolitoli. The low learning outcomes of students are influenced by the teacher aspect and the student aspect. This study aims to find out how the learning outcomes of students are by using a picture and picture type cooperative learning model with the TPACK approach. The method used is class action research (PTK) of the subjects in this study totaling 12 students. The object of research is SDN 3 Tolitoli, Baolan District, Tolitoli Regency. The data collection techniques used in this study are teacher observation, student observation and multiple-choice test. Before observation and tests are validated by expert validators and practitioners to ensure the feasibility and disfit of the research instruments used by researchers. The action was carried out in two cycles. The results of the study showed that there was an increase in thematic learning outcomes by using a picture and picture type cooperative model with a TPACK approach in grade V students of SDN 3 Tolitoli. Results The data analysis technique uses formulas to measure student presentations that show whether there is an increase in learning outcomes. The data obtained during the distribution of instruments in cycle I showed that only 5 students were active and in cycle 2 there were 10 students who were active in learning. Based on the results of the study, it can be concluded that the use of cooperative models with the TPACK and interactive Power Point approaches can both improve the ability of students' learning outcomes in thematic learning in grade 5.

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Corresponding Author; Nasra

Nasra,
Faculty of Teacher Training, Elementary School Teacher Education,
Madako Tolitoli University
Madako City; Tambun, Pos Code:94517, Tolitoli
Email: nasrahaseneng19@gmail.com

INTRODUCTION

The problem that exists in grade 5 is regarding the low learning outcomes of students in thematic learning, because there are 2 main factors that affect, namely the teacher aspect and the student aspect. Teacher aspect, learning is based on thematic books so that there is a lack of learning

outcomes (monotonous), a lack of methods, strategies, and techniques carried out by teachers to improve student learning outcomes, and a lack of facilities such as teaching aids in learning. Meanwhile, the student aspect, lack of attention and interest of students in thematic learning, lack of interest in learning so that students are not active in the classroom and result in low student learning outcomes.

In addition, there are several things that result in low student learning outcomes due to factors from students' parents who lack attention, lack of discipline, and lack of parental awareness of education so that student learning outcomes decline in learning. In the learning process, there were several students out of a total of 12 grade 5 students of SDN 3 Tolitoli, there were only 3 students who were active in learning and there were 9 students who were less active in learning. Regarding report card scores before conducting the study, the researcher observed that out of 12 grade 5 students, there were 9 students who were less active with an average report card score of 65.70 in thematic learning. Meanwhile, 3 students who were active from the average student report card score of 80.85 in thematic learning with the KKM 70 standard set by the school.

This PTK is influential and interconnected with the model used, to create an atmosphere and improve student learning outcomes. PTK (Classroom Action Research) is carried out on each teacher during the learning process. It aims to improve the quality of learning in grade 5 which amounted to 12 students from 6 boys and 6 girls. This research was conducted with a cooperative model of image and image type by applying interactive power points or multimedia through the TPACK approach.

The picture and picture type cooperative model is a model with a learning method using pictures that are shown to students and explained according to the material in theme 8 (the environment of our friends) subthemes 2 and 3. This learning has the characteristics of being active, innovative, creative, and fun. So that in learning they can learn while playing and also be active. The existence of this model requires a strategy that greatly affects the learning outcomes of grade 5 students, namely classroom action research (PTK).

The use of multimedia that tends to make it easier for students to understand a subject matter, so that learning objectives are achieved is called interactive multimedia learning (Khairunnisa & Ain, 2022). Multimedia is a combination of various media, namely audio, text, video, and images and animations that are integrated through computers or electronic devices. To achieve certain goals, especially in the teaching and learning process as an effort to make it easier for students to understand the material by connecting the TPACK approach with thematic learning.

RESEARCH METHODOLOGY

The type of research conducted is classroom action research (PTK) with the aim of improving the quality of learning outcomes of grade 5 students through the John Elliot Action Research Model. The purpose of PTK is not only to reveal the causes of learning problems faced by teachers, but more than that is to provide solutions to overcome learning problems faced by teachers (Sri Astutik et al., 2021). Regarding the explanation of the purpose of classroom action research (PTK), the main purpose of the research is to improve or improve the learning that was previously carried out in the classroom.

The John Elliot Model PTK was also developed based on Kurt Lewin's model, but it looks more detailed and detailed. In John Elliot's model, one action consists of several action steps, namely the first action step, the second action step, and the third action step. If the researcher feels that it is enough, then a comprehensive plan is made and based on the plan, then take the first action during the implementation of monitoring and exploration. As a result of monitoring and exploration, researchers can take a second action or revise the plan again (Asrori & Rusman, 2020). The explanation of the PTK stages referring to the John Elliot PTK model is as follows:

a. Problem Identification

Activities that aim to see and find out what problems occur in school, especially in the learning process in the classroom. Identification of this problem is very important because this stage is the initial foundation or initial reference for future research activities.

b. Research

The activity collects information about problems found by researchers in schools. Based on the results of the investigation, the focus of the problem can be carried out which is then formulated into a research problem and sets the research objectives.

c. General Plan

The researcher will treat the sample so that it can see the change in behavior as expected by the researcher.

d. One-Step Implementation of Actions

The researcher will apply or treat the sample class with the aim of correcting, changing or correcting the research problems found by the researcher in the class

e. Monitor Implementation

The researcher will see and monitor the results of the giving behavior in the sample class. Whether it shows a positive increase) or even a decrease (negative). The researcher's investigation seeks to uncover and explain the failure of influence. What are the factors that cause this to fail? Of course, a researcher will learn from failures and failed implementations in the previous stages.

f. General Idea Revision

Researchers are armed with data that have been obtained at a previous stage (Asrori & Rusman, 2020).

Research Subject

The subjects of the research are the parties who are the material in the data collection. The data collected can be obtained from teachers and students. The subjects in this study are SDN 3 Tolitoli grade 5 which consists of 12 students, 6 boys and 6 girls.

Data Collection Techniques

Data collection techniques are the most important step in research, because the main purpose of research is to obtain data. Without knowing the data collection technique, the researcher will not get data that meets the set data standards. Data collection is an activity to obtain the data needed so that it can be presented according to the problems faced in this research. This data collection technique uses observation, documentation, and testing methods.

The data collection techniques used in the study are:

a. Observation

Observation is to obtain data on the use of image-type cooperative models and drawings using the TPACK approach with image media in thematic learning that is directly observed in the learning process. The purpose of the observation carried out by the researcher is to determine the improvement of student learning outcomes from the research stage in cycle I, and cycle II.

b. Documentation

Documentation aims to record information systematically so that students can know the learning such as the results of assignments, notes, and in the form of pictures or photos taken at

the time of the research. This documentation can also help teachers to monitor student progress and evaluate students in learning.

c. Written test

The test is data collection using a test. For data collection, the test used is a written test. The written test, is a test in the form of multiple-choice questions, to test students' abilities. The researcher obtained research data by using instruments in the form of evaluation sheets as a tool to determine student learning outcomes, teacher activity observation sheets and student activity sheets.

This instrument lists the activity points carried out by teachers and students in learning. The collection of student learning outcome data uses an instrument in the form of a student assessment sheet containing multiple-choice questions and a description of the material that has been studied. This assessment sheet is given at the end of learning to measure students' understanding of the material they have learned.

Data Collection Instruments

Data collection tools are tools or measuring tools used by researchers which include observation sheets of teachers and students in learning where there are test sheets for students. The documentation obtained is in the form of photos taken by the researcher during the learning process. As well as providing learning tools and learning media.

Teacher Observation Sheet

Teacher observation sheets are used to measure teacher activities in learning activities from cycle I, and cycle II. The teacher's observation sheet includes learning activities that have been planned, ranging from learning tools, learning media, classroom management, initial learning activities, core learning activities, and closing activities. Observation sheets are used to observe and provide an overview of how the learning process is in the classroom.

Observation The researcher conducted a direct survey in the field to observe and pay attention to the behavior or teaching and learning activities in grade 5 of SDN 3 Tolitoli to observe the process of teacher activities during learning. Guidelines on the observation sheet of teacher activities where there are assessment values ranging from scores 1, 2, 3, to 4 and there is information from each score. Regarding the results of measuring the validity of the instrument of the observation sheet of teacher activities from expert validators and practitioner validators, before it is considered qualified or suitable for use in research.

The results of the assessment from the student observation sheet instrument after measuring the validity in the table above, regarding the results of the assessment of expert validators with a score of 4 while practitioner validators with a score of 4.7. Regarding the results of the overall persial assessment, the average score of the collective assessment is 4.3 with very valid assessment criteria.

Student observation sheet

Students' observation sheets can be used to measure the level of ability of their learning outcomes. The observation sheet is a guide for the activities of students listed on the observation sheet, namely in the learning process, dedication or perseverance in completing the given task, cohesiveness or group cooperation. Students' involvement with interactive *power point* media, TPACK approach with a picture and picture *type cooperative model* that uses pictures.

Assessment of student activities there are assessment scores ranging from scores 1, 2, 3, and 4, each score is given a check mark to find out what score is obtained on the student observation sheet. Regarding the student observation sheet, it can be seen in the attachment. The following is the result of measuring the validity of the instrument observation sheet of student

activities from expert validators and practitioner validators, before it is considered qualified or suitable for use in research.

The results of the assessment from the student observation sheet instrument after measuring the validity in the table above, regarding the results of the assessment of the expert validator with a score of 4 while the practitioner validator with a score of 4.7. Regarding the results of the overall persial assessment, the average score of the collective assessment is 4.3 with very valid assessment criteria.

Research Procedure

The research used is the Jhon Elliot model. Elliot launched his own spiral model. Inspired by the model from Kemmis, Elliot created a more detailed and detailed chart, which can be seen in one of them on a general plan that needs to be detailed in at least three steps of Action. In detail in this PTK Jhon Elliot Model, so that there is a higher smoothness between levels in the implementation of actions or teaching and learning processes. Furthermore, each action or action so that it becomes several steps because a lesson consists of several sub-subjects or subjects. Regarding practice in the field, each subject will usually not be able to be completed in a single step, but will be completed in several ways, which led Jhon Elliot to develop the model

PTK that is schematically different. This can be depicted as in the following image:

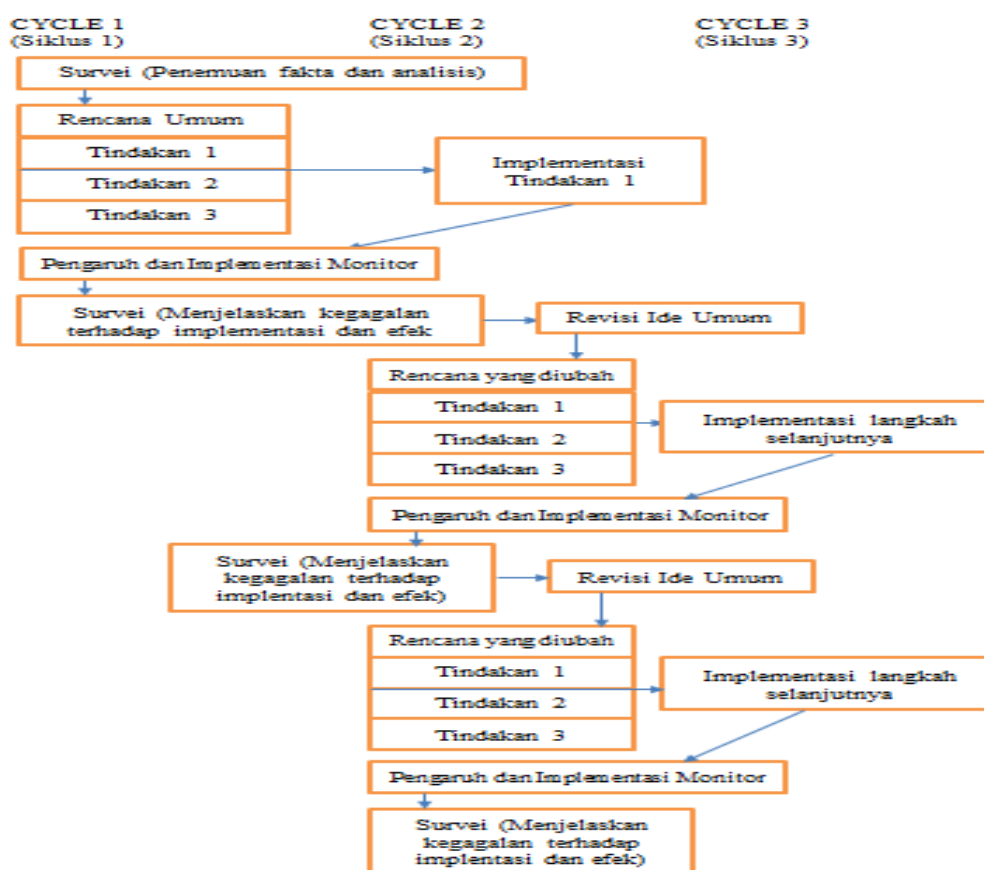


Figure 1. Classroom Action Research Flow Chart

- a. General Plan (April 23, 2024)
Action 1

Create learning tools by involving classroom teachers (RPP, Syllabus). (a) Develop, (b) assessment instruments, (c) Preparation of learning materials.(d) Provide teacher books, and student books.

Action 2 (a) Teach, (b) The use of a picture-and-picture type cooperative learning model with the TPACK approach. (c) Give a Quiz, (b) Action 3, (d) Interaction with learners, (e) Manage or administer Observe classes, (f) Interpret and manage data

a. Implementation of action 1

The implementation of action 1 in cycle 1 of 3 actions will be carried out on April 23 and May 2024. The general plan that has been carried out has 12 students out of the total number in the class, 5 students who are active in the class and 9 students who are less active in the class so that some students have not met the KKM 70 standards that have been set by the school.

b. Influence and implementation

There is an influence after carrying out action 1 at this stage, the learning process is carried out using a picture-and-picture type cooperative model to improve student learning outcomes. However, from the results of observations made in cycle 1, there are still some students who still do not understand the image and image models during the learning process.

c. Surveys (explaining implementation failures and effects)

Based on the survey in cycle 1 of the observation results, the learning outcomes using the picture and picture type cooperative model in the learning process are not good/failed because some students still do not understand so that they do not reach the classical completeness standard of 75% because of its completeness. The classics obtained do not meet the standards set by the school. However, if it reaches a classic completeness of 75%. By applying the Figure and Picture model to thematic learning in grade 5, there is no need to move on to the next cycle.

Standard Completeness Criteria

The standard criteria for student completeness are seen from the activeness and learning outcomes in thematic learning with the model used, namely the picture-type cooperative model and the picture from one cycle to the next. The target achieved from this indicator is to improve student learning outcomes.

Table 1. Criteria and Categories of completeness

No.	Score	Categories rating
1	86 - 100	Excellent
2	70 - 85	Good
3	56 - 69	Enough
4	<55	Less

Data Analysis Techniques

This data analysis technique is to help transform raw data into more accurate information that is used to draw these conclusions. Data analysis is an effort made to classify and group data. At this stage, efforts are made to group, equalize the same data and distinguish data that is indeed different, as well as to exclude other groups of data that are similar, but not the same (Nursaadah, 2020). The purpose of analysis in Classroom Action research is to obtain certainty whether there will be improvements, improvements, or changes as expected. The completeness of the KKM 70 standard at SDN 3 Tolitoli. Measuring the criteria for student learning completeness using the following formula:

1. The formula for calculating student grades is as follows:

$$\text{Value} = \frac{\text{jumlah skor yang diperoleh peserta didik}}{\text{skor maksimal perolehan}} \times 100$$

2. Calculate the completeness of each student.

$$X = \frac{XY}{XZ} \times 100\%$$

Information:

X= Learning Completeness

XY= Total Score Obtained

XZ= Total number of scores

3. Calculate the average score of learning outcomes

$$X = \frac{n}{N}$$

X= Average participant score

n = Total number of grades

N= Number of students

RESULTS AND DISCUSSIONS

Research Results

In this chapter, the author will describe the results of the research data, especially the attitudes of students during the process of action and the learning outcomes of students from cycle I, cycle II, which were carried out in grade 5 of SDN 3 Tolitoli. Classroom action research (PTK) aims to improve student learning outcomes in cognitive aspects through thematic learning with the TPACK approach using a picture and picture type cooperative learning model that provides interactive power point media.

Pre-cycle is carried out before taking action in cycle I, and cycle II in learning. The pre-cycle aims to determine the ability of students' learning outcomes by providing tests to obtain initial data. The test is in the form of a written test with 15 multiple-choice number questions. It will be held on April 18, 2024 on Thursday in grade 5 of SDN 3 Tolitoli. Furthermore, it will be continued with research actions carried out by researchers on April 23, 2024, with the aim of finding out the level of readiness of teachers involved in research activities carried out by the 5th grade homeroom teacher of SDN 3 Tolitoli.

Regarding this, the researcher acts as an executor of actions in the learning process while the 5th grade homeroom teacher acts as an observer. The research was carried out for approximately 1 month, each cycle 4 meetings. Cycle I in 1 week starts from the first week on Tuesday on April 23, 2024, cycle II starts in the second week on Tuesday April 30, 2024, the research ends on Saturday. The first cycle was carried out in the first week with theme 8 (the environment of our friends) subtheme 2 (environmental changes) from learning 1 to Learning 4. The second cycle was carried out in the second week with theme 8 (the environment of our friends) subthemes 2 & 3 (environmental change & environmental conservation efforts) from learning 5 to learning 2.

Efforts to improve student learning outcomes by directly seeing the improvement of students' cognitive abilities in theme 8 sub-themes 2 and 3. The learning process that occurs in the classroom is based on learning activities carried out by teachers and students. The percentage of teacher and student activities, based on the average value of the observation results carried out in the learning process of cycle I and cycle II, is presented in the form of the following bar chart:

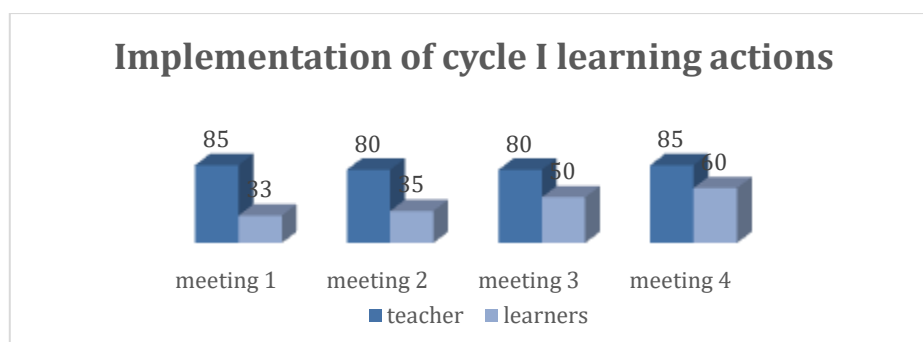


Figure 2. Diagram of Teacher and Student Activity Cycle I

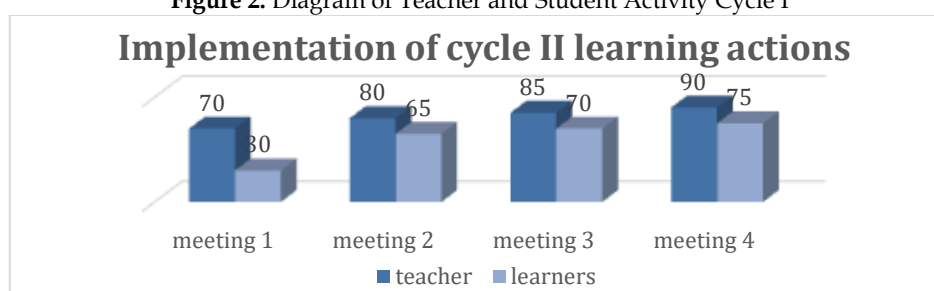


Figure 3. Cycle II Teacher and Student Activity Bar Diagram

Based on the data on the percentage of teacher and student activity levels, as presented in the bar chart, it can be seen that there is a change in the percentage of teacher and student activity at each meeting of the research action carried out. The following will presented data on the percentage of teacher and student activities in the form of graphs, in order to clarify the increase in the percentage of teacher and student activities in cycles I and II learning.

Group learning will help students to get used to interacting in the process of receiving learning materials, so that it affects student learning outcomes. In this study, the learning outcomes of students are measured from their cognitive level through the results of written test research that has been carried out in cycle I and cycle II. Cognitive assessment is aimed at measuring students' knowledge with aspects of assessment through, preparing assessment plans, compiling assessment instruments, carrying out assessments and reporting assessment results in the form of a scale of 0-100 numbers and descriptions.

The following is a table of presentation of comparative data on students' cognitive abilities obtained through student learning outcomes in cycle I and cycle II. The presentation of data is based on the description of the learning outcomes of students that have been discussed previously. The following is a comparison of the learning outcomes of students in cycle I and cycle II:

Table 2. Comparative Data on Student Learning Outcomes in cycle I and cycle II

Action	Number of students	Total Value	Average Score	Learning Completeness Jml.Students	%	Incompleteness of Learning Jml.Students	%
Pra-Siklus	12	592	49,2	3	25	9	75
Siklus I	12	543	45,2	5	41	7	58
Siklus II	12	883	73,5	10	83	2	16

Discussion

Based on the results of research conducted on 5th grade students of SDN 3 Tolitoli on the use of a picture and picture type cooperative model. That the learning model aims to make it easier

for students to learn and think. The picture and picture type cooperative model is very popular with students because it is more fun and not monotonous such as using a lecture method that makes students bored in learning.

The picture and picture type cooperative learning model in this study has been successful in the 2nd cycle and regarding previous research from several researchers that the picture and picture type cooperative model with the TPACK approach can improve student learning outcomes and has been proven. This model serves to develop learning outcomes such as exchanging opinions and thinking critically. In the learning process, this model also makes students very enthusiastic about the existence of interesting and easier to understand pictures.

This learning model is applied by researchers, in order to achieve the goal of successfully providing understanding to students in learning by using the interactive power point media TPACK approach which is contained in interesting interactive slides so as to foster students' enthusiasm for learning. Interactive power points aim to obtain information and knowledge from learning media.

The field of education introduces Technological Pedagogical Content Knowledge (TPACK) to understand effective teacher knowledge as a theoretical framework in the integration of technology in the learning process (Tristanti & Nafiah, 2020). This is interrelated between the interactive power point and the TPACK approach which uses technology systems such as interactive power point media to improve student learning outcomes.

The results of this study are in line with previous research, according to several experts and the relationship between previous research and researchers, that the model used is a picture and picture type cooperative model with the same learning outcomes as previous research, only what distinguishes it from previous research, namely the TPACK approach used so as to distinguish the research from previous research. By applying a picture and picture type cooperative model with a TPACK approach, it can improve the learning outcomes of grade 5 students of SDN 3 Tolitoli.

The learning model applied in the study is a picture and picture type cooperative model that has never been applied in class before by the 5th grade homeroom teacher. The picture and picture type cooperative learning model uses pictures shown to students and in accordance with the material taught. Then, order the pictures logically. However, according to (Wahyudi et al., 2023), this picture and picture type cooperative learning was chosen because it is able to improve student.

learning outcomes through the teaching and learning process, training students dare to ask questions, and answer and help students understand the lesson by using the help of picture media. Picture and picture is a learning model that invites students to work together in groups formed using pictorial media, pictures that are used as media that are paired and logically ordered.

Based on research conducted by (Komara et al., 2020), this cooperative model can help teachers explain material to students so that students can easily understand it. Picture and picture is a type of cooperative learning that can improve student learning outcomes. The same is said by (Putri et al., 2023). It shows that the Picture and picture cooperative model has an impact on learning outcomes and is one of the learning models that can activate students, both teacher and student activities and learning outcomes. However, the research conducted by (Hayati, 2022) in this study shows that the TPACK approach in science learning can improve student learning outcomes in learning.

Based on the previous research described above, that the picture and picture type cooperative learning model with the TPACK approach is the result of research which aims to improve student learning outcomes. The research consists of cycle one to cycle two, there is a gradual improvement in each learning process. This phenomenon occurs due to the tendency of some students who are not used to working together in groups, thus affecting the percentage of student learning outcomes in their learning activities.

CONCLUSION

Learning by applying a cooperative model or grouping with the type of Picture and Picture that uses interactive PowerPoint technology, namely with the display of images can provide understanding to students and improve learning outcomes so that they can understand the material easily because the pictures shown by the teacher can explain it easily. Through the application of this model, students are given a great opportunity to actively involve themselves directly in teaching and learning involvement, finding, and answering a problem by achieving maximum learning outcomes.

It is proven that the learning outcomes of students increased in thematic learning in the first cycle obtained 41% completeness and the second cycle 83% in grade 5. This increase occurred due to the use of a picture and picture type cooperative model, this is done because the material taught is more directed and students are faster to grasp the material by displaying pictures on slides using interactive power points so that students are actively involved in the classroom.

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