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APPLICATION OF COOPERATIVE LEARNING MODEL BASED ON BUYING CONCEPT TO IMPROVE THE ABILITY OF UNDERSTANDING STUDENTS 'MATHEMATICAL CONCEPT ON STATISTICAL LESSONS, INDONESIA

Fitriani[1], Benny Sofyan Samosir [1]
Mathematics Education Department, Teaching and Education Faculty, University of Muhammadiyah Tapanul Selatan,

ABSTRACT: *The study was conducted at SD IT FAZA AZKIA Kelurahan Hutaraja Kabupaten Tapanuli Selatan, North Sumatera Province. Research uses classroom action research. The study aims to: Know how to improve the ability to understand students' mathematical concepts and how to effectively use cooperative learning models based on the concept of buying and selling on statistical materials. This study resulted in: (1) Cycle I students who completed by 73.33% and Cycle II students who completed by 100%, then obtained an increase in the ability to understand mathematical concepts by 26.67%. (2) Cooperative learning model based on the concept of effective buying and selling to teach statistics based on: (a) Student activity in the first cycle is not yet on the criteria for limiting the effectiveness of learning, while student activities in cycle II are in activeness limitation criteria. So it can be said that student activity is effective and increases from cycle I to cycle II. (b) The ability of teachers to manage learning cycle I every meeting is still not effective. While the criteria for the ability of teachers to manage learning cycle II each meeting is effective and there is an increase from cycle I to cycle II.*

KEYWORDS: mathematical concept, understanding ability, cooperative learning model, buying and selling concept

INTRODUCTION

Education is a need that must be owned by everyone. In terms of obtaining it from an early age, formally it has started from elementary to tertiary level. Where this is expected that the education obtained by each person makes his personality have a good idea. In achieving this education, one must go through the learning process in the classroom led by an educator with various learning models that are applied in the learning process, one of which is cooperative learning models. According to Huda (2011) the cooperative learning model is believed to be a pedagogical practice to improve the learning process, high-level thinking styles, social behavior, as well as concern for students who have different backgrounds in abilities, adjustments, and needs. In line with Djahiri (Kunandar, 2009) which states that in the learning process the main principle is the process of involvement of all or most of the students' self-potential (physical and non-physical) in their meaning for themselves and their present and future lives (life skills). This is also in line with the opinion of Djamarah (2006) stating that there are no living beings that are constantly standing alone without the involvement of other creatures, directly or indirectly, consciously or not, other creatures take part in the lives of certain beings. So that from the outset this model must be instilled for future generations of prospective students.

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In fact based on the results of observations made that the models used in the learning process generally use direct learning models. Based on the problems that occur, it should be necessary to improve learning so that indirectly it will result in improving the achievement of students' abilities. In this case it is devoted to the ability to understand mathematical concepts.

Understanding of mathematical concepts is one of the abilities that must be mastered by students because if students do not understand the concepts that exist in mathematics itself, students will have difficulty in following the material. This is in line with the opinion of Zulkardi (Murizal, 2012) that Mathematics subjects emphasize the concept. This means that in learning mathematics students must understand the mathematical concepts first in order to be able to solve questions and be able to apply the learning in the real world. So that understanding the concept really needs to be improved among students since sitting in elementary school because it will become the provision of later in continuing higher education. This is also in line with the first goal of mathematics learning according to the Ministry of National Education (Permendiknas No 22 of 2006) which is to understand mathematical concepts, explain the interrelationships between concepts and apply concepts or algorithms flexibly, accurately, efficiently and precisely in problem solving. Based on these objectives it is clear that understanding the concept must be possessed by every student from every material learned after the learning process ends.

Once the importance of understanding the concepts possessed by students, a teacher must be able to choose learning models that are meaningful for students so that ongoing learning benefits each learners. This is reinforced by the opinion of Slameto (Herawati, 2010) mathematics learning is largely determined by the strategies and approaches used in teaching mathematics itself. This opportunity of the learning model used is the cooperative learning model based on the concept of buying and selling in the statistics subject. The reason for using the concept of buying and selling in the learning process is expected to be one of the new things for students, teachers, schools and researchers. Besides that, starting in the year 2017/2018 in the 2013 curriculum (K13), there have been revisions in two subjects, one of which is mathematics in grades 4, 5, and 6 which are separate from thematic in other words the mathematics stands alone where one additional discussion Mathematics is a statistical material given since grades 4, 5, and 6 which is located in even semester on each of the basic competencies 3.8. This is based on the decision of the minister of education and culture (*Permendikbud*) on the determination of the title of mathematics textbooks contained in the Minister of Education and Culture Regulation No. 24 of 2016 in chapter I article I item 3.

Given the current problems in the world of education today, and based on new learning models that will be designed, the authors want to contribute ideas in terms of research activities, by choosing the research title: "Application of cooperative learning models Based on the concept of buying and selling to improve the ability to understand mathematical concepts students in statistical subjects . The aim is to improve the ability to understand students' mathematical concepts in statistical subjects through the application of cooperative learning models based on the concept of buying and selling, and the effectiveness of applying cooperative learning models based on the concept of buying and selling on statistical subjects.

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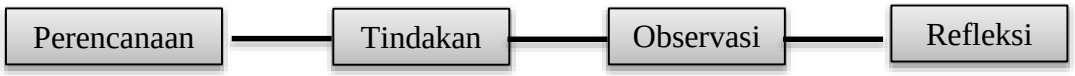
RESEARCH METHODS

This type of research is classroom action research (CAR). The design used in the study includes four stages, namely: (1) Stage of preparation of research instruments, (2) Phase of instrument validation (3) stage of instrument testing, and (4) Stage of PTK implementation. The population of this study were all students of AZKIA FAZA Elementary School Hutaraja Village, Muara Batang Toru District, while the sample in this study was class V students. The research design used in this study was to have 4 stages in each cycle as follows.



The instrument used to obtain data in this study was a test of the ability to comprehend mathematical concepts in the form of test essays, and observation sheets consisting of student activity observation sheets and observation sheets of the teacher's ability to manage learning. Data analysis in this study will be divided into 3 types, namely Learning Device Validation Analysis and Instruments, instrument trial analysis, and PTK Data Analysis. Testing Completeness of Increased Capability Understanding Mathematical Concepts with student learning completeness reaches 80% of students achieving KKM scores, and Testing the Effectiveness of Cooperative Learning Models seen from the following components:

1) Student Activities with conditions:

The effectiveness of student activities during learning activities by Grinnell (Siregar, 2011) as in the following table:

Table 1: Percentage of Ideal Time and Student Activity Tolerance Limits

No	Activities	Percentage of effectiveness (P)	
		Ideal Time	**Tolerance 5%**
1	Paying attention/Listening to Teacher lecture /active with friends	14%	**9% ≤ P ≤ 19%**
2	Reading /Problem Understanding on contextual LAS Students	11%	**6% ≤ P ≤ 16%**
3	Solving Problems/Finding answers And ways to solve problems	38%	**33% ≤ P ≤ 43%**
4	Discussing/asking questions to friends and teachers	24%	**19% ≤ P ≤ 29%**
5	Conclude the topics of procedure/concept	13%	**8% ≤ P ≤ 18%**
6	Unacceptable behavior toward KBM	0%	**0% ≤ P ≤ 5%**

2) Teacher's Ability to Manage Learning

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The description of the average score adopts the description of the average score used by Mukhlis (Siregar, 2011) as in the following table:

Table 2: Criteria for Teacher's Ability to Manage Learning

N	Average Rank of Teacher's Ability	Types of Teacher's Ability
1	1,00 – 1,49	**Not evidence**
2	1,50 – 2,49	**Less evidence**
3	2,50 – 3,49	**Evidence enough**
4	3,50 – 4,49	**Evidence**
5	4,50 – 5,00	**Very Evidence**

Ability of teachers to manage learning is said to be effective / good if the scores of each aspect assessed are in the category: "good or "very good".

RESULTS AND DISCUSSION

Analysis of Cycle I Classroom Action Research

1 Planning

Planning carried out in cycle I class action research includes:

a. Analysis of students to see students' ability to distinguish high, medium and low abilities in group preparation.
b. The teacher's analysis to see the methods, media, strategies and learning models used is used to prepare RPP devices that use cooperative learning models based on the concept of buying and selling.
c. School analysis to see the conditions and situations around the school is useful for making mini shops in the implementation of the concept of buying and selling.
d. Analysis of syllabus, SK, KD, Useful material for making LAS, and tests.
e. Compiling Syllabus, RPP, LAS, The ability to understand mathematical concepts.
f. Arrange Observation Sheets for student and teacher activities.
g. Appoint the observer team and validator team.
h. Validate the device to the validator team to assess, critique, suggestions and revisions that must be made to produce a better device.
i. Test the test instruments to see valid, reliable, distinguishing, and difficulty indexes of the questions that are designed.

2 Implementation Results and observations of Cycle I Class Action Research

The data obtained was analyzed, and then the results were used as a tool to answer the problem statement. Data obtained in the form of test data, student activity data and the ability of teachers to manage learning.

1) Results of the Ability to Understand Mathematical Concepts of Cycle I Students

Based on the results that have been obtained individually test the ability to understand the mathematical concepts of students in the first cycle that students who complete are 73.33% or 22

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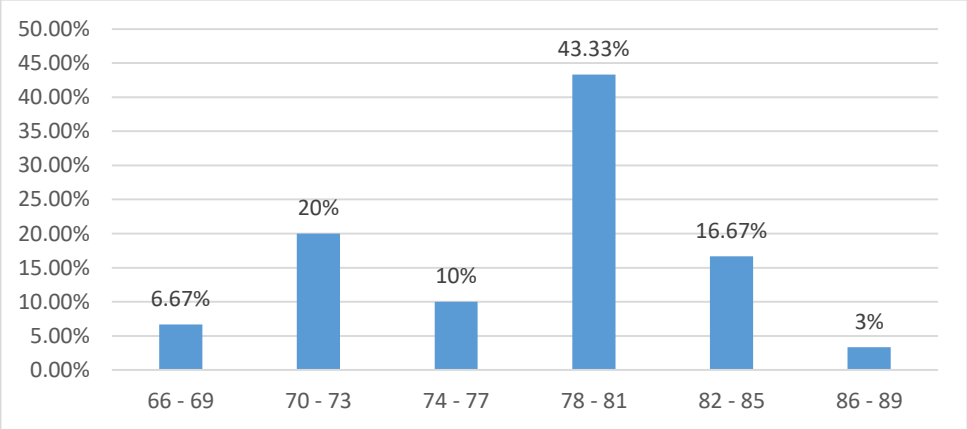
students, and 26.67% are incomplete or 8 students. So that individually the understanding ability of students' mathematical concepts has not reached the specified criteria, namely ≥ 80% has reached KKM of 75. Meanwhile the data from the table above can be classified as a group test of the ability to understand mathematical concepts in a frequency distribution table presented below this.

Table 3: Frequency Distribution of Conceptual Understanding Ability Tests for Cycle I Students

No	Interval	The Number of Student	Percentage
1	66 - 69	2	6,67 %
2	70 - 73	6	20 %
3	74 – 77	3	10 %
4	78 – 81	13	43,33 %
5	82 – 85	5	16,67 %
6	86 - 89	1	3,33 %
Total		**30**	**100%**

From the distribution table / group mentioned above, it was found that students' mastery of statistical learning material in KD 3.7 and KD 4.7 was still quite sufficient and did not meet the level of success, because the number of students who obtained mastery was 22 students or 73.33% of 30 students who take the test. So that in group the ability to understand mathematical concepts students have not reached the specified criteria, namely ≥ 80% has reached KKM of 75. For more details, can be seen in the following graph:



Graph 1: Frequency Distribution of Cycle I Concept Understanding Ability Tests

Based on graph 1 it can be seen that students who have reached the KKM value of 75 are at intervals of 74–77 to 86–89 with a total percentage of 73.33%, so it can be concluded that the assessment criteria have not reached 80% of the total students graduated with minimal "good" criteria. From these results, the researcher will make improvements in the next cycle to improve

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students' conceptual comprehension abilities. For this reason teachers and researchers design activities that are better or in accordance with the minimum criteria of "good".

2) Results of Observation of Student Activities During Cycle I Learning

Student activity is observed by an observer. Observers only observe one group consisting of 4-5 students from 6 groups formed. Observations are made during the learning process and the results can be seen in the following table.

Table 4: Percentages of Student Activities During Cycle I Learning

NO	Category of Aspects	Percentage of Student Activity In learning Process				Criteria of Activation Limit (%)
		RPP I	RPP II	RPP III	RPP IV	
1	Paying attention/listening to teacher's explanation/friends actively	20,667	19,7	14,667	16,667	9 – 19
2	Reading/understanding contextual problems on LAS students	10,667	15,1	17,333	14	6 – 16
3	Solving problems/finding solutions and ways of answering problems	30,667	31,8	29,333	30,333	33 – 34
4	Discussing/Q & A between teacher and student	19,667	16,7	18,333	21	19 – 29
5	Conclude the topics /procedure	13	11,4	15	13,333	8 – 18
6	Unacceptable behavior against KBM	5,3333	5,35	5,3333	4,6667	0 - 5

From the table above, it can be analyzed that the average activity of students is still found not to be on the criteria of limitation of effectiveness, where each meeting is RPP I to RPP IV, there is still a percentage of student activity that is above or below the criteria for activity. This is understandable because teachers and students are still adjusting to the applied learning model and are still affected by ordinary learning. So that overall student activity is still not said to be effective. To anticipate this, at the second cycle meeting researchers more motivated students to be more active in following the learning process. It is expected that in the next cycle meetings the determined aspects are at the limit of learning effectiveness.

3) Results of Assessment of Teacher's Ability to Manage Cycle I Learning

The results of the teacher's ability to manage learning are observed by the observer team at each meeting, which is 4 meetings and the results are presented in the following table.

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Table 5: Teacher's Ability to Manage Cycle I Learning

No	Activity/ Aspect that given concerned	RPP I	RPP II	RPP III	RPP IV	Rat-Rata	Rank of Category
		Rata-rata	Rata-rata	Rata-rata	Rata-rata		
1	Introduction consists of						3,4375
	(1) Objective of Study	3	3,5	3,5	3,5	3,375	
	(2) Student Motivation.	3,5	3,5	3,5	3,5	3,5	
2	Kegiatan inti terdiri dari						3,575
	(1) Reporting Information	3,5	3,5	3,5	4	3,625	
	(2Organizing into Group discussion	3,5	4	4	4	3,875	
	(3) Guiding The group to work and study	3,5	4	4	4	3,875	
	(4) Giving evaluation	3	3	3,5	3,5	3,25	
	(5Giving reward**.**	3	3	3,5	3,5	3,25	
3	Conclusion consists of						3,25
	(1) Reviewing back the conclusion of topics,	3	3	3,5	3,5	3,25	
	(2) Handing over exercises as homework	3	3	3,5	3,5	3,25	
4	Time management of Study	3	3	3,5	3,5	3,25	3,25
5	Situation of classes consists of						3,6875
	(1) Student excitement to follow the lessons	3,5	3	4	4	3,625	
	(2) Teacher’s excitement to handle the lessons.	3,5	4	4	3,5	3,75	
	Total	39	40,5	44	44	41,875	17,2
	AVARAGE	3,25	3,375	3,66667	3,66667	3,489583	3,44

Based on the table above, it can be analyzed that if seen in each aspect, the ability of the teacher still exists in the category of 'good enough' (value 3) at each meeting and this is found in every aspect that is observed. This is because researchers and students are still unfamiliar where researchers and students also experience difficulties, for students having difficulty understanding the contextual problems given, while for researchers the difficulty is when facing many questions students in understanding contextual problems and difficulties directing students to work in groups with based on the concept of buying and selling. To overcome this so that it does not happen again at the next meeting, researchers motivate and explain the benefits when the learning process is followed actively. So that the next cycle meeting can run as desired.

Based on the criteria, because the teacher's ability to manage learning has not all reached the minimum category, which is "good", the learning device undergoes revision based on the results

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of observations of the teacher's ability to manage learning for improvement material in the next cycle.

Cycle I Reflection Results

a) Student's Concept Understanding Ability Test

The results of reflections found by researchers in the first cycle, there were still students who were noisy in class because there were still many students who were disturbed by their own friends which resulted in the students being unable to master the material and at the time of the test there were still many students who were unable to answer accordingly step concept understanding ability. Based on the results of the students' concept comprehension test, it can be seen that the assessment criteria that have been set are still not fulfilled ≥80%. From these results, the researcher will proceed to the next cycle to improve students' conceptual comprehension abilities.

b) Student Activities

The results of the observations of the activities of the students seemed not to reach the expected goals. From the aspect categories assessed the qualifications of values are below the learning effectiveness limitation criteria or are still in the sufficient category. This is understandable because teachers and students are still adjusting to the applied learning model and are still affected by ordinary learning. So that overall student activity is still not said to be effective. To anticipate this, at the second cycle meeting researchers more motivated students to be more active in following the learning process. It is expected that in the next cycle meetings the determined aspects are at the limit of learning effectiveness. It can be estimated that if the activity increases, the learning outcomes or the ability to understand students' concepts will increase.

c) Teacher's Ability to Manage Learning

Judging from the results of observations obtained, the ability of teachers to manage learning is sufficient, it can be concluded that the ability of teachers to manage learning has not been effective. This is because researchers and students are still unfamiliar where researchers and students also experience difficulties, for students having difficulty understanding the contextual problems given, while for researchers the difficulty is when facing many questions students in understanding contextual problems and difficulties directing students to work in groups with based on the concept of buying and selling. To overcome this so that it does not happen again at the next meeting, researchers motivate and explain the benefits when the learning process is followed actively. So that the next cycle meeting can run as desired.

Based on the criteria, because the teacher's ability to manage learning has not all reached the minimum category, namely good , the learning device experiences revisions based on the results

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of observations on the ability of the teacher to manage learning for improvement material in the next cycle.

Cycle II

1 Planning

Planning carried out in cycle II class action research includes:

a. Analysis of students to see students' ability to distinguish high, medium and low abilities in group preparation.
b. The teacher's analysis to see the methods, media, strategies and learning models used is used to prepare RPP devices that use cooperative learning models based on the concept of buying and selling.
c. School analysis to see the conditions and situations around the school is useful for making mini shops in the implementation of the concept of buying and selling.
d. Analysis of syllabus, SK, KD, Useful material for making LAS, and test instruments.
e. Compiling Syllabus, RPP, LAS, the ability to understand mathematical concepts.
f. Arrange Observation Sheets for student and teacher activities.
g. Appoint the observer team and validator team.
h. Validate the device to the validator team to assess, critique, suggestions and revisions that must be made to produce a better device.
i. Test the test instruments to see valid, reliable, distinguishing, and difficulty indexes of the questions that are designed.

2 Results of the implementation and observation of Cycle II Classroom Action Research

The data obtained was analyzed, then the results were used as a tool to answer the problem statement. Data obtained in the form of test data, student activity data and the ability of teachers to manage learning.

1) Results of the Understanding Ability Test for Mathematical Concepts of Cycle II Students

The results of the test of students' understanding of mathematical concepts in the second cycle that all students completed have reached KKM of 75 with a percentage of completeness of 100% or 30 students. So that individually the students' understanding of mathematical concepts has reached the specified criteria, namely ≥ 80% has reached KKM of 75. Meanwhile, from the data table above can be classified the value of the ability to comprehend mathematical concepts of student groups with frequency distribution tables from ability test data understanding of students' mathematical concepts in cycle II.

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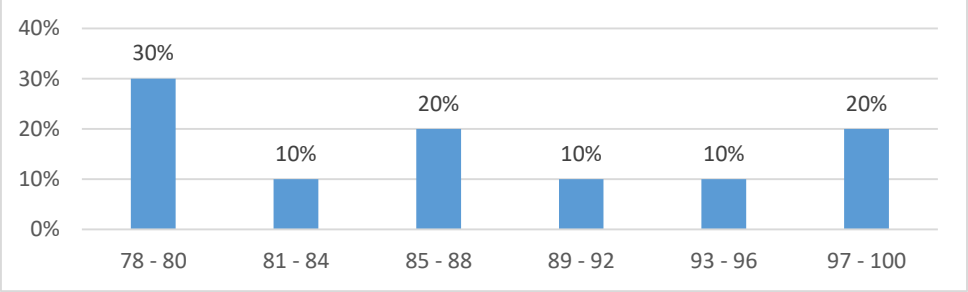
Table 7: Frequency Distribution of Concept Understanding Ability Tests Student Cycle II

No	Interval	The Number of Student	Percentage
1	78 - 80	9	30 %
2	81 - 84	3	10 %
3	85 – 88	6	20 %
4	89 – 92	3	10 %
5	93 – 96	3	10 %
6	97 - 100	6	20 %
	Total	**30**	**100%**

From the distribution table / group mentioned above it was obtained that the mastery of students had met the level of success, because the number of students who obtained mastery was 30 students or 100% of the 30 students who took the test. So that in groups the ability to understand mathematical concepts students has also reached the specified criteria, namely ≥ 80% has reached KKM of 75. For more details, can be seen in the following graph:



Graph 2: Frequency Distribution of Cycle II Concept Understanding Ability Tests

Based on the graph, it can be seen that students who have reached the KKM value of 75 are at intervals of 78–80 to 97–100 with a total percentage of 100%. It can be concluded that the assessment criteria have reached 80% of the number of students who pass the criteria minimal "good". From this result, the researcher will not make repairs and fulfill the cycle until the second cycle.

2) Observation Results of Student Activities during Cycle II Learning

Observations are made during the learning process and the results can be seen in the following table.

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Table 8: Percentage of Student Activities During Cycle II Learning

NO	Category of Aspects	Percentage of Student Activity In learning Process				Criteria of Activation Limit (%)
		RPP I	RPP II	RPP III	RPP IV	
1	Paying attention/listening to teacher's explanation/friends actively	18,667	16	13,667	12,667	9 – 19
2	Reading/understanding contextual problems on LAS students	10,667	13,7	13,667	13,667	6 – 16
3	Solving problems/finding solutions and ways of answering problems	34	33,3	34	33	33 – 34
4	Discussing/Q & A between teacher and student	19,333	21,3	21,667	24,667	19 – 29
5	Conclude the topics /procedure	19,333	13,3	15,667	15	8 – 18
6	Unacceptable behavior against KBM	3,6667	2,33	1,3333	1	0 – 5

From the table it can be analyzed that the average activity of students is already on the criteria of limiting the effectiveness of learning, where each meeting is RPP I to RPP IV there is a percentage of student activities that are different on and within the criteria of activity limits. The above can be said that the teacher and students are able to adjust to the learning model that is applied and are no longer affected by ordinary learning. So that overall student activity has been said to be effective. For this reason the learning process has been completed in cycle II without having to continue again in the next cycle.

3) Results of Assessment of Teacher's Ability to Manage Cycle II Learning

The results of the teacher's ability to manage learning are observed by the observer team at each meeting, which is 4 meetings and the results are presented in the following table.

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Table 9: Teacher's Ability to Manage Cycle II Learning

No	Activity/ Aspect that given concerned	RPP I	RPP II	RPP III	RPP IV	Rat-Rata	Rank of Category
		Rata-rata	Rata-rata	Rata-rata	Rata-rata		
1	Introduction consists of						4,3125
	(1) Objective of Study	4	4,5	4	4,5	4,25	
	(2) Student Motivation.	4	4,5	4,5	4,5	4,375	
2	Kegiatan inti terdiri dari						4,325
	(1) Reporting Information	4,5	4,5	5	5	4,75	
	(2Organizing into Group discussion	4	5	5	5	4,75	
	(3) Guiding The group to work and study	4,5	5	5	5	4,875	
	(4) Giving evaluation	3,5	4	4	4	3,875	
	(5Giving reward**.**	3	3,5	3,5	3,5	3,375	
3	Conclusion consists of						4,1875
	(1) Reviewing back the conclusion of topics,	4	4,5	4,5	4,5	4,375	
	(2) Handing over exercises as homework	4	4	4	4	4	
4	Time management of Study	4	4,5	5	5	4,625	4,625
5	Situation of classes consists of						4,8125
	(1) Student excitement to follow the lessons	4,5	5	5	5	4,875	
	(2) Teacher’s excitement to handle the lessons.	4	5	5	5	4,75	
	Total	48	54	54,5	55	52,875	22,2625
	AVARAGE	4	4,5	4,54167	4,5833	4,40625	4,4525

Based on the table it can be analyzed that, based on the criteria the ability of the teacher to manage learning at each meeting must be at least reach the category If seen in every aspect, the teacher's ability is already in the category good (value 4) and very good (value 5) at each meeting and this is found in every aspect observed. Based on the criteria, due to the ability of the teacher to manage learning all reach the minimum category, namely good, the learning device does not experience revision based on the results of observations on the ability of the teacher to manage learning and the stop cycle in cycle II.

Cycle II Reflection Results

a) Student's Concept Understanding Ability Test

The results of the reflection found by researchers in the second cycle, that the assessment criteria have reached an 80% success indicator of the number of students who passed the minimum criteria

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this is estimated because students are familiar with the language and instructions in the problem. From this result, the researcher will not make repairs and fulfill the cycle until the second cycle

a) Student Activities

Observation results of student activities have reached the expected goals or have reached an increase in each meeting means that students are able to enjoy learning comfortably without doing activities that can damage the learning process. It can be said that teachers and students are able to adjust to the applied learning model and are no longer affected by ordinary learning. So that overall student activity has been said to be effective. For this reason the learning process has been completed in cycle II without having to continue again in the next cycle.

b) Teacher's Ability to Manage Learning

Judging from the results of observations obtained, the ability of the teacher to manage overall learning from RPP I to RPP IV assesses the ability of teachers to manage learning effectively. This is because researchers and students are used to understanding contextual problems and working in groups based on the concept of buying and selling. So that the meeting is sufficient until cycle II does not need to continue in the next cycle.

Based on the criteria, due to the ability of the teacher to manage learning all reach the minimum category, namely good, the learning device does not experience revision based on the results of observations on the ability of the teacher to manage learning and the stop cycle in cycle II.

DISCUSSION OF RESEARCH RESULTS

Based on the results obtained in testing the hypothesis it can be stated that:

1. Increased ability to understand students' mathematical concepts by applying cooperative learning models based on the concept of buying and selling

Individually and in groups that the test of students' understanding of mathematical concepts in the first cycle is still quite sufficient and has not met the level of success, because the number of students who get mastery is 22 students or 73.33% of the 30 students who took the test. So that individually or in groups the ability to understand mathematical concepts students have not reached the specified criteria, namely ≥ 80% have reached KKM of 75 with a minimum criteria of "good". While individually and in groups that the test of understanding students' mathematical concepts in the second cycle has met the level of success, because the number of students who get mastery is 30 students or 100% of the 30 students who take the test. So that individually or in groups the ability to understand mathematical concepts students have also reached the specified criteria, namely ≥ 80% have reached KKM of 75 with minimum criteria of good . From the results of the analysis between the first cycle and the second cycle, an increase in the understanding of mathematical concepts was 26.67%.

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2. Effectiveness of Using a Cooperative Learning Model Based on the Buy and Sell Concept

The use of learning models with the concept of buying and selling teachers must be able to organize students and learning infrastructure facilities and control them in a pleasant atmosphere to achieve predetermined learning goals. It is very clear how important the ability to manage learning is owned by an educator. Effective classroom management is an absolute prerequisite for achieving the learning process effective. It is said to be effective can be seen from the components: (1) student activity, (2) the ability of the teacher to manage learning, which will be presented below.

a) Student Activities

Student activity is observed by an observer. Observers only observe one group consisting of 4-5 students from 5 groups formed. Observations are made during the learning process. It can be analyzed that the average activity of students in the first cycle is still found not to be on the criteria of limiting the effectiveness of learning, where each meeting, namely RPP I to RPP IV, there is still a percentage of student activity above or below the criteria of active activity. In RPP 1 are in category 1 (Paying attention / listening to the explanation of the teacher / friend actively) is above the limitation criteria for learning effectiveness, category 3 (Solving problems / finding answers and ways to answer contextual problems) is below the learning effectiveness criteria, and category 6 (behavior that is not relevant to teaching and learning activities) is above the limitation criteria for learning effectiveness. In RPP II are in category 1 (Paying attention / listening to the teacher / friend's explanation actively) above the learning effectiveness limitation criteria and in category 6 (Behavior that is not relevant to teaching and learning activities) is above the learning effectiveness limitation criteria. In RPP III is in category 2 (Reading / understanding contextual problems in LAS students) is above the limits of learning effectiveness criteria, category 3 (Resolving problems / finding answers and ways to answer contextual problems) is below the learning effectiveness limitation criteria, category 4 (Discussing / asking questions between students and teachers) is below the limitation criteria for learning effectiveness, and category 6 (Behaviors that are not relevant to teaching and learning activities) are above the limitation criteria for learning effectiveness. And in RPP IV are in category 3 (Resolving problems / finding answers and ways to answer contextual problems) under the limitation criteria for learning effectiveness.

While the activity of students in the second cycle after being analyzed that the average activity of students is already on the criteria of limiting the effectiveness of learning, where each meeting is RPP I to RPP IV there is a percentage of student activities that are different in and within the criteria of activity limits. The most prominent thing that can be seen is in category 6 (behavior that is not relevant to KBM) has reached an increase in each meeting, meaning that students are able to enjoy learning comfortably without doing activities that can damage the learning process.

b) Teacher's Ability to Manage Learning

Based on observations made by observers, it can be analyzed that the ability of the teacher to manage learning in the first cycle, the ability of the teacher to manage learning at each meeting there are still those in the category Quite good (value 3) and this is found in every aspect observed. Overall, from RPP I to RPP IV this assessment is quite good, found in 3 categories, namely the

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Opening aspect (point 1), Closing aspects (point 3), and Management aspects of learning time (point 4), while in the assessment there are 2 categories namely on aspects of Core Activities (point 2) and Atmosphere in Classes (point 5), so it can be concluded that the ability of teachers to manage learning is not effective. While the criteria for the teacher's ability to manage learning in the second cycle, the ability of the teacher to manage learning at each meeting is in the category good (value 4) and very good (value 5) and this is found in every aspect observed. Overall from RPP I to RPP IV assess the ability of teachers to manage learning effectively.

CONCLUSION

From the research that has been done and based on the analysis conducted about the efforts used to improve the ability to understand mathematical concepts is to use cooperative learning models based on the concept of buying and selling. Then the conclusions are obtained: (1) Based on the analysis of the level of ability to understand the concept of students, after giving the action in the first cycle of 4 meetings. Students were given a test on the ability to understand the mathematical concepts of students in cycle I that students completed 73.33% or 22 students, so that the ability to understand mathematical concepts students had not reached the specified criteria, namely ≥ 80% had reached KKM of 75. Whereas in the cycle II as many as 4 meetings that all students complete have reached KKM as much as 75 with a percentage of completeness of 100% or 30 students where the ability to understand mathematical concepts students have reached the specified criteria is ≥ 80% have reached KKM of 75 with minimum criteria good. From the results of the analysis between the first cycle and the second cycle, an increase in the understanding of mathematical concepts was 26.67%. (2) Cooperative learning model based on the concept of effective buying and selling to teach statistics. This is indicated by: (a) Student activities during the action given in the first cycle are not yet on the criteria for learning effectiveness limits, where each meeting is RPP I to RPP IV, there is still a percentage of student activities above or below the criteria activity. While the activity of students in the second cycle after being analyzed that the average activity of students is already on the criteria of limiting the effectiveness of learning, where each meeting is RPP I to RPP IV there is a percentage of student activities that are in and within the criteria of activity limits. This can be said that student activity is effective and increases from cycle I to cycle II. (b) The ability of the teacher to manage learning in the first cycle at each meeting is still there in the category quite good and this is found in every aspect that is observed. Overall, from RPP I to RPP IV the assessment is quite good, so it can be concluded that the teacher's ability to manage learning is not yet effective. While the criteria for the ability of teachers to manage learning in cycle II at each meeting are in the category good and very good and this is found in every aspect that is observed. Overall, from RPP I to RPP IV, the teacher's ability to manage learning has been effective and there has been an increase from cycle I to cycle II.

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Suggestion

Based on the results of this study, cooperative learning models based on the concept of buying and selling in learning activities provide several important things to consider. For this reason, researchers suggest several things: (1) For teachers who want to teach statistical material, it is effective to use cooperative learning models with the concept of buying and selling. (2) For teachers who want to teach at the elementary level to implement a cooperative model based on the concept of buying and selling because students are very happy to follow cooperative learning models, besides that the sense of responsibility in children is increasingly trained. (3) Research needs to be done regarding cooperative learning models with the concept of buying and selling to improve other mathematical abilities and for other material.

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