Journal of Educational Analytics (JEDA)
Vol. 1, No. 2, 2022: 81-96

Make a Match Type Cooperative Learning to Improve Mathematics Learning Outcomes

Siti Zumrotul Nikmah
IAIN Takengon

ABSTRACT: Mathematics is still considered a complicated and boring subject. So that a special method is needed to teach mathematics to make it an easy and fun lesson. One of the fun learning models is the make a match type cooperative learning model. This study aims to determine the type of cooperative learning make a match to improve mathematics learning outcomes in fourth grade students of MIN 1 Bener Meriah. The research method used in this research is classroom action research. The study was conducted in class IV MIN 1 Bener Meriah. Data collection techniques were carried out by observation, tests, and documentation. Then the data were analyzed using descriptive statistical analysis, namely statistics used to analyze the data by describing or describing the data collected as they are without intending to make conclusions that apply to the general public or generalizations. The results showed that there was an increase in student learning outcomes from pre-action, cycle I, and cycle II. The average value of the students' average score was 57.83 in the pre-action only 8 students who finished learning (22%). In the first cycle, the average value of the class increased to 67.81 and the number of students who completed was 21 students (58%). In the second cycle, the average value of the class increased to 75.86% and the number of students who completed was 33 students (92%).

Keywords: Cooperative Learning, Make a Match, Learning Outcomes

Submitted: 09-0-2022; Revised: 16-08-2022; Accepted: 26-08-2022

***Corresponding Author:** sitizumrotulnikmah@gmail.com

DOI: http://10.55927/jeda.v1i2.1146
ISSN-E: 2830-0432
https://journal.formosapublisher.org/index.php/jeda

INTRODUCTION

Mathematics is a subject that is taught to all students from elementary school (SD), junior high school (SMP), high school (SMA), to university level (PT). In the decision of the Minister of Education, Culture, Research and Technology, mathematics subjects are given 5 hours of lessons every week with an allocation of 35 minutes/hour of lessons.(Kebudayaan, 2022) Mathematics is taught to students because mathematics is always used in all aspects of life. all fields of study require mathematical skills. Because of the importance of mathematics, the process of learning mathematics in schools should be delivered meaningfully and must be able to show the benefits of mathematics in solving various problems in life. Teachers are required to be more creative and innovative in choosing and using strategies, approaches, methods and learning techniques that can make students more active in constructing their own knowledge.(Hidayat et al., 2021)

In elementary schools, mathematics learning still uses behaviorism learning patterns. That is still prioritizing transferring knowledge and practice, and not being able to print the character of students who are diligent. Whereas in the context of character education, the character of students who are diligent in learning must be inserted (Suwarno et al., 2021). In conventional learning the behaviorism pattern of students is considered as an individual who does not know anything, and is always passive in learning. The teacher dominates in learning, so learning becomes stiff and uninteresting and tends to be boring. Such a learning process cannot stimulate student activity, there is no reciprocal relationship with students, students are only used as objects of learning, and students cannot find their own way of learning. The teacher's concentration is still on practicing questions, so that students do not find the meaning of learning which results in low student learning outcomes. The above fact is in line with what was conveyed by Fifi Aris Wulandari et al that mathematics has various kinds of problems including students' fear of mathematics, boredom of students learning mathematics, teacher dominance in the mathematics learning process, teachers are not contextual in conveying mathematical problems in the reality they face. students.(Wulandari et al., 2020). The same thing was also stated by Sukasno, who stated that mathematics is a scary subject, makes students bored, a difficult and uninteresting subject (Sukasno, 2012). Then Raras Kartika Sari suggested that the problem in learning mathematics subjects was due to several things, first, immaturity in understanding mathematical concepts, which resulted in students lacking knowledge of mathematics in the previous class, second, students lacked learning motivation, it could be said that their motivation in learning mathematics was low. , third, the lack of effective learning media in learning mathematics that can attract students' interest in learning mathematics, and fourth, the application of the methods used in learning mathematics has not been in accordance with the characteristics of students (Sari, 2019). Therefore, it is necessary to have different learning models so that learning is varied and not monotonous, so that student learning outcomes can increase.

There are many learning models that can be used by teachers to improve student learning outcomes, one of which is the cooperative learning model. Cooperative learning model is a learning model that strives for students to work together in solving problems and tasks, students are required to work together in groups that have been determined. Cooperative learning is also defined as a learning approach that is focused on optimizing student group learning in achieving learning objectives (Nurdyansyah & Fahyuni, 2016). With cooperative learning model students can help each other, discuss and express opinions, so that their knowledge continues to be honed and each can learn from each other and cover each other's shortcomings (Taniredja et al., 2011). There are various types of cooperative learning, one of which is the make a match type. The Make a Match type of cooperative learning model is a learning model to find partners using question cards and question cards (Sutirman, 2013). The make a match type of cooperative learning model is used in mathematics subjects at the State Islamic Junior High School (MIN) 1 Bener Meriah. Based on the author's initial observations when he was supervisor of Field Experience Practice (PPL) for Students of Madrasah Ibtidaiyah Teacher Education (PGMI) at MIN 1 Bener Meriah Aceh, there were PPL students who taught mathematics subjects using the make a match type of cooperative learning model. This is where the authors are interested in conducting this research with the aim of knowing the application of make a match type cooperative learning in improving students' mathematics learning outcomes.

Research on the application of the make a match type of learning model has been carried out by previous researchers. As done by Sumarni in his research entitled Make a Match Learning Model to Improve Learning Outcomes Adaptation to the Environment in Students. The research by Sumarni uses the classroom action research method, with the results showing that the make a match learning model can improve student learning outcomes in the matter of how living things adapt to the environment. In his research, Sumarni also found that (1) the make a match learning model succeeded in increasing student activity in the learning process with an achievement reaching 85.71%. (2) learning the make a match model on the material applying the concept of analyzing the adaptation of living things succeeded in increasing the mastery of student learning outcomes with an achievement of 85.71%. (3) make a match learning in the material presenting works on how to adapt to living things has succeeded in increasing the mastery of student learning outcomes with an achievement of 90.47%. (Sumarni, 2021). The similarity of the research by Sumarni with the research that the author will do lies in the use of the make a match model in learning and the research method used, while the difference is that the subjects in Sumarni's research are Natural Sciences (IPA) subjects, while the subjects in the research used are Natural Sciences. What the author will do is mathematics, so there is still an opportunity for the author to do this research. Then the research by Tri Suwarno Handoko Noviyanto et al entitled Application of the Make a Match Type Cooperative Learning Model to Improve Biology Learning Outcomes, the research method used was classroom action research, with the results of the study showing an increase in biology learning

outcomes that rose significantly above 80 %. (Noviyanto et al., 2021). The similarity of the research by Tri Suwarno Handoko Noviyanto et al with the author's research is the use of a make a match type of cooperative learning model and the research method both uses classroom action research, while the difference lies in the subjects. Research by Tri Suwarno Handoko Noviyanto et al. cooperative learning model type make a match is used in Biology subjects while the author's research is used for mathematics subjects, so there is still an opportunity for the authors to conduct this research. Then research by Melinda Nurhalizah and Sri Dwiyanti entitled The Study of Make a Match Type Cooperative Learning Models to Improve Student Learning Outcomes, the research method used is library research, with the result that the make a match type of cooperative learning model can improve student learning outcomes. This finding is based on the many research results that support the make a match type cooperative learning model in improving student learning outcomes.(Nurhalizah, 2020). The similarity of research by Melinda Nurhalizah with the author's research is that they both examine the make a match type of learning model, while the difference lies in the research method used, Melinda uses library research while the author uses classroom action research, so there is still an opportunity for the author to conduct research this.

RESEARCH METHODS

The method used in this research is classroom action research. That is the type of research in the process of assessing learning problems in the classroom through self-reflection in an effort to solve problems by carrying out various planned actions in real situations and analyzing any effects of giving actions (Sanjaya, 2009). The action in this study was carried out to apply the make a match type of cooperative learning model in improving mathematics learning outcomes for fourth grade students of MIN 1 Bener Meriah. Action research takes the form of collaborative action, which is a form of research carried out by a team which usually consists of teachers, school principals, and other people involved in research (Sanjaya, 2009). In this study, collaboration is carried out between researchers who act as implementers of the action while teachers act as observers of the action. This research was conducted at MIN 1 Bener Meriah.

Data collection techniques using observation, tests and documentation. Observations were carried out by researchers and teachers, along with the ongoing action, namely the application of make a match type cooperative learning in improving mathematics learning outcomes for fourth grade students of MIN 1 Bener Meriah. The test in this study was used to determine the application of make a match type cooperative learning in improving mathematics learning outcomes for fourth grade students of MIN 1 Bener Meriah. Then the documentation in this research is done by taking photos of learning activities. This documentation aims to provide a real picture of the activities and participation carried out by students for the application of make a match type cooperative learning in improving mathematics learning outcomes for fourth grade students of MIN 1 Bener Meriah.

The data analysis technique used in this study is descriptive statistics, namely statistics used to analyze data by describing or describing the data

collected as they are without intending to make conclusions that apply to the public or generalizations. (Suwarno, Ramadan, 2022). which includes analysis. the results of observations and analysis of learning outcomes.

RESULT

1. Description of Early Stage Research

Before to the cooperative learning of the make a match model in the early stages, a pre-action test was carried out to measure the initial abilities of the fourth grade students of MIN 1 Bener lively. The minimum completeness criteria (KKM) is 63. The results of the pre-action test are presented in the following table.

Table 1.Pre-Action Learning Outcome Data

No	Name	Score	Description	
			Finished	Not Finished Yet
1	Afifa Fitya	40		√
2	Aisyah Althanisa	53		√
3	Aditya Alparizal	53		√
4	Bilqiez Al-Habsi Lubis	67	√	
5	Dafi Islami Siregar	60		√
6	Fahri Dani	60		√
7	Fatwa Aola Panca	53		√
8	Faisa Risma	53		√
9	Faisal Ariska	47		√
10	Faola Al Farooq	67	√	
11	Fadil Mutuah Miko	53		√
12	Furqan Zikri	60		√
13	Hazriansyah	60		√
14	Helmi Chalid	73	√	
15	Imran Parada Harahap	47		√
16	Kharizka Auliyana	60		√
17	Ledi Pelicia	60		√
18	M. Fadil Arianda	67	√	
19	M. Yazid Ikram	53		√
20	Masnita	60		√
21	Miftahul Zannah	53		√
22	Nazila Naulida	67	√	
23	Narika Humaira AS	60		√
24	Ramadan Sahputra	67	√	
25	Rahmadani Alyawinata	53		√

26	Raka Aditya	62		√
27	Rizki Aramiko	60		√
28	Syahrial Pratono	53		√
29	Salwan Naufal	67	√	
30	Tia Riani 'Aiza	46		√
31	Tasya Istianti	50		√
32	Wan Uzrah Afrianta	55		√
33	Yarid Al Kudri	47		√
34	Zeulila Nazwa	74	√	
35	Sahri Sahputra	60		√
36	Faizha Napiska	62		√
Amount		**2082**	**8**	**28**
Average		**57,83**		
The Highest Score		**74,00**		
Lowest Score		**40,00**		
Percentage of Completeness		**22**		
Source: Processed Data 2021				

From the table above, it is known that the mathematics learning outcomes of fourth grade students of MIN Bener Meriah were 36 students with an average score of 57.83. The lowest score is 40 and the highest is 74. Students who reach the KKM are 8 and the remaining 28 have not reached the KKM. The percentage of students who achieved learning completeness was 22%, while those who had not finished were 67%. The percentage is presented in the following graph:

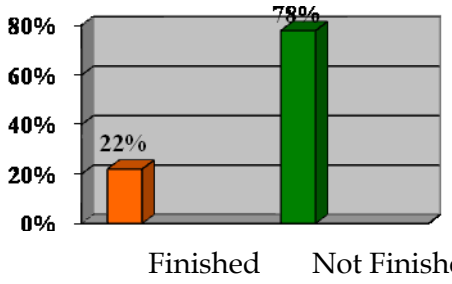

Figure 1. Graph of Student Completeness Percentage Before Action

From the test results, the researchers took action to improve the learning outcomes of fourth grade students of MIN 1 Bener Meriah in collaboration with the teacher. The action was carried out in 2 cycles and each cycle consisted of 2 meetings.

2. Description of Research Results Cycle I First Meeting

Learning cycle 1, the first meeting of the cycle is held on Wednesday, February 23, 2022 at 10.00-13.00 for 3 hours of learning (3 x 35 minutes). The

material taught at the first meeting is the material for rounding numbers by determining rounding from the results of length measurements to the nearest unit. Learning is carried out using a make a match type cooperative learning model and the learning media used are question cards and answer cards. The learning activity begins with an opening activity, namely the teacher invites to pray together, then conveys the learning objectives, then continues with the core activities which include the teacher dividing groups consisting of two large groups, one group of questions and one group of answers, then the teacher instructs students to find a partner. questions with answers with a time limit of three minutes. Then the pair that has been formed is asked by the teacher to find a place to sit together, then the teacher confirms the compatibility of the questions and answers. Next, the teacher calls the next pair for a presentation and provides confirmation regarding the correctness and suitability of the questions and answers. Next, the teacher asked questions to students who did not find a partner regarding the difficulties they experienced when finding a partner. At the end of the learning activity, students and teachers reflect on the learning activities that have been carried out on that day. The teacher provides conclusions related to the learning that has taken place. Next, the teacher motivates the students and ends the lesson by saying hello.

3. Description of Research Results Cycle 1 Second Meeting

The second meeting of the first cycle of learning will be held on Saturday, February 26, 2022 at 10.00 – 13.00 for 3 learning hours (3 x 35 minutes). The material taught at the first meeting is measuring and weighing objects around us by determining the rounding of the results of weight measurements to the nearest unit. Learning using cooperative learning model make a match type and the learning media used are question cards and answer cards. The learning activity begins with an opening activity, where the teacher invites to pray together, then conveys the learning objectives. Then proceed with the core activities which include the teacher dividing into groups consisting of two large groups, one group of questions and one group of answers, then the teacher instructs students to look for pairs of questions with answers with a time limit of three minutes. Then the pair that has been formed is asked by the teacher to find a place to sit together, then the teacher confirms the compatibility of the questions and answers. Next, the teacher calls the next pair for a presentation and provides confirmation regarding the correctness and suitability of the questions and answers. Next, the teacher asked questions to students who did not find a partner regarding the difficulties they experienced when finding a partner. At the end of the learning activity, students and teachers reflect on the learning activities that have been carried out on that day. The teacher provides conclusions related to the learning that has taken place. Next, the teacher motivates the students and ends the lesson by saying hello.

At the end of the implementation of the first cycle, the researchers conducted a test of learning outcomes using written evaluation questions. The evaluation question is in the form of a multiple-choice written question sheet totaling 8 questions. Data on student learning outcomes using the Make a

Match type cooperative learning model in the first cycle is presented in the following table.

Table 2. Cycle Learning Outcome Data

Number	Name	Score	Description	
			Finished	Unfinished
1	Afifa Fitya	60		√
2	Aisyah Althanisa	53		√
3	Aditya Alparizal	60		√
4	Bilqiez Al-Habsi Lubis	73	√	
5	Dafi Islami Siregar	60		√
6	Fahri Dani	67	√	
7	Fatwa Aola Panca	73	√	
8	Faisa Risma	80	√	
9	Faisal Ariska	67	√	
10	Faola Al Farooq	67	√	
11	Fadil Mutuah Miko	60		√
12	Furqan Zikri	67	√	
13	Hazriansyah	80	√	
14	Helmi Chalid	80	√	
15	Imran Parada Harahap	67	√	
16	Kharizka Auliyana	67	√	
17	Ledi Pelicia	67	√	
18	M. Fadil Arianda	80	√	
19	M. Yazid Ikram	60		√
20	Masnita	87	√	
21	Miftahul Zannah	60		√
22	Nazila Naulida	80	√	
23	Narika Humaira AS	60		√
24	Ramadan Sahputra	73	√	
25	Rahmadani Alyawinata	60		√
26	Raka Aditya	62		√
27	Rizki Aramiko	67	√	
28	Syahrial Pratono	74	√	
29	Salwan Naufal	73	√	
30	Tia Riani ‘Aiza	62		√
31	Tasya Istianti	60		√
32	Wan Uzrah Afrianta	63		√
33	Yarid Al Kudri	60		√
34	Zeulila Nazwa	80	√	
35	Sahri Sahputra	67	√	
36	Faizha Napiska	65		√
Total		**2441**	**21**	**15**
Average		**67,81**		
The Highest Score		**87**		
Lowest Score		**53**		
Percentage of Completeness		**58%**		

From the table above, it is known that the average value of students in the implementation of the first cycle of action is 67.81. The lowest score is 53 and the highest is 87. Students who reach the KKM are 21 and 15 have not. Based on these data, the percentage of students who completed was 58% and those who had not finished were 42%. The following is a graph of the percentage of students' completeness

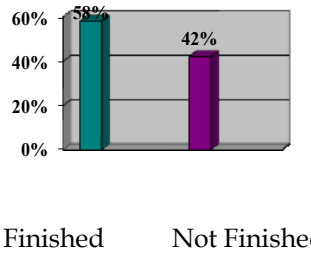

Figure 2. Graph of Student Completeness Percentage Cycle I

Based on the data above, we can compare the results of pre-action learning with the first cycle of action in the following table:

Table 3. Comparison of Pre-Action Learning Outcomes Data with Cycle I

Total Students	Activity	Score Average	Completeness			
			finished	%	not finished	%
36	Pre Action	57,83	8	22	28	78
	Cycle I	67,81	21	58	15	42

From the table above, it is known that at the pre-action stage the mathematics learning outcomes of students who achieved the KKM were 8 students with a percentage of 22%, who had not reached the KKM were 28 students with a percentage of 78%. While in cycle 1 the learning outcomes of students who reached the KKM were 21 with a percentage of 58%, and those who had not reached the KKM were 15 students with a percentage of 42%. Thus there is an increase of 36%. The following is a graph comparison of the increase in the percentage of student learning completeness in grade IV MIN 1, which is really lively pre-cycle with cycle 1.

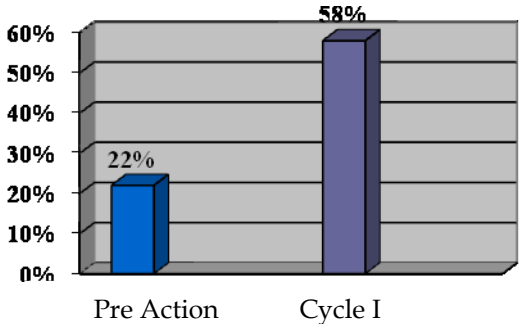

Figure 3. Graph of the Percentage of Completeness of Pre-Action Students and Cycle I

From the average value, there was also an increase from 57.83% to 67.81%. The following is a comparison of the average value of pre-action student learning outcomes with cycle I in the graph below:

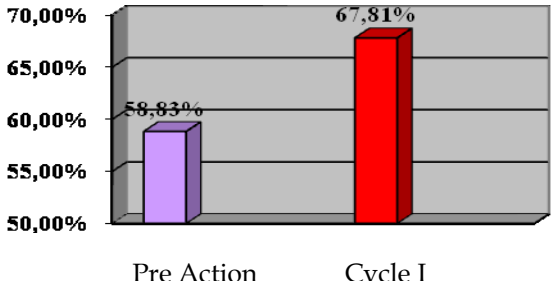

Figure 4. Graph of the Average Score of Pre-Action Students and Cycle I

In the implementation of cycle 1 students who achieved completeness still did not reach 75%, so it would be continued with actions in cycle 2 so that students who had completed learning reached 75%.

4. Description of Research Cycle II First Meeting

At the first meeting of cycle 2, the material for rounding the results of length and weight measurements to the nearest unit was presented by determining the rounding of the length measurement results to the nearest unit. Before doing the learning, the planning steps were carried out to carry out the second cycle of research. First, coordinate with the homeroom teacher for class IV regarding the learning being carried out. This coordination includes the coordination of the material for rounding numbers, the implementation time of the second cycle of research, the use of question cards and answer cards, and the steps of the Make A Match type of cooperative learning model. This is intended to prevent discommunication between the researcher and the fourth grade teacher of MIN 1 Bener Meriah regarding the implementation of the second cycle of research. Second, Prepare the Learning Implementation Plan (RPP). The lesson plans prepared by the researcher have been adapted to the material for rounding numbers in the math book used in class IV MIN 1 Bener Meriah. Third, prepare learning media in the form of question cards and answer cards for rounding numbers. The question cards and answer cards are printed using 230 gram ivory paper and pressed so that these cards are not easily damaged and are durable. There are 52 cards consisting of 26 question cards and 26 answer cards. Fourth, Prepare evaluation sheets for students. The researcher made 8 multiple choice questions to evaluate student learning. This evaluation sheet is given at the end of the second cycle of research. Fifth, Prepare observation instruments. The observation instrument prepared by the researcher was the student observation instrument as many as 12 items and the teacher observation instrument as many as 12 items. Sixth, Prepare a camera that will be used to document teacher teaching activities and student learning activities.

The learning of the first meeting of cycle II will be held on Wednesday, March 2, 2022 at 10.00 – 13.00 for 3 learning hours (3 x 35 minutes). The material taught at the first meeting is rounding the results of length and weight

measurements to the nearest unit by determining the rounding of the length measurement results to the nearest unit. The learning model used is the Make A Match type cooperative learning model and the learning media used are question cards and answer cards. The learning activity begins with an opening activity, where the teacher invites to pray together, then conveys the learning objectives. Then proceed with the core activities which include the teacher dividing into groups consisting of two large groups, one group of questions and one group of answers, then the teacher instructs students to look for pairs of questions with answers with a time limit of three minutes. Then the pair that has been formed is asked by the teacher to find a place to sit together, then the teacher confirms the compatibility of the questions and answers. Next, the teacher calls the next pair for a presentation and provides confirmation regarding the correctness and suitability of the questions and answers. Next, the teacher asked questions to students who did not find a partner regarding the difficulties they experienced when finding a partner. At the end of the learning activity, students and teachers reflect on the learning activities that have been carried out on that day. The teacher provides conclusions related to the learning that has taken place. Next, the teacher motivates the students and ends the lesson by saying hello.

5. Description of Research Cycle II Secound Meeting

The learning of the second meeting of the first cycle is held on Saturday, March 5, 2022 at 10.00 – 13.00 for 3 learning hours (3 x 35 minutes). The material taught at the first meeting is measuring and weighing objects around us by determining the rounding of the results of weight measurements to the nearest unit. The learning model used is a make a match type cooperative learning model and the learning media used are question cards and answer cards. The learning activity begins with an opening activity, where the teacher invites to pray together, then conveys the learning objectives. Then continue with the main activities includes the teacher dividing groups consisting of two large groups, one group of questions and one group of answers, then the teacher instructs students to look for pairs of questions with answers with a time limit of three minutes. Then the pair that has been formed is asked by the teacher to find a place to sit together, then the teacher confirms the compatibility of the questions and answers. Next, the teacher calls the next pair for presentation and provides confirmation regarding the correctness and suitability of the questions and answers. Next, the teacher asked questions to students who did not find a partner regarding the difficulties they experienced when finding a partner. At the end of the learning activity, students and teachers reflect on the learning activities that have been carried out on that day. The teacher provides conclusions related to the learning that has taken place. At the end of the learning activity, students and teachers reflect on the activities that have been carried out on that day. Students are asked to give conclusions with the game "ABCDiDoor". At the end of the implementation of cycle 2, the researchers conducted a test of learning outcomes using written evaluation questions. The evaluation question is in the form of a multiple-choice written question sheet

totaling 8 questions. Data on student learning outcomes using the Make A Match type cooperative learning model in the first cycle is presented in the following table.

Table 4. Cycle II Learning Outcomes Data

No	Name	Score	Completeness	
			Finished	Not Finished
1	Afifa Fitya	73	√	
2	Aisyah Althanisa	60		√
3	Aditya Alparizal	87	√	
4	Bilqiez Al-Habsi Lubis	67	√	
5	Dafi Islami Siregar	67	√	
6	Fahri Dani	70	√	
7	Fatwa Aola Panca	80	√	
8	Faisa Risma	85	√	
9	Faisal Ariska	73	√	
10	Faola Al Farooq	73	√	
11	Fadil Mutuah Miko	67	√	
12	Furqan Zikri	80	√	
13	Hazriansyah	80	√	
14	Helmi Chalid	73	√	
15	Imran Parada Harahap	87	√	
16	Kharizka Auliyana	93	√	
17	Ledi Pelicia	93	√	
18	M. Fadil Arianda	73	√	
19	M. Yazid Ikram	67	√	
20	Masnita	87	√	
21	Miftahul Zannah	54		√
22	Nazila Naulida	80	√	
23	Narika Humaira AS	93	√	
24	Ramadan Sahputra	73	√	
25	Rahmadani Alyawinata	80	√	
26	Raka Aditya	75	√	
27	Rizki Aramiko	73	√	
28	Syahrial Pratono	80	√	
29	Salwan Naufal	76	√	
30	Tia Riani ‘Aiza	65		√
31	Tasya Istianti	67	√	
32	Wan Uzrah Afrianta	80	√	
33	Yarid Al Kudri	73	√	
34	Zeulila Nazwa	85	√	
35	Sahri Sahputra	70	√	
36	Faizha Napiska	72	√	
Total		**2731**	**33**	**3**
Average		**75,86**		

The Highest Score	**93**		
Lowest Score	**54**		
Percentage of Completeness	**92%**		

From the table above, it is known that the average score of students is 75.86, with the highest score of 93 and the lowest being 54, students who achieve the KKM are 33 students with a percentage of 92%, who have not reached the KKM are 3 students with a percentage of 8%. The percentage of completeness in cycle 2 is presented in the following graphic image:

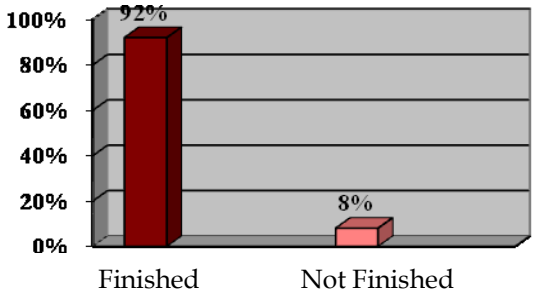

Figure 5. Graph of Student Completeness Percentage Cycle II

Learning outcomes of class IV students of MIN 1 are really lively starting from the pre-cycle, cycle 1, and cycle 2 continue to increase. The comparison can be seen in the following table:

Table 5. Comparison of Pre-Action Learning Outcomes, Cycle I, and Cycle II

Total Students	**Activity**	**Score Average**	**Completeness**			
			finished	**%**	not finished	**%**
36	Pre Action	57,83	8	22	28	78
	Cycle I	67,81	21	58	15	42
	Cycle II	75,86	33	92	3	8

From the comparison table above, it is known that in the pre-action, 8 students had reached the KKM with a percentage of 22% and 28 students had not reached the KKM with a percentage of 78%. In the first cycle, it is known that there are 21 students who have reached the KKM with a percentage of 58% and those who have not reached the KKM are 15 students with a percentage of 42%. In the second cycle, it is known that 33 students have achieved the KKM with a percentage of 92%, and those who have not reached the KKM are 3 students with a percentage of 8%. Thus, there was an increase in students who achieved KKM from 22% in pre-action to 58% in cycle 1, and increased again to 92% in cycle 2. Comparison of KKM achievement in pre-action, cycle 1, and cycle 2 is presented in the following graphic:

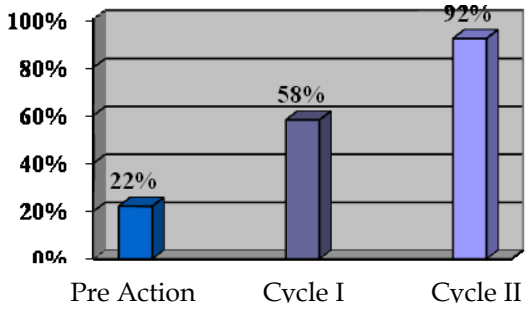

Figure 6. Graph of the Percentage of Completion of Pre-Action Students, Cycles I and II

From the average score of students, there was also an increase from 57.83% of the average score of students in the pre-action 57.83, to 67.81% in the first cycle, and increased again to 75.68. The increase in the average score of students in pre-action, cycle I, cycle II can be presented in the graph below:

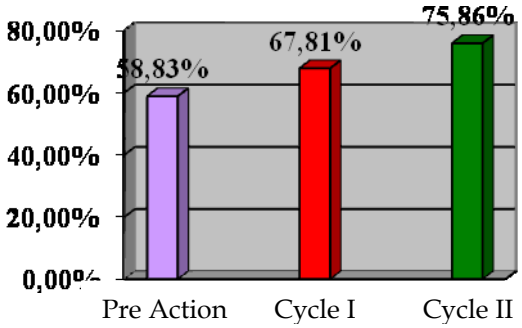

Figure 7. Graph of the Average Score of Pre-Action Students, Cycle I and Cycle II

DISCUSSION

Based on the results of research that has been carried out in class IV MIN 1 Bener Meriah, it turns out that learning mathematics for rounding numbers using the Make A Match type cooperative learning model can successfully improve student learning outcomes. The comparison of pre-action learning outcomes, cycle I and cycle II is presented in the following table:

Table 6. Comparison of Pre-Action Completeness Percentage, Cycle I and II

Activity	Average score	Total of Completeness	Percentage of completeness
Pre Action	57,83	8	22%
Cycle I	67,81	21	58%
Cycle II	75,86	33	92%

Based on the table above, it can be seen that the average score of students increased from 57.83 before the action to 67.81 in the first cycle and to 75.86 in the second cycle. The percentage of completeness of student learning outcomes increased from 22% to 58% and reached 92% in the second cycle. In the second cycle, the indicators of success have been achieved, because the percentage of student learning completeness has reached >75% of the total number of

students who have completed the KKM score. To determine the improvement of pre-action learning outcomes, cycle I and cycle II are presented in the graph below:

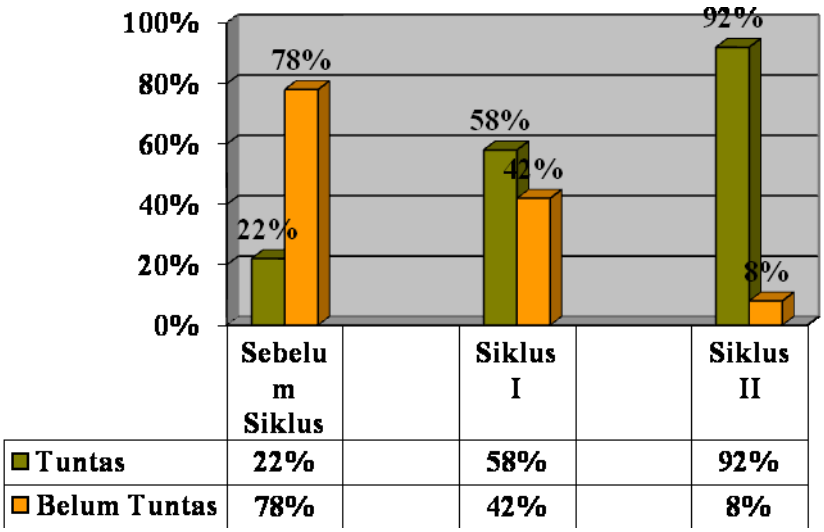

Figure 8. Comparison Graph of Students' Completeness Percentage Before Action, Cycle I, and Cycle II

Based on the graph above, it can be seen that the percentage of completeness of student learning outcomes increased from 22% to 58% and reached 92% in cycle II. The improvement of student learning outcomes in the second cycle was influenced by the findings of the first cycle of problems and the design of the improvements made. Before taking the action, the teacher uses the lecture method and the assignment method in delivering number rounding material. The findings of this study support the results of research by Sumarni which states that the make a match type of cooperative learning model can improve learning outcomes for adjustment to the environment (Sumarni, 2021). And also supports research by Tri Suwarno Handoko Noviyanto et al which states that the application of the make a match type of cooperative learning model can improve biology learning outcomes (Noviyanto et al., 2021). It also supports Melinda Nurhaliza's research which states that the make a match type of cooperative learning model can improve student learning outcomes (Nurhalizah, 2020)

CONCLUSION

This study resulted in the findings that learning mathematics on the material of rounding numbers with a cooperative model of make a match type in class IV MIN 1 Bener Meriah can improve student learning outcomes.

The increase in student learning outcomes can be seen from the increase in the average grade of the pre-action, cycle I, and cycle II. The average value of the students' average score was 57.83 before the action and only 8 students had finished studying (22%). In the first cycle, the average value of the class increased to 67.81 and the number of students who completed was 21 students

(58%). In the second cycle, the average value of the class increased to 75.86 and the number of students who completed was 33 students (92%). Thus, it can be concluded that the percentage of students' complete learning outcomes increased from 22% to 58% and reached 92% in the second cycle.

REFERENCES

Hidayat, M. A., Nikmah, S. Z., & Nurfitriani, R. (2021). Teacher Strategies in Learning during the Covid-19 Pandemic at Madrasah Ibdidaiyah Negeri (MIN) 2 Central Aceh. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *August*, 3465–3472.

Kebudayaan, K. P. dan. (2022). Pedoman penerapan kurikulum dalam rangka pemulihan pembelajaran. *Menpendikbudristek*, 1–112. jdih.kemendikbud.go.id

Noviyanto, T. S. H., Susanti, B. H., & Khairunnisa, S. (2021). Penerapan Model Pembelajaran Kooperatif Tipe Make a Match Untuk Meningkatkan Hasil Belajar Biologi. *Edukatif : Jurnal Ilmu Pendidikan*, *4*(1), 572–581. https://doi.org/10.31004/edukatif.v4i1.1855

Nurdyansyah, & Fahyuni, E. F. (2016). Inovasi Model. In *Nizmania Learning Center*.

Nurhalizah, M. (2020). *KAJIAN MODEL PEMBELAJARAN KOOPERATIF TIPEl*. *09*, 1–9.

Sanjaya, W. (2009). *Penelitian Tindakan Kelas*. Prenadamedia Group.

Sari, R. K. (2019). Analisis Problematika Pembelajaran Matematika Di Sekolah Menengah Pertama Dan Solusi Alternatifnya. *Prismatika: Jurnal Pendidikan Dan Riset Matematika*, *2*(1), 23–32. https://doi.org/10.33503/prismatika.v2i1.510

Sukasno. (2012). Problematika Pembelajaran Matematika Di Sd. *Jurnal Perspektif Pendidikan*, *5*(1), 107–114.

Sumarni, S. (2021). Model Pembelajaran Make a Match Untuk Meningkatkan Hasil Belajar Penyesuaian Diri Dengan Lingkungan Pada Siswa. *Jurnal Kewarganegaraan*, *5*(1), 39–44. https://doi.org/10.31316/jk.v5i1.1281

Sutirman, M. P. (2013). Media dan model-model Pembelajaran Inovatif. In *Yogyakarta: Graha Ilmu*.

Suwarno, Ramadan, S. A. F. (2022). Potential and Problem in Learning Tahsin Al-Wur'an to Improve Students' Ability to Read Al-Qur'an. *LITERATUS*, *Vol. 4*(Nomor 1), 82–86.

Suwarno, S., Durhan, D., & Muhaimin, M. (2021). Implementation of Covid-19 on Character Education. *Journal of Sosial Science*, *2*(3), 312–319. https://doi.org/10.46799/jsss.v2i3.133

Taniredja, T., Faridli, E. M., & Harmianto, S. (2011). Model-Model Pembelajaran Inovatif. In *Alfabeta*.

Wulandari, F. A., Kurniawati, U. M., & Rohimawan, M. A. (2020). Problematika Mata Pelajaran Matematika Dalam Pembelajaran Tematik Di Sekolah Dasar/Madrasah Ibtidaiyah. *Refleksi Edukatika : Jurnal Ilmiah Kependidikan*, *11*(1), 109–115. https://doi.org/10.24176/re.v11i1.4945