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The Implementation of Cooperative Learning Model to Improve Mathematics Learning Outcomes

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Abstrak

Tujuan penelitian ini adalah untuk mengetahui penerapan model pembelajaran kooperatif untuk meningkatkan hasil belajar matematika. Metode penelitian yang digunakan adalah metode survei dan menggunakan teknik analisis regresi dan korelasi sederhana. Penelitian ini dilaksanakan di SDN Kenari 07 Pagi Kecamatan Salemba dengan $n = 36$ menggunakan teknik Cluster Sampling. (1) Penerapan Cooperative Learning berpengaruh terhadap hasil belajar matematika; (2) Minat berpengaruh terhadap Pelaksanaan Pembelajaran Kooperatif; (3) Latar belakang siswa mempengaruhi pelaksanaan pembelajaran kooperatif; (4) Kecerdasan berpengaruh terhadap Pelaksanaan Pembelajaran Kooperatif. Berdasarkan penelitian ini diharapkan hasil belajar matematika siswa kelas V SD dapat ditingkatkan dengan adanya pengaruh penerapan pembelajaran kooperatif, karena hasil verifikasi membuktikan bahwa penerapan pembelajaran kooperatif merupakan faktor penentu yang signifikan. Dalam banyak hal model peningkatan karakteristik yang dipergunakan untuk menyelesaikan masalah pendidikan dan salah satunya adalah Model Pembelajaran Cooperative Learning yang pastinya mempengaruhi perkembangan dari anak yang mana setiap anak memiliki sifat yang berbeda-beda satu sama yang lain sehingga dapat menunjukkan karakter anak dalam menyelesaikan permasalahan yang dihadapi.

Kata Kunci: Penerapan Model Pembelajaran Kooperatif

Abstract

The purpose of this study was to determine the Implementation Model of Cooperative Learning to improve Mathematics Learning Outcomes. The research method used was a survey method and used regression analysis techniques and simple correlation. This research was conducted at SDN Kenari 07 Pagi, Salemba sub-district with $n = 36$ using the Cluster Sampling technique. (1) The application of Cooperative Learning influences mathematics learning outcomes; (2) Interest has an influence on the Implementation of Cooperative Learning; (3) The background of students has an influence on the application of cooperative learning; (4) Intelligence has an influence on the Application of Cooperative Learning. Based on this research, it is expected that the mathematics learning outcomes of fifth-grade elementary school students can be improved by the influence of the application of cooperative learning because the verification results prove that the application of cooperative learning is a significant determining factor. In many ways, the characteristic enhancement model is used to solve educational problems and one of them is the Cooperative Learning Model which certainly affects the development of children where each child has different characteristics from one another so that it can show the child's character in solving the problems faced.

Keywords: Cooperative Learning; Implementation Model

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INTRODUCTION

Learning is one indicator of solving educational problems and is the heart of education, learning that is currently being developed and starting to become a reference is self-concept. This learning makes students able to develop creative thinking and good behavior so that learning can really be an inspiration and in this context educators play a role in transferring knowledge to students starting from improving memory to finding problem formulations. This learning theory describes the researcher's point of view regarding the most valuable aspects of learning to be studied, the independent variables that must be manipulated and the dependent variables that must be studied, the research techniques that will be used to describe the findings. The information above provides an understanding for educators to really pay attention to the learning model because it is very helpful in providing lessons to students to be more critical, objective, analytical and comparative.

In this case, many learning models are used to solve educational problems and one of them is the application of cooperative learning which certainly affects the development of children that each child has different characteristics from one another so that it can show the character of the child in solving the problems faced and according to some psychologists the problems above are included in the development of science, this can be observed through attitudes that describe the actualization of the child. Humans as organisms have the urge to develop which ultimately causes them to be aware of their existence and a negative attitude appears towards their abilities so that they view everything they do as difficult to solve, on the contrary, positive things always view everything they do as very easy to resolve, in general, the application of cooperative learning is clearly influenced by the environment so that a deeper study is needed on how to deal with problems (Yudhawati Ratna, 2011).

The theoretical objective of this research can be used as a basis for further research, especially the variables studied and the disclosure of more complex variables that affect the mathematics learning outcomes of fourth-grade students. In the whole process of education in schools, learning activities are the most basic activities, this means that the success or failure of achieving educational goals depends a lot on how the learning process is experienced by students as students (Rahmawati et al., 2021). A person's view of learning will affect their actions in learning, and everyone has a different view of learning and to obtain an objective understanding of learning, especially learning at school, it is necessary to study more deeply about the meaning of learning. Learning according to Yudhawati Ratna (2011) is a process when a behavior appears or changes due to a response to a situation. Learning in order to gain intelligence, in its implementation learning is an individual activity to obtain a behavioral approach and skills by processing learning materials. According to the psychological understanding of learning is a process of change, namely changes in behavior as a result of interaction with the environment in fulfilling their lives. These changes will manifest in all aspects of behavior.

Changes that occur in a person are many, both in nature and type, because of that, of course, not every change in a person is a change in the sense of learning (Dale, 2012). There is an understanding that learning is the addition of knowledge and others say that learning is changing, in this case, learning is an attempt to change behavior. So learning will have an impact on changes in individuals who want to learn (Khalifa et al., 2020). Change is not just adding knowledge but forming proficiency, skills, attitudes, understanding, self-esteem, interests, character, and self-adjustment. It clearly contains all aspects of one's personal organization and behavior, thus it can be said that learning is a series of physical, mental, and psycho-physical activities towards the development of the person as a whole, which means it involves elements of creativity, taste, intention, cognitive, affective, and psychomotor. Learning mathematics can improve a mindset, with a good mindset, students have the ability to solve a problem. Learning mathematics is mental activity to understand the meaning of the relationships and symbols contained in mathematics systematically, carefully, and precisely, then apply the resulting concepts to solve problems in various real things/states/situations.

There are several theories that argue above the learning process in principle rests on the cognitive structure, namely the addition of facts, concepts, and principles, in order to form a unity that has meaning for students. To obtain a conducive atmosphere, it is necessary to have a supportive environment so that a good learning environment can affect good learning outcomes as well. Students are the determinants of whether or not the learning process occurs. The learning process occurs when students get something from the environment. The environment is in the form of natural conditions, objects, animals, plants, humans, or things that are used as learning materials. The act of learning about a thing appears as a learning behavior that is visible from the outside. One of the efforts to improve students' understanding and problem-solving skills is by choosing an appropriate approach to be able to emphasize more student activity in the teaching and learning process taking place (Khalifa et al., 2020).

When people learn then the response becomes better and vice versa if they do not learn, the response decreases. Within the scope of the school, learning is a change in the possibility or opportunity for a response to occur and in learning the following things are found: (1) The opportunity for an event to occur that causes a learning response, (2) The student's response, (3) Consequences that are using its responses, both the consequences of rewards and warning. Learning can also be interpreted as a change in the possibility or chance of a response. The possibility or chance of a response is difficult to measure, therefore Skinner suggests that learning is measured by the number or frequency of responses. Although it is not exactly the same as the possibility of an action occurring in the future, it is the first step in analyzing behavior change, so that the response event can be taken into consideration to observe the actual learning process (Nurlaila, 2019).

Learning is said to be successful when a person is able to repeat the material he has learned, then learning is called "rote learning", then if it has been learned it can be conveyed and expressed in its own language, it is called "overlearning". The idea that learning involves changes in an organism, means that learning also takes time and space. Learning is concluded to occur when there are signs that human behavior is a result of the learning process. The main concern in learning is the verbal behavior of humans, namely the human ability to capture information about the knowledge it receives in learning. On the other hand (Dale, 2012), learning is a process that takes place over a long period of time through practice and experience that brings about changes in oneself and changes in the way one reacts to certain stimuli (Randeska Manullang, 2017). Meaningful learning will be felt if it is related to one's wholeness and has personal involvement (learners' feelings) that starts from oneself (the motivation to learn comes from within), permeates (affects the attitudes, behavior, and personality of the learner) and is evaluated.

Until now there has been no unanimous agreement among mathematicians, what is called mathematics. The objective of studying mathematics is not concrete but abstract. By knowing the objectives of mathematical study, we can know the truth of mathematics and at the same time know how to think about mathematics. If we analyze it, mathematics is not only concerned with numbers and their operations, but also the element of space as its target. The relationship within mathematics is indeed closely related to everyday life, for example about the similarities between greater and lesser, the relationship is then processed in deductive logic (Demitra, 2012). Therefore, mathematics can be said to be the same as the theory of deductive logic which deals with relationships that are independent of the material content of the things studied.

From the description above, the target of mathematics is more focused on the structure because the target of numbers and space does not have much meaning in mathematics anymore. The more important fact is that the relations between these targets determine the steps of the operation, this implies that mathematics is a science of structure that includes relations and symbols, this symbol is important to help manipulate the rules with specified operations, Symbolic guarantees communication and is able to provide information to form new concepts (Gao et al., 2017). This new concept is formed because of the understanding of the previous concept so that mathematics is arranged hierarchically. The symbol means if a symbol is based on an idea. So we must understand the idea contained in the symbol, in other words, the idea must be understood before the idea is

symbolized. In short, mathematics is said to be concerned with abstract ideas/concepts that are hierarchically arranged and the reasoning is deductive. This has an impact on how the mathematical process occurs (Sudestia Ningsih, 2016).

Learning is always related to changes in behavior, while changes in behavior are studied through psychology, so learning itself cannot be separated from the point of view of psychology. Students are invited to review all knowledge gained in class so that the learning process can be achieved (Manurung, S. Alberth; A. Halim, 2020). The results of learning mathematics are basically the results achieved in an effort to master material and science which is an activity that leads to the formation of a whole personality. Through learning, better results can be obtained. The pattern of human behavior is structured into a model as learning principles are applied to mathematics. This learning principle must be chosen so that it is suitable for studying mathematics. To improve mathematics learning outcomes and interest in learning mathematics, it is necessary to change the learning paradigm. In this regard, various models, strategies, methods, and learning techniques have been alternately applied in an effort to improve the quality of students' mathematics learning outcomes (Siti Aisyah, Adelina Hasyim, 2014). Mathematics which deals with abstract ideas that are symbolized and arranged hierarchically and deductive reasoning, it is clear that learning mathematics requires high mental activity. To improve mathematics learning outcomes and interest in learning mathematics, it is necessary to change the learning paradigm (Gao et al., 2017). In this regard, various models, strategies, methods, and learning techniques have been alternately applied in an effort to improve the quality of student mathematics learning outcomes.

From some of the opinions of the experts above, it can be concluded that the results of learning mathematics can be defined as the ability or knowledge of students obtained through the process of learning mathematics over a certain period of time, giving rise to thinking power, reasoning power, logical thinking, and systematic. Then applied in everyday life. Ability According to Sugandi in (Zerri Rahman Hakim, Taufik, M.Pd, 2018) Cooperative learning system is a teaching system that provides opportunities for students to work together with fellow students in structured tasks. Cooperative learning is known as group learning. But cooperative learning is more than just group learning or group work because in cooperative learning there is a cooperative drive or task structure that allows open interaction and effective interdependent relationships among group members. Characteristics of learning with cooperative learning include: (a) students work in cooperative groups to master academic material; (b) The members in the group are arranged to consist of students with low, medium, and high abilities; (c) If possible, each member of the cooperative group differs in ethnicity, culture, and gender; (d) The reward system is oriented towards the group rather than the individual.

In addition (Gillies & Gillies, 2014), there are four stages of cooperative skills that must exist in the cooperative learning model, namely: (a) Forming, namely the skills needed to form groups and form attitudes that are in accordance with norms; (b) Functioning (regulation), namely the skills needed to organize group activities in completing tasks and fostering cooperative relationships among group members; (c) Formating, namely the skills needed to form a deeper understanding of the materials being studied, stimulate the use of higher levels of thinking, and emphasize mastery and understanding of the material provided; (d) Fermenting (absorption), namely the skills needed to stimulate understanding of concepts before learning, cognitive conflict, seeking more information, and communicating thoughts to obtain conclusions. From the opinion of the experts above, cooperative learning is a method to improve students' ability to understand lessons that create patterns of understanding the material, accuracy, and thoroughness (Slavin, 2014).

Learning Mathematics applies a learning model with the concept of Cooperative Learning. Learning with Cooperative Learning is a group learning with the number of students 2-5 people with the idea of motivating each other among its members to help each other in order to achieve a maximum learning goal (Rizka Dhini Kurnia, 2014). The characteristics of learning with the concept of Cooperative Learning are (Muji Desy Susanty, Pargito Pargito, 2013): (a) to complete the learning material, students study in groups together; (b) groups are

formed from students who have high, medium and low abilities; (c) if in the class there are heterogeneous students of race, ethnicity, culture, and gender, it is strived for each group to have such heterogeneity; (d) rewards are prioritized for group work rather than individual work.

The objectives of the cooperative learning model are (Rizka Dhini Kurnia, 2014): (a) can improve academic learning outcomes; (b) acceptance of diversity, namely so that students accept their friends who have various backgrounds; (c) development of social skills, namely to develop students' social skills including sharing tasks, actively asking questions, respecting other people's opinions, motivating friends to ask questions, willing to express ideas, and working in groups.

The benefits of learning with the Cooperative Learning model are: (a) students who are taught with and in cooperative structures will get higher learning outcomes; (b) students who participate in cooperative learning will have higher self-esteem attitudes and greater motivation to learn; (c) with cooperative learning, students become more concerned with their friends, and between them will build a positive sense of dependence for the learning process; (d) cooperative learning increases students' sense of acceptance of their friends who come from different racial and ethnic backgrounds (Kupczynski et al., 2012).

The implementation of the learning model with the cooperative learning model is carried out in accordance with the schedule of mathematics learning activities (Weeks, 2015). The implementation of the Cooperative Learning model is carried out from the 2nd meeting to the 4th meeting. At the second meeting, students were divided into groups and given projects to be completed in groups. Every week starting from the 2nd week, each group reports the progress of group work with presentations in front of the class. Meanwhile, other groups pay attention to the results of the group's work that is being presented and conduct discussions about group assignments. By implementing such a model, according to discussions with students, this kind of model is very interesting. because each individual can be creative, discuss each other with fellow teams and the learning process will be more interactive (Gillies & Boyle, 2010).

In detail, the implementation of the learning model is: (a) starting from planning, namely administrative preparation such as student data, syllabus, and lesson plans; (b) determination of student groups; (c) Value planning; (d) compiling action instruments (observation sheets, learning outcomes tests, questionnaires about student responses to the given actions). The implementation of this learning model is carried out on an ongoing basis and every meeting has always held an evaluation of the results of group work activities. This can be seen from the results achieved by each group. With this model, from the results of discussions with students, it was found that learning mathematics was not as difficult as they imagined. This is evidence that they have been able to master and apply the knowledge gained.

The novelty of this research compared to previous research is knowing the application of cooperative learning models to improve mathematics learning outcomes. In many ways, the characteristic enhancement model is used to solve educational problems and one of them is the Cooperative Learning Model which certainly affects the development of children where each child has different characteristics from one another so that it can show the child's character in solving the problems faced. The cooperative learning method is a very effective and fun way of spurring student achievement as a whole, not just individually. Cooperative learning can be applied to all types of classes including, special classes for gifted children, special education classes, classes with average intelligence levels, and is indispensable in heterogeneous classes with various levels of ability. Cooperative learning is very conducive to developing relationships between students from different ethnic and religious backgrounds, and between academically retarded students and their classmates. The main goal of cooperative learning is to provide students with the knowledge, concepts, abilities, and understanding they need in order to become happy and useful members of society. At a time when all educational institutions are competing to spur the achievement of their students, and in the midst of the widespread issue of pluralism as it is today, cooperative learning becomes increasingly important.

The research was conducted to determine the application of cooperative learning models to improve mathematics learning outcomes. Research provides the information and knowledge needed to solve problems and make decisions. The benefit of research is the use of research results later, both for the benefit of program development and the interests of science.

METHODS

This study uses a correlation technique, namely to determine the application of the cooperative learning model to the learning outcomes of mathematics. The research design in this study was an experimental method to reveal the relationship between two or more variables or find the effect of a variable on other variables. Whereas in this study, it was previously conditioned to be homogeneous, then one of the sample groups was treated using the Cooperative Learning model while the other groups were given the lecture method learning treatment. The subjects of this action research were fourth-grade students at SDN Kenari 07 Pagi Jakarta. Data collection methods used in this study is in the form of questionnaires and documentaries.

The population of this research is the fifth-grade students of SDN in Senen Sub-district, East Jakarta, in this case taking the population from three SDN in Senen sub-district which have the same characteristics and student habits. In theory, population can be interpreted as all values, both the results of calculations and measurements, both quantitative and qualitative, of certain characteristics regarding a complete and clear group of objects (Hartati, 2019).

The sample in this study was the fifth-grade students of SDN Kenari 07 Pagi taken using the Cluster Sampling technique. In Cluster Sampling, the sampling process is done by selecting one primary school from three public elementary schools that represent one sub-district that has the same characteristics among the public primary schools to be selected as a sample.

The data collection technique is a systematic and standard procedure to obtain the required data. In a study, it is necessary to choose relevant data collection techniques to answer the research problems and achieve research objectives. There are several stages taken in the process of collecting data in research, namely the determination of data collection tools, the tools used to obtain data in research should be relevant to considerations in terms of practicality, efficiency, and reliability of the tool (Sugiyono, 2012). The instrument of this research is to describe the instrument used in accordance with the variables that have been determined. The variable instrument that is determined needs to be tested for the instrument. The test of this instrument is intended to determine the validity of the reliability of the questions and the items used.

The data that has been obtained were analyzed with the help of the computer program Ms. Excel, to get the mean, median, mode, standard deviation, range, frequency distribution, and histogram graph presentation of the data for each dependent and independent variable in the study. Testing the normality of the data, the normality test of the data is carried out on the estimated error of regression on X1 and X2 by using inferential statistics, namely Lilliefors. With the provision that if the results of the analysis $L_{count} < L_{table}$, then H_0 is accepted, which means the sample is normally distributed. Calculating a simple correlation coefficient between variables using the Pearson product-moment formula with the provision that if $r_{count} < r_{table}$ then H_0 is accepted, which means the correlation coefficient is significant, and the partial coefficient is t-test, provided that $t_{count} > t_{table}$, then the correlation coefficient is significant (Sugiyono, 2012).

FINDINGS AND DISCUSSION

The description of the data that will be presented from the results of this study is to provide a general description of the distribution of the data obtained in the field. The data presented is in the form of raw data which is processed using description techniques. The description of this data is presented in the form of a frequency distribution, total score, average score, standard deviation, mode, median, maximum score, and minimum score accompanied by a histogram.

The data description is useful for explaining the distribution of data according to its frequency, for explaining the highest trend, the middle trend, and for explaining the distribution pattern (maximum-minimum), for explaining the data distribution pattern or data homogeneity. Based on the title and research problems where this research consists of two independent variables and one dependent variable which includes data on Mathematics Learning Outcomes (Y), Cooperative Learning (X) learning models. Data were collected from 36 fourth grade students at SDN Kenari 07 in Matraman District, East Jakarta using two test instruments, namely the Mathematics Learning Outcomes instrument, the Cooperative Learning model instrument.

Data on mathematics learning outcomes were obtained through a test with 30 questions with 36 respondents. Each item that is answered correctly is given a score of 1 and the wrong one is given a score of 0 so that the theoretical score range is between 0 and 30. Based on the collected observation data, the maximum score is 28 and the minimum score is 10, the empirical range is between 10-28, average The average is 20.066, the standard deviation (SD) is 6.15, the mode (Mo) is 23.54, the median (me) is 19.12 and the variance is 37.82.

Cooperative Learning model data was obtained through a questionnaire with 30 statements with 36 respondents. The scoring is done using a Likert scale, using five alternative answers, namely: Very often, Often, Sometimes, Rarely, and Never. The theoretical score ranges from 30 to 150. Based on the collected observation data, the maximum score is 106 and the minimum score is 71, the empirical range is between 71-106, the average is 86.5, the standard deviation (SD) is 9.095, the mode (Mo) is 90.13, Median (me) 86.37 and Variance 82.73.

For the general regression equation $\hat{Y} = a + bX$ obtained $a = -2.82$ and slope $b = 0.73$ therefore the general regression equation $\hat{Y} = -2.82 + 0.73X$. Testing the regression estimation error over X produces a maximum L_{count} of 0.091. As for L_{table} at the real level $\alpha = 0.05$, the value of 0.147 is obtained. From the results of the comparison between L_{count} and L_{table} , it turns out that $L_{\text{count}} < L_{\text{table}}$ is $0.091 < 0.147$, from these results, H_0 is accepted and it can be concluded that the regression estimation error over X is normally distributed.

After the data analysis requirements are met, an inferential analysis is carried out to test the hypotheses carried out to draw conclusions whether the research hypothesis that has been formulated is supported by the empirical data obtained. Testing the hypothesis of this study using the formulation of regression and correlation. The hypotheses were analyzed using a simple regression and correlation formula, the details of the test results are as follows: simple regression analysis test includes regression significance test and regression linearity test which is performed by F test. While a simple correlation analysis test is in the form of a correlation significance test using a t-test. The simple correlation technique used is the Product Person Moment.

The hypothesis being tested is

$$H_0: \rho_{y1} \leq 0$$

$$H_1: \rho_{y1} > 0$$

The formulation of the research hypothesis is that there is a positive contribution between the cooperative learning model (X) and mathematics learning outcomes (Y). From the results of the regression analysis, it is found that the contribution between the cooperative learning model (X) and the mathematics learning outcomes (Y) is described by the equation $\hat{Y} = -2.82 + 0.73X$. To find out whether the regression equation model above is significant or not, a significance and linearity test of the regression with analysis of variance was carried out. The summary of the results of the calculation of the significance test and the linearity of the regression between the cooperative learning model (X) and the mathematics learning outcomes (Y).

Significant regression ($F_{\text{count}} = 8.19 > F_{\text{table}} = 4.02$)

Linear regression ($F_{\text{count}} = 1.87 < F_{\text{table}} = 2.23$)

Furthermore, the correlation test with Product Person Moment to determine the strength of the influence between the variables of the cooperative learning model and the variables of mathematics learning outcomes. The calculation results obtained a correlation coefficient of $r_{xy} = 0.574$. The significance test of the correlation coefficient with the t-test obtained a t_{count} of 2.74 while t_{table} at a significant level $\alpha = 0.05$ with 34 degrees of

freedom obtained a t_{table} value of 1.69. The strength of the contribution of the X and Y variables is indicated by the correlation coefficient. It can be seen that the results of the t-test analysis obtained t_{count} of 2.74 and t_{table} of 1.69, meaning that there is a positive contribution between the variables of the cooperative learning model and learning outcomes of mathematics because $t_{count} > t_{table}$ is $2.74 > 1.69$. The coefficient of determination is 0.4561, explaining that 45.61% of the variance of the variables learning outcomes in mathematics is explained or determined by the cooperative learning model. From the results of the above analysis calculations, it can be concluded that there is a positive relationship between the variables of the cooperative learning model and the variables of mathematics learning outcomes.

The results of research by Zerri Rahman Hakim, Taufik, M.Pd, Qurrotul Aini from PGSD FKIP University of Sultan Ageng Trtayasa using. The research method used is a quasi-experimental research design with a non-equivalent control group design, sampling is done by purposive sampling technique. The sample selected was class III A students as a control group who received a conventional model as treatment and class III B was an experimental class that received a talk stick type cooperative learning model as a treatment. Based on the post-test data analysis, it showed that the average concept understanding of the control group students was 60.50 while the experimental class was 85.50. This can be seen from the correct sample test results, the results of $t_{count} > t_{table}$ or $3.43 > 2.00$ with a significant level of 0.05.

Based on the researcher's direct experience in the research process, there are several limitations experienced and can be many factors so that future researchers can pay more attention to further refine their research because this research itself certainly has shortcomings that need to be improved continuously in the future research. Some of the limitations in this study, among others: (1) The number of respondents who are only 36 people, of course, is still not enough to describe the actual situation, (2) The object of research is only focused on the application of the cooperative learning model, (3) In the process of collecting data, the information provided by the respondent through the questionnaire sometimes does not show the respondent's actual opinion, this happens because sometimes the thoughts, assumptions, and understandings of each respondent are different, as well as other factors such as the honesty factor in filling out the respondent's opinion in the questionnaire.

CONCLUSION

Based on the results of the test and analysis calculations that have been stated above, it can be seen that there is a positive contribution between the independent variable and the dependent variable. The results of testing and analysis show that the cooperative learning model contributes to determining mathematics learning outcomes. Thus the research hypothesis which states that there is a positive contribution between the variables of the cooperative learning model and the results of learning mathematics is statistically proven to be true. Based on the results of the research that has been carried out, the following conclusions are obtained: (1) The application of Cooperative Learning has an effect on mathematics learning outcomes; (2) Interest has an effect on the Implementation of Cooperative Learning; (3) The background of students affects the implementation of cooperative learning; (4) Intelligence affects the Implementation of Cooperative Learning.

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