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Application of the Hots-Based Jigsaw-Type Cooperative Learning Model to Improve Students' Learning Outcomes of Sd Inpres Makalonsouw

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ABSTRACT

This study aims to describe the application of the Jigsaw-type cooperative learning model, HOTS-based learning, and HOTS-based Jigsaw-type cooperative learning to improve the learning outcomes of SD Inpres Makalonsouw students. The method used is Classroom Action Research (PTK). The results showed that the application of the Jigsaw-type cooperative learning model, HOTS-based learning, and HOTS-based Jigsaw-type cooperative learning can improve students' thinking skills in teaching and learning activities, students become independent students and dare to express opinions in all situations and conditions, because the ability to think has advanced and developed. With this learning process, students' thinking skills can develop, from thinking skills that are still low-level can increase to critical or high-level thinking skills. in addition

Introduction

Learning in education that especially takes place in schools is the existence of active interaction between students and teachers. The teacher is not only the center of teaching and learning activities, but active student involvement and the use of learning resources are no less important. In order to induce students to be actively involved in teaching and learning activities, teachers are required to be more creative in organizing learning activities, including mastering and being able to apply various learning methods and using various learning resources that are in accordance with the material to be delivered, so that conditions can be created. good learning in class and learning objectives that have been set can be achieved well. This can affect good student learning outcomes as well. In the social studies learning process in elementary schools, the teacher tends to only mention what material will be

taught, the teacher only explains briefly and monotonously about the material to be taught, the teacher also does not use teaching aids for the learning process, learning tends to focus on printed books and so on. , the class situation is boring for students, so that student learning outcomes for social studies subjects do not achieve good and satisfying results. In this case, the teacher must motivate students so that they can study well so that the learning outcomes obtained are good too. This can be interpreted that teachers need to provide opportunities for students to find information about various events that occur in the community environment related to these subjects.

The demands of 21st century learning require students to use higher order thinking skills (HOTS), through problem solving, critical thinking, communication and collaboration, and creativity and innovation. By using higher order thinking skills (HOTS), students can solve problems encountered in class, so they will get excellent learning outcomes. And to implement it the teacher must first understand the HOTS concept because the main architecture in filling student intelligence is the teacher.

As happened in class IV SD Inpres Makalonsouw, the low learning outcomes of class IV students in Social Studies subjects were due to the lack of packaging of learning using interesting, challenging and fun methods, so that Social Studies learning tended to attract less interest from students which in turn resulted in less student learning achievement. satisfying. Because students cannot implement what is learned, they are less active in teaching and learning activities, for example there are students who when the teacher asks they are unable to answer, but actually what is asked by the teacher, the student knows it, but because there is no self-confidence, the student is unable answer what the teacher asks.

Social studies is one of the most important subjects because it aims to develop the potential of students to be sensitive to social problems that occur in society, to have a positive mental attitude towards correcting all inequalities that occur, and to be skilled at dealing with any problems that occur day-to-day whether befalls himself and that befalls people's lives, because of that the teacher's challenges in teaching this subject will be increasingly complex.

Today's students tend to expect their teachers to teach in a fun and exciting way so as to create an active, creative, effective and enjoyable learning process (PAKEM). The problem is when the teachers are still shy or not very good at doing trials regarding teaching models. Agree or not the teaching model or method will determine the success of achieving the learning objectives themselves.

According to Slavin (1995) in Isjoni (2013) one of the efforts to overcome the low learning outcomes of students in social studies learning can be done with class action, namely adding variations to interesting or fun learning approaches, involving students, increasing the activities and responsibilities of students so that they are able to make students motivated to learn and what are the goals and expectations in the teaching and learning process (PBM) achieved, namely by cooperative learning. Besides that, through the learning process, various skills of working together, solving problems and respecting the opinions of others must be developed so that they can be useful in the social life of students. According to Joyce and Weil (Trianto, 2015: 51) the learning model is a model that can help students get or obtain information, ideas, skills, ways of thinking, and expressing their own ideas. Through the learning model students can obtain information, skills, ideas, ways of thinking, and can express what is inside themselves.

According to Arends (Trianto, 2015: 51) the learning model is a plan or a pattern that is used as a guide in planning learning in class or learning in tutorials. The learning model is used as a guide in compiling, or planning learning in the classroom, outside the classroom, or in tutorials. Kardi

(Trianto, 2015: 52) learning model refers to the learning approach that will be used, including learning objectives, stages of learning activities, learning environment, and classroom management.

The learning model can be understood as a learning activity that is structured and designed using certain learning patterns, so that learning can be directed, thereby helping students more easily explore ideas, creativity, skills, and understanding during the learning process.

One approach and learning model that can involve students in the learning process is Jigsaw cooperative learning. The jigsaw cooperative learning model will find it easier to find and understand difficult concepts when discussing these concepts with friends. This learning activity is a feature of cooperative learning, especially the Jigsaw type which relies on student independence in learning. Because in Jigsaw type cooperative learning each student is given the task of studying the material provided independently so that they are then ready to give the results of the material to their group mates.The Jigsaw learning model is a learning model that prioritizes student activity (student centered) by forming small groups of 3-5 people consisting of the original group and the expert group. Elliot Aronson (S. Pusung, 2019:9)

The Jigsaw learning model is learning that is carried out by encouraging students to express opinions and manage information so that students are directly able to improve their communication skills from the material they have learned (Rusman 2008). Husna, et al (2013) Jigsaw as a learning method that focuses on the learning process on group work of students divided into small groups. Arends (1997) The Jigsaw learning model is a type of cooperative learning that forms several members in a group of students to be responsible for the material that has been delivered. Sudrajat (2008) Jigsaw cooperative learning is learning that is done in groups and is able to teach the material to other groups.

Cooperative learning has a positive impact on student learning outcomes, because applying the cooperative learning model can motivate students to study together with other friends in their group so as to enable better interaction between group members and other groups during class discussions. Using the cooperative learning model can stimulate students' thinking skills, so that students can implement what is taught by the teacher and in the end students can get good learning results.

The cooperative learning model is a group learning model that has recently received attention and is recommended by educational experts to be used. Cooperative learning is a learning model using a grouping system/small team, namely between 4-6 people who have different backgrounds of academic ability, gender, race or ethnicity (Hamdayana, 2014) who collaboratively help each other in learning the material lessons (Fitriana, 2016). Almost all research on cooperative learning, from elementary school to university, shows that this learning can have a significant effect on student academic achievement. Not only that, this learning is proven to be able to increase students' tolerant attitudes towards friends of different ethnicities,

In addition, the teacher does not use apperception when starting lessons. Less creative teachers often just copy from textbooks so students are lazy to re-record notes written by the teacher. Teachers have not been able to make the classroom a space to develop creativity into a fun learning place, stimulate curiosity and can motivate students to learn, and can stimulate students to be able to improve the quality of their thinking, so that students can think creatively and think at a higher level. Apart from that, the teacher does not use cooperative learning skills so that student learning outcomes are very poor and do not reach the KKM. Many experts define critical thinking or HOTS depending on the field they study. Paul (1995) argues that the conceptualization of critical thinking should be explained based on the context or purpose in which critical thinking is used. In various previous studies, critical thinking as a result of metacognition is broken down into several sub-skills such as: developing and evaluating

arguments, and ending with drawing conclusions. Therefore, it is very suitable to use a psychological framework in defining critical thinking.

Mayer and Goodchild (1990) define critical thinking or what is known as HOTS so far as an active and systematic effort to understand and evaluate various arguments. Beyer (1984) views critical thinking as a skill set that integrates the analysis and evaluation of information. Halpern (1998) made his own taxonomy of critical thinking which includes: (a) verbal reasoning skills; (b) skills in analyzing arguments; (c) thinking skills to test hypotheses; (d) skills to determine probability and uncertainty; and (e) skills to make decisions and solve problems.

The term higher order thinking skills (HOTS) can be used to describe cognitive activities that are beyond the level of understanding cognition and below the level of application cognition based on Bloom's Taxonomy (Bloom, 1956). Based on Bloom's Taxonomy, memorizing and remembering information skills are classified as lower order thinking skills (LOTS). Meanwhile, the skills of analyzing, synthesizing, and evaluating are included in the HOTS category.

Learning outcomes are seen as an indicator for the quality of education, because learning outcomes are part of educational outcomes. Result is a term used to refer to something that someone achieves after making an effort. When associated with learning, it means that the result refers to something achieved by someone who learns within a certain time interval. Learning outcomes are abilities or skills possessed by students after going through the experience of the learning process they have taken.

Catharina Tri Anni (2004: 4) states that "one of the indicators of whether or not a learning process is achieved is by looking at the learning outcomes achieved by students and changes in behavior obtained by students after experiencing learning activities". Dimyati and Mudjiono (2006: 3) that learning outcomes are a process to see how far students can master learning after participating in teaching and learning activities, with certain numbers, letters or symbols agreed upon by the education provider.

Poerwadarminto (2003: 348) explains "learning outcomes are the results achieved after someone organizes a learning activity that is formed in the form of a learning outcome value given by the teacher". Sugi Rahayu (2004: 2) states "learning outcomes can also be interpreted as an assessment (evaluation)". According to the term evaluation refers to the notion of an action or process to determine the value of something so that the quality or results can be known.

From these problems, it is very important that a learning model is needed that can improve social studies learning outcomes, one model that is considered effective and students will be motivated to better understand and understand the subject matter provided, and can improve social studies learning outcomes can be used the Jigsaw learning model. The learning model that we use when teaching in class certainly greatly influences the effectiveness of learning.The importance of this learning model is due to learning techniques in which students, not teachers, have greater responsibility in carrying out learning. The goal of Jigsaw is to develop teamwork, cooperative learning skills, and acquire in-depth knowledge that would not be possible if students tried to learn all the material alone. With the hope that there will be an increase in student learning outcomes in social studies subjects. When the teacher does not choose the right learning model in learning, it will definitely affect student learning outcomes. Students will not be able to do the assignments given by the teacher, and the lessons given by the teacher will not be well received and student social studies learning outcomes will not reach the KKM.

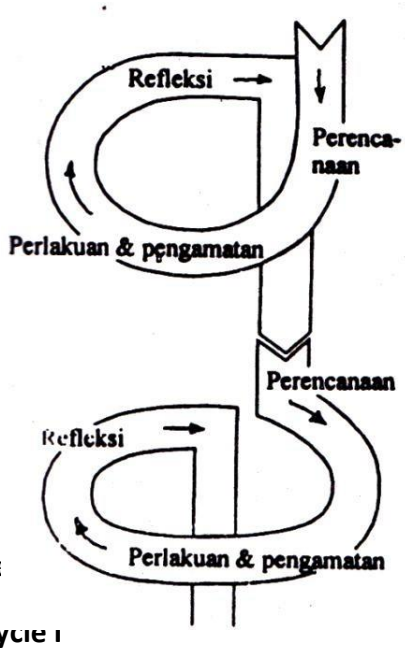
The purpose of this study was to describe and analyze whether the application of the Jigsaw

cooperative learning model can improve social studies learning outcomes in class IV SD Inpres Makalonsouw, (2) to find out and analyze the application of HOTS-based learning can improve student learning outcomes in class IV SD Inpres Makalonsouw, and (3) to find out and analyze the application of the Jigsaw type cooperative learning model based on Higher Order Thinking Skills/HOTS to improve student learning outcomes at SD Inpres Makalonsouw.

RESEARCH METHODS

Classroom Action Research is research that is carried out systematically and reflectively on the various actions taken by the teacher, from planning to evaluating concrete actions in the learning process in the classroom, which aims to improve the learning conditions carried out. Thus the purpose of carrying out PTK is to improve the quality of education and/or teaching held by the teacher/teaching-researcher himself, the impact of which is expected to be no more problems hindering the learning process in the classroom (Paizaluddin and Ermalinda, 2012: 21).

This classroom action research (CAR), refers to what was stated by Kemmis and Mc Taggart by following steps such as: 1) the planning stage, 2) the action and observation stage, and 3) the reflection stage, with two cycles. The research flow is as follows:



Information:

CYCLE I

1. Planning I
2. Actions and observations I
3. Reflection I

CYCLE II

1. Planning II
2. Actions and Observations II
3. Reflection II

gure 1.2 Design Model
emmis and Mc Taggart

The llows:

1. **Cycle I**

The subjects of this classroom action research (CAR) were students from class IV SD Inpres Makalonsouw. This research uses observational data collection techniques, interviews, tests in written and oral form, analyzes documents and documentation. To measure learning outcomes, then the data is analyzed by calculating the percentage and average learning outcomes achieved by students. Improving the abilities and skills in learning as well as student learning outcomes is done by comparing the learning achievement results in research cycles. Furthermore, the increase in the ability and skills of teachers in carrying out learning from each cycle can be seen from the observation sheet for research. In the observation sheet, how to analyze it by filling in the numbers/scores is then analyzed according to the existing formula. However, before analyzing student learning skills and teacher skills, an assessment of performance results and products has been carried out by filling in the assessment criteria listed in the table and then analyzing them according to the existing formula. The success criterion for

this classroom action research is if the number of students who demonstrate mastery learning classically reaches 80% with an average value above 6.0 with the formula used is as follows:

$$\text{KB} = \frac{T}{Tt} \; x \; 100 \; \%$$

Ket :KB = Study Mastery
Q = Total score obtained by students
Tt = Total ScoreTotal

RESEARCH RESULTS AND DISCUSSION

1. Research Results

This research was conducted in class IV SD Inpres Makalonsouw, Tondano Timur District, Minahasa Regency in the even semester of the 2022/2023 academic year. In the research subjects studied amounted to 23 students. The implementation of learning is carried out on social studies subject matter of economic activities in utilizing natural resources. Each cycle is carried out once meeting that is 2 X 35 minutes which includes planning, implementing, observing and reflecting.

Before the research was carried out, the researcher first made observations or observations in class IV SD Inpres Makalonsouw either through observation or through the implementation of learning. Then an analysis is carried out to find problems in learning in class.

The problems that occur in class IV SD Inpres Makalonsouw learning are as follows:

1. According to the results of observations and interviews, in teaching and learning activities the teacher uses an inappropriate learning model.
2. The variety of learning that is applied is still lacking and learning outcomes are low, where the teacher uses learning methods in the form of lectures, does not use learning media both electronic and print media, so the teacher pays little attention to students' thinking abilities.
3. Teachers do not use maximum cooperative learning skills so that student learning outcomes are very poor and do not reach KKM.
4. Teachers do not bring up HOTS-based learning so that students' thinking skills are lacking and affect student learning outcomes.
5. Learning that is carried out does not involve students so that they cannot develop their thinking abilities.

Based on the results of the research above, the solution that can be taken is to improve learning for up to 2 cycles. The reason the researchers carried out improvements for up to 2 cycles was due to the low learning outcomes of students in social studies subject material on economic activities in utilizing natural resources.Yuningsih (2017), student learning outcomes are caused by a lack of motivation and student interest in learning. Jigsaw type cooperative learning can increase learning motivation in learning.The lack of enthusiasm of students in learning, the lack of courage of students in expressing opinions, the lack of the role of students to act actively and creatively in learning on economic activity material in utilizing natural resources and lack of responsibility in completing tasks. With the condition of students like that, the researcher wants to activate students in learning, because so far the teacher has only used conventional lecture methods.Suryani and Aman (2019) from the results of their research stated that there were differences in activities and learning outcomes in social

studies learning using the Jigsaw method compared to using the lecture method. The Jigsaw method for learning activities and outcomes is very effective for learning activities and outcomes in social studies learning.Teachers are not used to using varied and innovative media and methods, so learning is still teacher-centered, students are only listeners, so students do not have the initiative and courage to ask questions.

Maryani and Suparno (2018) state that innovationLearning can be done through variousvariationagainst usemethod,media, learning model. Variousvariationapplied later will be motivating and interesting for students.All of these factors have an unfavorable impact on students and cause a lack of students' understanding of economic activity material in utilizing natural resources so that scores tend to be low. Therefore, the teacher will use the Jigsaw cooperative learning model in the next lesson, namely in Cycle I and Cycle II. With this model, it is expected to be able to better know the potential of students or in improving the learning outcomes of Social Sciences students in the material of economic activities in utilizing natural resources.

Ismayanti (2016) states that teachers are still lacking in usingvariationteaching style. So that a learning method is needed to improve student learning outcomes in social studies subjects.With the 2 cycles carried out during learning students are expected to be able to maximize and improve their learning outcomes so that they can achieve the Minimum Completeness Criteria (KKM) value set by the teacher for class IV, namely 75 so that it can be categorized as complete in learning.

Results of Implementation of Cycle I

Cycle 1 was held on February 15 2023 in class IV of SD Inpres Makalonsouw, East Tondano District. In carrying out the research, the researcher acted as a teacher and collaborated with social studies class IV teachers to observe teacher activities and student activities using observation sheets that had been made and compiled. In this first cycle, resulted in an assessment of the results of performance and products as follows.

Table 1.1
Results of Performance Assessment and Cycle I Products

No.	Name Ex.	Rated aspect (Knowledge, Practice, Project)			P Product	Total Score	Mark	Information
		1	**2**	**3**				
1.	A	3	3	2	3	11	68.75	Not satisfactory
2.	B	3	3	3	4	13	81.25	Satisfying
3.	C	3	3	3	3	12	75	Satisfying
4.	D	3	3	2	3	11	68.75	Not satisfactory
Average							73,43	Not satisfactory

Maximum score= 16

$$\text{Score} = \frac{\text{Score obtained} \times 100}{\text{Maximum score}}$$

Information:

Mark	Information
90 – 100	Very satisfactory
80 – 90	Satisfying
70 – 80	Less satisfactory
0 – 70	Not satisfactory

Based on the group performance table in cycle I, it can be seen that the assessment of performance and product results reaches an average of 73.43. Thus in this first cycle the results of student performance learning were declared incomplete with unsatisfactory grades. After group discussion, students are given a written test in the form of essay questions to measure student learning outcomes. The value of the written test in the first cycle of the first meeting is presented in the following table:

Table 1.2
Assessment of Student Learning Outcomes Cycle I

No.	Student's name	Mark	Information
1.	S1	55	Not Completed
2.	S2	40	Not Completed
3.	S3	40	Not Completed
4.	S4	50	Not Completed
5.	S5	78	complete
6.	S6	80	complete
7.	S7	85	complete
8.	S8	75	complete
9.	S9	80	complete
10.	S10	90	complete
11.	S11	55	Not Completed
12.	S12	90	complete
13.	S13	75	complete
14.	S14	75	complete
15.	S15	80	complete
16.	S16	60	Not Completed
17.	S17	65	Not Completed
18.	S18	78	complete
19.	S19	40	Not Completed
20.	S20	75	complete
21.	S21	50	complete
22.	S22	55	complete
23.	S23	85	Not Completed
Total Value of All Students		**1556**	
AVERAGE		67,65	Not Completed

a. Class grade point average

$$M = \frac{\sum X}{\sum N}$$

$$M = \frac{1556}{23}$$

M = 67.65

Information

M = The average size sought

∑x = Total value of all students

∑N = Total number of students

b. Presentation of learning completeness

$$P = \frac{F}{N} X\ 100\%$$

$$P = \frac{13}{23} X\ 100\%$$

P = 56.52% (very less)

Information:

P = Percentage to be searched

F = The number of students who complete learning in class

N = Number of students in class

From the results of the data exposure above, there are still some students who have not completed learning, in this case student learning outcomes have increased gradually from 37.83% before the research was carried out after the first cycle of research was carried out, the success rate for achieving student success increased to 56, 52% which then continued to cycle II.

Based on the table of essay test scores in cycle I, above it can be said that there has been an increase in the success of learning in class, when compared to the results of previous tests conducted before the use of the Jigsaw Cooperative learning model. Suparta and Sriartha (2020) state that applying the Jigsaw cooperative learning model in learning can increase learning activities and student learning outcomes and can change the learning atmosphere more effectively, causing students to become more active in seeking and exploring various information about the material being explained. The success rate of student learning outcomes can be seen from the success rate of learning outcomes in this first cycle of 67.65% which were completely completed, and students who failed 32.32% because their test scores were less than the KKM set by the school.

Results of Implementation of Cycle II

Based on the results of the implementation of the second cycle with the application of the Jigsaw type cooperative learning model in social studies learning material for economic activities in utilizing natural resources in class IV SD Inpres Makalonsouw, the results of the performance assessment and group products that have been carried out, the results of the performance assessment and the product are as follows following :

Table 1.5
Results of Performance Assessment and Cycle II Products

No.	Name Ex.	Aspects assessed (Knowledge, Practice, Project)			Q. Products	Total Score	Mark	Information
		1	**2**	**3**				
1.	A	3	3	3	4	13	81.25	Very satisfactory
2.	B	3	4	3	4	14	87.5	Very satisfactory
3.	C	3	4	4	3	14	87.5	Very satisfactory
4.	D	3	3	3	3	12	75	Satisfying
	Average						82,81	Very satisfactory

Maximum score = 16

$$\text{Value} = \frac{\text{Score obtained}}{\text{Maximum score}} \times 100$$

Information:

Mark	Information
80 – 100	Very satisfactory
70 – 80	Satisfying
60 – 70	Less satisfactory
0 – 60	Not satisfactory

Based on the group performance table in cycle II, it can be seen that the assessment of performance and product results reaches an average of 82.81. Thus in cycle II the learning outcomes of cycle II were declared complete with a very satisfactory grade.

After group discussions, students were given a written test in the form of HOTS questions to measure student learning outcomes. Cycle II written test scores as presented in the following table:

Table 1.6
Assessment of Learning Outcomes Cycle II

No.	**Student's name**	**Mark**	**Information**
1.	R1	85	complete
2.	R2	65	Not Completed
3.	R3	85	complete
4.	R4	65	Not Completed
5.	R5	85	complete
6.	R6	95	complete
7.	R7	95	complete
8.	R8	85	complete

9.	R9	90	complete
10.	R10	95	complete
11.	R11	83	complete
12.	R12	95	complete
13.	R13	85	complete
14.	R14	85	complete
15.	R15	90	complete
16.	R16	85	complete
17.	R17	85	complete
18.	R18	90	complete
19.	R19	75	complete
20.	R20	90	complete
21.	R21	83	complete
22.	R22	83	complete
23.	R23	95	complete
Total Value of All Students		**1969**	
Average		85,60	complete

a. Class grade point average

$$M = \frac{\sum X}{\sum N}$$

$$M = \frac{1969}{23}$$

M = 85.60 %

Information :

M = The average size sought

∑X= Total value of all students

∑N = Total number of students

b. Percentage of learning completeness

$$P = \frac{F}{N} X\ 100\%$$

$$P = \frac{21}{23} X\ 100\%$$

P = 91.30 % (good)

Information:

P = Percentage to be searched

F = The number of students who complete learning in class

N = Number of students in class

From the results of the data exposure above, most of the students completed the second lesson. In this case, student learning outcomes increased gradually from 37.83% before the research was carried out, after the first cycle of research was carried out, namely 67.65% and after the second cycle,

it became 85. 60% success rate towards achieving student success increases. Apriliani and Susanto (2020) state that there is an increase in student learning motivation when the jigsaw cooperative model is applied in learning. Students have a passion to follow the learning well. Then students are involved in learning activities, namely students and students are involved in interactive discussion activities, are able to work together and exchange ideas and have the courage to express their opinions.

From the data above, it shows that the class average score in cycle II is 85.60 which is greater than cycle I which is only 67.65% and also the percentage of student learning completeness is 91.30% greater than the cycle which is only 56.52%. this can be seen from the results of the value of each student experiencing completeness in accordance with the KKM that has been determined, namely 75,Sothe research conducted in cycle II experienced success. So that the researcher views that there is no need to carry out research in the next cycle.

2. Discussion

The Application of the Jigsaw Cooperative Learning Model in Social Studies Subjects on Economic Activities in Utilizing Natural Resources in Grade IV SD Inpres Makalonsouw

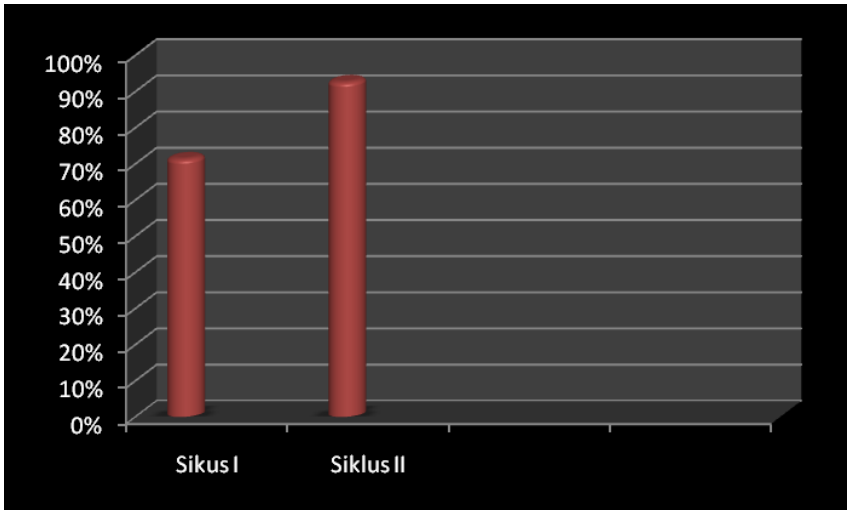
Observation of the Implementation of Teacher Observations

Based on the results of observations in cycle I, it shows that learning using the Jigsaw cooperative learning model is less than optimal because the percentage of teacher activity results obtained is 71.29%. In learning in cycle I, students still do not fully understand the material presented by the teacher because the teacher is not optimal in providing explanations related to economic activity material in utilizing natural resources, the teacher is unable to make time effective and the teacher is unable to control the class so the class is not conducive.Yuningsih (2017)states that teachers must always try to improve professionalism as an educator so that the quality resulting from the learning process is getting better. Teachers must always try various learning media and learning methods that are appropriate to the material, so as to avoid learning that keeps children awake because learning does not attract students' attention.

In cycle II teacher performance has been improved. The teacher is optimal in providing explanations about economic activity material in utilizing natural resources, the teacher is maximal in conditioning the class and encouraging students to be active during the learning process, so that the percentage of teacher activity results reaches 86.96%, better than cycle I. Comparison the results of observing teacher activity in cycle I and cycle II can be seen in the following diagram:

Graph 2.1

Observation Results of Teacher Activities



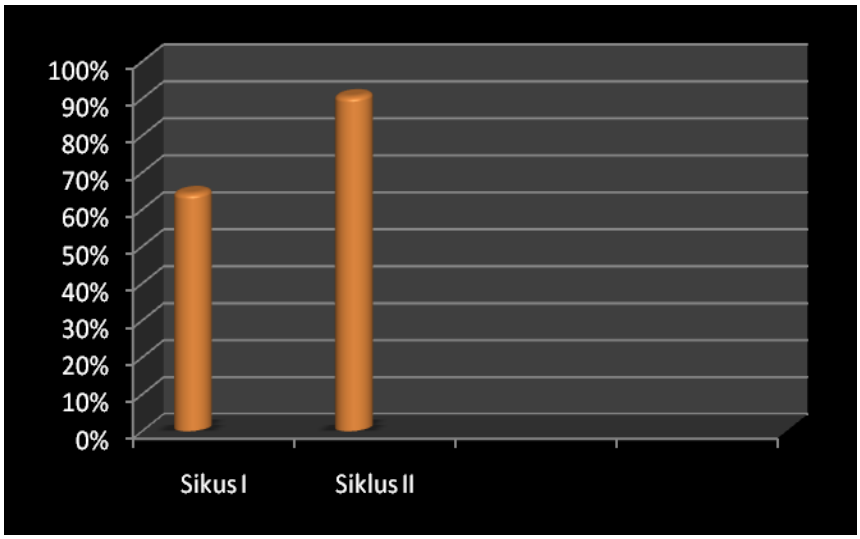
Observation of the Implementation of Student Observations

In the application of the Jigsaw type cooperative learning model there are still many students who are less active, and pay less attention to the learning process in cycle I, this can be seen from the results of the percentage of student activity which only gets 56.52% so this affects student learning outcomes. Meanwhile, from the results of observations of student activities in cycle II, the percentage reached 91.30%, students were directly involved in learning, more varied learning could make students more interactive in participating in the teaching and learning process and of course students were successful in using the Jigsaw cooperative learning model. Apriliani and Susanto (2020) state that there is an increase in student learning motivation when the jigsaw cooperative model is applied in learning. Students have a passion to follow the learning well. Then students are involved in learning activities, namely students and students are involved in interactive discussion activities, are able to work together and exchange ideas and have the courage to express their opinions.

Comparison of the results of observations of student activities between cycle I and cycle II can be seen as follows:

Graph 2.2

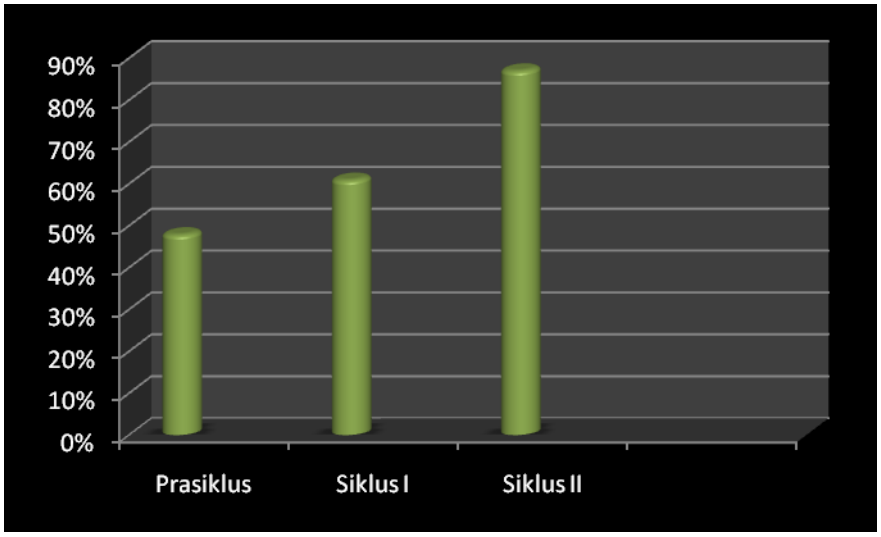
Observation Results of Student Activities



Application of the HOTS-based Jigsaw Cooperative Learning Model to improve student learning outcomes at SD Inpres Makalonsouw

In the application of the Jigsaw Cooperative learning model, the percentage of completeness in assessing student learning outcomes in cycle I obtained 56.52% of students who passed, namely 13 students out of 23 students, because students were less active in discussions and paid less attention to learning so that the scores obtained by students were still low. many have not reached the KKM, which is 75. In the improvement of cycle II students are getting used to using the Jigsaw cooperative learning model so that student learning outcomes increase.Kusmariyatni (2019) states thatthe application of the Jigsaw cooperative learning model can improve student social studies learning outcomes. The percentage of the results of the assessment of the learning outcomes test in cycle II obtained 85.60%, students who passed were 21 students. The increase in the assessment of learning outcomes tests from pre-cycle, cycle I and cycle II can be seen in the following diagram:

Graph 2.3
Percentage of Completeness of Student Learning Outcomes



The explanation above shows that the Jigsaw cooperative learning model can improve student learning outcomes and be creative in the learning process. Sulhan (2020) states that teachers who apply the Jigsaw learning model properly have an impact on learning outcomes and student skills can improve. Students foster a spirit of student cooperation, direct student involvement in learning

activities, care for their friends, increase students' sense of acceptance of others, and help each other in learning. With this method, students can achieve the minimum completeness criteria in social studies subjects on economic activities in utilizing natural resources.

CONCLUSION

The application of the Jigsaw Cooperative Learning Model can improve students' thinking skills in teaching and learning activities, students become independent students and dare to express opinions in all situations and conditions, because their thinking skills have advanced and developed. The process of implementing HOTS-based learning can improve the learning outcomes of fourth grade students at SD Inpres Makalonsouw because through this learning process, students' thinking skills can develop, from low-level thinking skills to increased critical or high-level thinking skills. The HOTS-based Jigsaw Cooperative Learning Model can make students learn actively, creatively and be able to think highly, so that they can make students successful in learning.

REFERENCE

1. Ahmadi, LK and Sofan Amari. 2011. Developing Integrated IPS Learning. Jakarta: Library Achievement
2. Ali, Muhammad, Mohammad Asrori, 2006 Adolescent Psychology, Jakarta: Earth Script
3. Apriliani, RS, Rahmatiani, L., & Susanto, E. (2020). Application of the Jigsaw Cooperative Model in Civics Learning to Increase Learning Motivation. BLADE OF SCIENCES, 5(1), 79-85.Aqib, Zainal, 2006. Action Research for Teachers, Jakarta: Yrama Widya.
4. Ari, Asy', et al. 2012. Active IPS. Jakarta: ESIS
5. ARTA, IM (2021). Application of the Jigsaw Cooperative Learning Model to Improve Social Studies Learning Outcomes of Class V SD Negeri 4 Tenganan Semester II Academic Year 2018/2019. ACTION: Journal of Classroom and School Action Research Innovation, 1(1), 9-21.
6. Baharudin & Nur Wahyuni, Esa. 2015. Learning Theory and Learning. Yogyakarta: Ar-Ruzz Media
7. Daryanto. 2011. Classroom Action Research and School Action Research: Along with Examples. Yogyakarta: Gava Media.
8. Daryanto. 2012. The Concept of Creative Learning. Yogyakarta: Gava Media.
9. Ministry of Education. 2009. RI Constitution No. 20 of 2003 concerning the National Education system. Bandung: Citra Umbar.
10. DEPDIKNAS, 2006. RI Law No. 14 of 2005 concerning Teachers and Lecturers,
11. DEPDIKNAS, 2008. II RI No. 19 YEAR 2005, Concerning National Education Standards Nur M and Ibrahim
12. Gunawan, 2013. Definition of teaching and learning models (hhtp://id.shvoong.com/social-sciences/education/2129624-pengertian-modelpembelahan/#ixzzIr6h.IxiWV accessed 24-08 2015
13. Ibrahim, Muslimin, et al. 2000. Cooperative Learning. Surabaya: UNESA Press
14. Isjoni. 2009. Cooperative Learning: Improving Communication Intelligence Between Learners. Yogyakarta: Student Libraries

15. Ismiyanti, Y. (2016). Improving the quality of social studies learning through jigsaw-type cooperative learning based on visual media in class IV SDN 02 temulus. Scientific Journal of Basic Education, 3(1), 1-6.
16. Ministry of Education and Culture, Assessment Guide in Elementary Schools, (Jakarta: Ministry of Education and Culture, 2014)
17. Kemmis and McTaggart "The Action Research Planner", Deakin University 1988
18. Kunandar, (2011). Professional Teacher. Jakarta : PT. Rajagrafindo Persada
19. Langeveld. MJ (1980). Systematic Theoretical Pedagogy. Bandung: Jemmars
20. Maryani, M., & Suparno, S. (2018). The Effectiveness of the Jigsaw Cooperative Learning Model with Interests in Learning Social Sciences for Students of Mangunsari 02 Elementary School, Salatiga. JPsd (Journal of Elementary School Education), 4(2), 272-284.
21. Mulyana, A. 2012. Definition of learning outcomes and the factors that influence them.*http://ainamulyana.blogspot.com/2012/01/*understandingand -study-outcome-and factors.html(Accessed 15 october 2018).
22. Slameto, 2010 Learning and Influencing Factors. Jakarta: Rineka Cipta
23. SP, NPS, & Kusmariyatni, NN (2019). Application of the Jigsaw Cooperative Learning Model to Improve Social Sciences Learning Outcomes. Scientific Journal of Teacher Professional Education, 2(3), 258-269.
24. Sulhan, S. (2020). The Use of the Jigsaw Cooperative Learning Model to Improve Learning Outcomes of Social Studies "Social, Cultural, Economic, Ethnic and Religious Diversity". Journal of Education Action Research, 4(1),52-61
25. Suparta, IG, Wesnawa, IGA, & Sriartha, IP (2020). Increasing Activities and Social Studies Learning Outcomes Through the Jigsaw Type Cooperative Learning Model for Students of SMP Negeri 1 Kubu. Undiksha Journal of Geography Education, 8(1), 12-22.
26. Suryani, E., & Aman, A. (2019). Social studies learning effectiveness through the implementation of the jigsaw method in terms of learning activities and outcomes. Social Harmony: Journal of Social Studies Education, 6(1), 34-48.
27. Syaiful Bahri Djamarah, Aswahin Zain. 2006. Teaching and learning strategies, Jakarta: Rineka
28. Tantya Hisnu, Winardi. 2008. Social Sciences. Jakarta : PT. Hamudha Prima Media
29. Ujang Suparman, MA, Ph.D. 2021. How to Improve Students' Higher Order Thinking Ability (HOTS). Bandar Lampung: PT Pusaka Media.
30. Yuningsih, Y. (2017). Improving Student Motivation and Learning Outcomes Through the Implementation of the Jigsaw Cooperative Model in Citizenship Education Class III, 3 Metro Pusat Public Elementary School 2014/2015 Academic Year. Journal of Education Lantern Research Center Lppm Um Metro, 2(1), 24-33.