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Improving the Understanding of Addition and Subtraction of Fractions Through Cooperative Model of Rotating Trio Exchange (RTE) Type for Students Elementary School

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Abstract
The purpose of this research is to improve or help students in mastering the understanding of fractional numbers, especially in addition and subtraction of fractional numbers through a cooperative model, namely the Rotating Trio Exchange (RTE) type. This research is a form of classroom action research with two cycles. The participants or research subjects were our grade V students of SD 95 Pekanbaru which amounted to 33 children. The data collection techniques are observation, interview, documentation, and test. The results of the data analysis were that there were only 14 students or equivalent to 42.43% of students who reached the KKM limit in the initial condition before the research was carried out which was then able to change in cycles 1 to 19 students or around 57.57% which then also rose to 23 students or equivalent to 69.7%. From this description, it can be concluded that the use of the RTE type is able to help students understand and even improve their understanding of the addition and subtraction of fractions. The observation results also illustrate that students' cooperation attitude and responsibility attitudes changed for the better as solid teamwork in the rotation occurred in accordance with the RTE-type learning steps.

Keywords: *fraction understanding, Rotating Trio Exchange (RTE), cooperative model, elementary school*

Introduction

In school activities, we as teachers have a significant role in making our children successfully understand the lessons delivered. We as teachers are also responsible for improving the quality of education that exists today. Our responsibility is very much needed in providing material to students so that the results obtained by students can be applied and take their essence in everyday life and can be applied later when they study to a higher level. Classroom learning will be effective and efficient if we as teachers have and learn to organize our strategies in teaching (Elitasari & Rakhmawati, 2022). The way we as teachers organize this is very instrumental or influential on the learning methods given to students. This effort is determined by its success in the learning process and learning achievement due to students' high interest in learning.

In activities to improve our ability as teachers in teaching in the classroom, as well as the ability to make students master the subject matter that has been delivered, teachers must master the basic skills that are qualified in this learning process (Rakhmawati et al., 2016). By making improvements in learning or the KBM process, we become aware of what are the weaknesses of students' weaknesses in providing the subject matter itself. Then we can help students' weaknesses by encouraging students to improve their learning process. The essence of all these problems is that we as teachers in addition to mastering learning topics when teaching, we should also be good at motivating students and embracing them to change their learning process further. Where students are the center of the process itself.

Therefore, improving the quality of learning must be in line with improving the quality of students. Ahmad Susanto (2013: 186) states that in learning, teachers develop students' creativity to improve their thinking skills as well as hone their ability to develop the latest knowledge in their effort toward better learning understanding, especially in learning Mathematics. The results of observations that have been made by researchers before starting the research, namely on October 17, 2022, located at SD Negeri 95 Pekanbaru,

can be seen that the teaching process still refers to printed books or textbooks. Then in practice, the teacher is not optimal in using learning models, especially in providing Mathematics subject matter, often the learning atmosphere in the classroom becomes monotonous and tends to be boring, and lacks active participation from all students in the class.

Based on observations that have been made, researchers can conclude that fifth-grade students experience problems in Mathematics lessons, especially in addition and subtraction of fractions. Students have difficulty in mastering the addition and subtraction of fractions because, in the fraction calculation operation, students experience many errors when adding and subtracting fractions. On the other hand, it appears that students are less focused on the math subject matter itself, students are noisy and do not pay attention to the teacher. In addition, student motivation in learning Mathematics is still low. This can be seen from the pre-cycle score data of class VB students, students who reached the Minimum Completion Criteria (KKM) limit were only 42.4% (complete) or 14 students out of 33 students in class V while around 57.6% were students who did not complete or 19 students out of 33 students. This data, if we relate it to the success of students in achieving the KKM for Mathematics subjects, namely the KKM is 75 so it can be said that these results have not reached the KKM target.

Based on the identification of the problems expressed above, the researcher as a teacher can find several factors that cause problems in learning mathematics in class VB . When analyzing these problems, it is found that the selection of the correct learning modeassistassist researchers in achieving real learning improvement goals. Researchers can use different, new, or varied types of teaching methods that can make children happy and make children more active in participating in the lesson. For researchers to be able to achieve the goals set beforehand, the right learning model is needed. One of these models or methods is the Rotating Trio Exchange Cooperative Learning Model or abbreviated as RTE.

In overcoming the above problems, the researcher who is also a class teacher in class V of SD Negeri 95 Pekanbaru tries to find alternatives to improve teaching methods that allow students to be enthusiastic and become dominant or active in the learning process so that it can spur them to get the desired good grades. The learning method used by researchers is a method or learning model that provides many opportunities for students to be more dominant and able to develop their creativity. For this reason, researchers try to use the Rotating Trio Exchange (RTE) Cooperative Model.

The Rotating Trio Exchange (RTE) Cooperative Learning Model is one of the most efficient and effective learning models for students in sharing many learning problems with students in the classroom. The application of this model expects students to be more active or play a full role in teaching and learning activities and work together to solve learning problems encountered, especially in the field of mathematics. Then according to Silberman (2009: 85) the rotating trio exchange (RTE) cooperative learning model has many advantages, one of which is that students will later discuss effectively with the team so that they can solve the learning material problems they are facing. For example, in learning math about the addition of fractions, before using this learning model, students understood the math lesson alone or individually.

While later when this RTE is practiced by students, students no longer understand the subject matter alone, but by discussing with several friends or teams, especially when the rotation between students occurs at that time students support each other and each other. help their friends to understand the material because of the frequent interaction of discussions between these teams. Based on the explanation that has been conveyed previously, plus the strengthening of the theory from Isjoni (2014: 59) where it is explained that the Rotating Trio Exchange (RTE) Type Learning Model is one of the cooperative learning models in which its implementation on children will be divided into several groups, one group contains 3 students and then arranged so that each group can see the other groups on the left and left until mutual harmony. Isjoni also said that this type provides a lot of space for students to cooperate and discuss intensively with other friends in each group rotation. This research is entitled "Improving Understanding of Addition and Subtraction of Fractional Numbers through the Rotating Trio Exchange (RTE) Cooperative Model for Class VB Students of SD 95 Pekanbaru".

Method

The participants were the students of class VB SD 95 Pekanbaru which totaled 33 children, 14 boys, and 19 girls. The researchers conducted this research at SD 95 Pekanbaru which is located on Jl. Indrapuri Number 33, Rejosari Village, Tenayan Raya District, Pekanbaru City. The plan for implementing this PTK is in the first semester of the 2022/2023 school year which will be carried out in October 2022. The research time plan is Cycle 1 will be carried out on October 24-25, 2022 while Cycle 2 will be carried out on October 31 to November 01, 2022.

This research uses Classroom Action Research or Classroom Action Research. It uses a qualitative data analysis method used to analyze the recapitulation of student activities in the learning improvement

activities. Researchers obtained data by making direct observations of activities with observation sheet guidelines. Then the data or the results of these observations researchers obtained from the behavior or attitudes of students related to learning improvement activities with learning objectives.

In addition, processing the results of students' abilities or learning also uses quantitative data analysiwerere to determine the average value obtained from the acquisition of students' scores. The average value is obtained by the researcher adding or the value reached by each student and then dividing it by the total number of students in the class.

Results and Discussion

In calculating the score of class V (five) students' learning outcomes, the following scores were obtained: a. Recap of Initial Condition Score:

Table 1. Grade Recap

No.	KKM	Value	Frequency (person)	Percentage	Description
1	75	0 - 59	10	30,30 %	Not Completed
2	75	60 - 74	9	27,27 %	Not Completed
3	75	75 - 89	9	27,27%	Completed
4	75	90 - 100	5	15,16 %	Completed
Classical Completeness				14 People (42.43%)	

Based on this table, it is clear that the mathematics skills of grade V (five) students of SDN 95 Pekanbaru at the pre-cycle stage are categorized as incomplete or unsuccessful because in the learning activities of the initial conditions, the teacher still uses the lecture method in delivering the material and students are still having difficulty capturing the content of the lesson, until finally the scores obtained at the initial stage, students get complete results only 14 students (42.43%). Students who did not complete as many as 19 people (57.57%).

Based on the acquisition of daily test scores, the results have increased where cycle 1 students who get 75 and above have 18 people or 54.55% from the previous one only 15 people or 45.45%. Thus the acquisition of student scores increased by 12.12%. The acquisition of values has been presented below:

Table 2. Recap of Daily Test Score 1

No.	KKM	Value	Frequency (people)	Percentage	Description
1	75	0 - 59	8	24,24 %	Not Completed
2	75	60 - 74	7	21,21 %	Not Completed
3	75	75 - 89	9	27,27 %	Completed
4	75	90 - 100	9	27,27 %	Completed
Classical Completeness				18 people (54.55%)	

Based on this table, it can be seen that the students' Mathematics scores through the RTE type have increased. The number of students who got a score range between 0 - 59 and 60 - 74 was people (45.45%) with incomplete criteria. While students who scored between 75 - 100 were 18 people (54.55%) with the criteria of Completion. Evaluation The results of the implementation of cycle 1 above made researchers not enough to complete this research, there were still obstacles or problems that researchers encountered so researchers had to continue to cycle 2 based on the results of the ability test above, namely, among others because there were still many students who were not energetic and eager to take part in lessons that were not

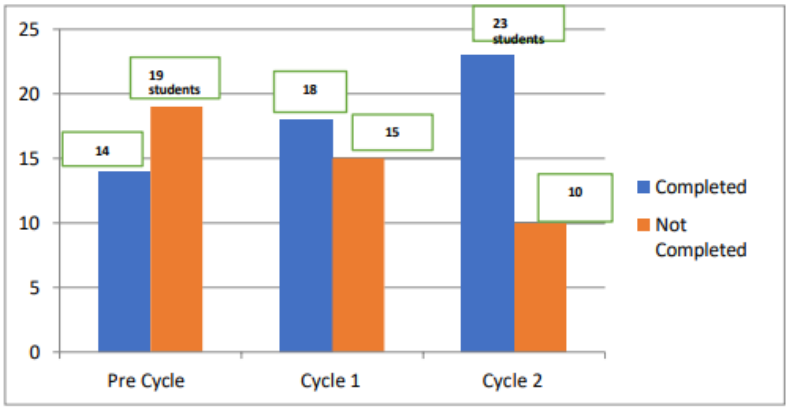
used to using this type of RTE, then students were still not active and ready to work well with groups and help each other understand the material well. For this reason, the researcher intends to continue cycle 2.

The results have been very good. Furthermore, there are results or impacts from using the learning model in the second cycle. the results are as follows,

Table 3. Recap of Daily Test 2

No.	KKM	Value	Frequency (people)	Percentage	Description
1	75	0 - 59	5	15,15 %	Not Completed
2	75	60 - 74	5	15,15%	Not Completed
3	75	75 - 89	12	36,36%	Completed
4	75	90 - 100	11	33,33%	Completed
Classical Completeness				23 people (69.7%)	

Based on this table, it can be seen that the learning outcomes of Mathematics cycle 2 have improved significantly. The number of students who got a score range between 0 - 59 and 60 - 74 was 10 people (30.30%) with incomplete criteria. While students who scored between 75 - 100 increased to 23 people (69.7%) with the criteria of Completion. A complete picture of changes in mathematics scores of grade V (five) students is presented in the graph below



Graph 1. Diagram of Grade V Students' Mathematics Score Completion

Based on the graph above, it is clearly illustrated that there was an increase in stages 1 and 2. In addition, there was a significant increase in the results and processes of the pre-test and post-test. These results illustrate that there are results that support learning activities through this learning model. The following is the result of the increase that occurred,

Table 4. Improvement of Students' Mathematics Learning Outcomes

No.	Student Learning Outcomes	Average Value	Improved Student Learning Outcomes	
			SD - UH I	SD - UH II
1	Initial (Pre Cycle)	61,21	10 %	14,69 %
2	Cycle I Daily Test	71,21		
3	Cycle II Daily Test	75,90		

In this table, it can be seen that students' mathematics skills have increased from the beginning whose average score is 61.21 then there is an increase of about 10% so that it becomes 71.21 then efforts are needed again to continue research in cycle 2 so that the results in cycle 2 increase the average score of students to 75,

90 So that the increase in student learning outcomes from the basic score to the cycle II daily test increased by 14.69%. Referring to the recapitulation of student activity observations, there was also an increase from cycle 1 to cycle 2, namely the increase in scores from each available observation.

Table 5. Observation Results of Student Learning Activities Cycle 1 and Cycle 2

No.	Attitude observed	Cycle 1 Total Score (Percentage)	Cycle 2 Total Score (Percentage)
1	Independent	85 (64,4%)	106 (80,3%)
2	Responsibility	80 (60,6%)	115 (87,1%)
3	Cooperation	82 (62,1%)	106 (80,3%)
4	Research	89 (67,4%)	110 (83,3%)
5	Confident	82 (62,1%)	107 (81,1%)

In terms of student character activities in learning, it shows that the RTE type makes students eager to participate in learning, and their learning motivation increases, they become more confident than before then the attitude of accuracy and cooperation of children begins to form so that it forms cohesiveness between them and a sense of wanting to share with each other in understanding the material.

The explanation that has been described above gives the results of the use of the RTE-type cooperative model in mathematics subjects being able to make changes in the ability and learning outcomes of students. In the RTE step, the grouping part is carried out by the teacher which provides discussion material and then gives space and time for the trio (group) to solve or solve it makes the children in the group work together and help each other so that each of them understands the material and can answer the questions given by the teacher.

Furthermore, it did not stop there, the RTE step where the teacher rotated each group made students in the class get to know their friends better, thus fostering self-confidence and a sense of sharing, which ultimately affected their enthusiasm in wanting to master mathematics material together, which in turn made their ability to learn addition and subtraction of fractions shifted up in value. This is also reinforced by Isjoni's statement that the main purpose of cooperative learning is to fully strive for students to improve their academic performance and good mastery of the material.

Conclusion

Based on the results of the improvement of learning in Mathematics subjects that the researchers have done, the conclusions that can be drawn are the use of the Rotating Trio Exchange (RTE) type on the material of Addition and Subtraction of Fractional Numbers that the researchers conducted in class VB SD 95 Pekanbaru in detail, namely the increase in the average learning outcomes of students in cycle 1 by 10.00 from the initial condition of 61.21 increased to 71.21 and in cycle 2 increased by 4.69 from 71.21 in cycle 1 to 75.90. The level of completeness increased from 45.45% in cycle 1 and 69.7% in cycle 2. The observation results explain where the use of the Rotating Trio Exchange (RTE) type cooperative learning model is very capable of improving the ability of student learning outcomes learning of students in class VB SD 95 Pekanbaru.

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