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THE IMPLEMENTATION OF STIKRIM MEDIA TO IMPROVE STUDENT LEARNING OUTCOMES IN OPERATIONS ON INTEGERS AT ELEMENTARY SCHOOL

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Abstract

This research was a classroom action research (CAR) carried out to improve the learning process with the steps of planning, implement, observing, and reflecting. This research was carried out in mathematics by utilizing the media of crime tests on integer count material. The formulation of the problem in this research were: (1) Can the media of crime be able to improve mathematics learning outcomes in integer counts ?; (2) What are the learning outcomes of each cycle by utilizing the learning outcomes of students ?. The results of the study showed that the use of stikrim media in mathematics learning integer count material could improve student learning outcomes. The results of the first cycle test were obtained by six students or 60% complete, and four students or 40% incomplete. Then the results of the second cycle test showed nine students or 91% complete and three students or 10% not complete. The increase occurred in students who have reached 88% of students have completed and exceeds 75% indicators of success, and it is stated that the improvement of this learning has been successful.

Keywords: *Stikrim Media, Learning Outcome, Integer*

Introduction

Mathematics is one of the subject matter that must be taught in every school because Mathematics is a universal science that is built by agreements in the form of axioms, propositions, postulates, theorems, and formulas. Mathematics is a lesson that has the aim to practice ways of thinking and reasoning in concluding, developing creative activities that involve imagination, intuition, and discovery by developing thinking patterns, developing the ability to develop problems, and developing the ability to convey information or communicate ideas.

Mathematics is a field of study that occupies an essential role in education, and this can be seen from the time school hours more than other subjects. But the fact says that the quality of mathematics education in Indonesia so far has not improved significantly. Most students have difficulty in applying mathematics to real-life situations. Some students consider mathematics to be one of the most challenging lessons compared to other lessons. It resulted in mathematics lessons being boring and the least liked by the students.

As a professional teaching staff, you should be able to change the minds of students towards the mathematics lesson, so that mathematics becomes a favorite and enjoyable subject as early as possible for students. One reason mathematics becomes unattractive and difficult is that theoretical lecture methods are still used in the learning process. It contrasts with the mindset of elementary school-age children who still think concretely operational. Where to

understand a concept, students must be given activities related to real objects or real events that can be accepted by their intellect.

Based on these problems, it is necessary to find alternative solutions for effective teaching methods in carrying out the process of mathematics learning in class. One alternative is learning by games using Stikrim Media in learning arithmetic integers. Stikrim Media is an innovation by utilizing used ice cream sticks, which are used as learning media and are expected to be interesting and fun media so that students will more easily understand the concepts being learned.

The formulation of this study is: (1) Can the media of crime be able to improve mathematics learning outcomes in integer counts ?; (2) What are the learning outcomes of each cycle by utilizing the learning outcomes of students ?. The purpose of using media in learning are: (1) To know students' understanding of concepts and critical thinking; (2) Knowing student learning outcomes.

The benefits of this research for students are (1) Providing experience and ease in participating in learning; (2) Developing the ability to ask, express opinions and answer questions; and the benefits of research for teachers are: (1) As input and feedback for teachers; (2) Improve learning outcomes and critical thinking skills; for this research school it is useful to (1) Produce professional and qualified teaching staff; (2) Gaining the trust of the community; and for the world of education: (1) Improving the quality and quality of education in Indonesia; (2) This media is not only used for integer arithmetic, but it can also be for mixed arithmetic, can be adjusted by educators.

The media is a message carrier from a source to the recipient of the message. The messenger can be a person or an object. In the learning process, the recipient of the message is students. Through media, the message conveyed by the instructor or learning can be absorbed by students as much as possible. Media can be used in the learning process in two ways, namely as teaching aids and as learning media that can be used by students themselves.

Acquisition of knowledge and skills, changes in attitudes and behavior can occur because of the interaction between new experiences with experiences that have been experienced before. According to Bruner (in Azhar Arsyad, 2007: 10), there are primary levels of learning mode, namely direct experience, drawing experience, and abstract experience.

The level of experience obtains from learning outcomes by Dale (in Azhar Arsyad, 2007: 8) as a communication process. The material to be conveyed and desired by students can master it is called a message. The teacher pours the message into certain symbols, and the student interprets the symbols so that they are understood. Stikrim Media is a media created to learn the concept of integer counts. Where in use in the teaching and learning process through a game.

This media was created by involving the IDIC participants themselves, namely in SBK lessons, and they made decorations from ice cream sticks. Then the results of his work are used in mathematics learning as a teaching aid in learning to count mixed numbers.

This media was developed by creating study groups. Indirectly in its making, an educator can embed the values of honesty, discipline, responsibility, hard work, simple, independent, fair, brave, and caring. This media used in the learning process with a game model so that their sportsmanship and honesty in implementation are strongly instilled.

Research Method

Classroom action research used by researchers was participant classroom action research. A classroom action research said by the participant was if the person who will conduct or carry out the assessment must be directly involved in the research process from the beginning to the results of the research in the form of a report. Thus, since planning research, researchers have been involved, and then researchers monitor, record, and collect data, then

analyze data and end up reporting the results of their research. The improvement of mathematics learning was carried out at SDN 10 Kuala Mandor B, Kubu Raya Regency. The research target was IV grade students in operations on integers using stikrim media. The research was conducted in 1st semester of the 2016/2017 school year, with a total of 10 students.

The research was action research that aimed to improve the learning outcomes of students at SDN 10 Kuala Mandor B, Kubu Raya Regency. The research conducted was the participant's classroom action research. In this study, researchers were directly involved in the research process from the beginning to the results of the study in the form of reports. In accordance with the type of research chosen, the study used a research model from Kemmis and Taggart (in Sugiarti, 1997: 6) which is spiral-shaped from one cycle to the next. Each cycle includes planning (plan), action (action), observation (observation), and reflection (reflection). The steps in the next cycle are revised planning, action, observation, and reflection. Before entering the first cycle, a preliminary action is taken in the form of identifying the problem.

The research procedures were used in this study were as follows: (1) The initial step before the action is carried out is also called pre-action, the researcher first conducts pre-action activities. In this pre-action or early stages, the researcher identifies the problem. Based on the problem, the researcher makes a learning improvement plan. Then the researcher makes a lesson plan, and observation sheet; (2) In the process of class cycle action is carried out in four stages, namely the stages of planning, action, observation, and reflection. The action plan was carried out after identifying the problems obtained from observations of teaching and learning activities in IV grade, and the researcher made preparations by preparing research instruments consisting of lesson plans and observation sheets. Furthermore, the implementation of actions in the implementation phase of the action, learning the concept map method was carried out in accordance with the plan that has been set, the next activity was to observe the learning activities in accordance with the learning plan that was made including the process of ongoing discussion, and finally was reflection, in this activity, reflection begins by examining the notes of observations of the first cycle and revising the learning process for things that were considered to be obstacles by students related to the learning process. The results obtained in cycle I were used as a reflection to follow up on the implementation of research in cycle II with an effort to correct the deficiencies and weaknesses that occur in cycle I. Cycle II consisted of a revision of planning, action, observation, and reflection.

The technique used to collect data in this study was a test. Tests are a series of questions or exercises or other tools used to measure the skills, knowledge, intelligence, abilities, or talents of an individual or group.

The data analysis technique used in this study was quantitative. Student learning outcomes were analyzed by determining the percentage (%) completeness of student learning outcomes. In this study, the learning completeness of students to be achieved was 75%.

In this classroom action research, the researchers set the success in accordance with the KKM provisions established by the school by 75% with the expectation of learning outcomes carried out by researchers to have the same minimum success rate even if possible learners have more success rates than the KKM determined by the school.

Result and Discussion

Based on preliminary observations obtained information that only 25% of 10 students who scored above the KKM for mathematics learning in IV grade. Other information obtained was that there were students who scored 33.

Then the cycle one activity was carried out, which showed as many as six students had not reached mastery with an average value of 58.66 and 4 students achieved mastery with an average value of 76.5. So based on the learning outcomes in the first cycle shows that this research will continue in the second cycle to improve learning outcomes. Because in this first

cycle, learning completeness has only been achieved, approximately 40% and 60% of students are still unfinished, and the average class in this first cycle is 65.5. The results improved reflections from the first cycle that have been observed by the observer.

However, if compared to the results of the first cycle, it shows an increase occurred in the completeness of student learning outcomes by 32%. So that in the first cycle, students who already have six students learning completeness or 65.5%. These results have increased compared with pre-cycle results, namely students or 20%. However, these results have not yet reached the indicator of research success, which is 75% of students completing learning, so there is a need for further action in the second cycle.

From the observed implementation activities, the researcher and the observer then communicated to reflect the results of the activity. This reflection activity was intended as input for planning the next cycle. Reflection in the first cycle was carried out by researchers and IV grade teachers. With the aim to discuss what were the obstacles in the implementation of cycle I. The results of reflection obtained in cycle I were: (1) the teacher has not conveyed the learning objectives and motivation of students so that in the second cycle the teacher must deliver the objectives and provide learning activities that bring up student motivation; (2) in the first cycle the teacher has not given the broadest time to students in identifying secondary ideas or concepts that support the main ideas so that in the next cycle the teacher must provide more appropriate time in completing each stage of learning; (3) in cycle I students were less flexible in identifying the subject of integers that support learning so that in the next cycle the teacher conveys the subject and provides freedom for students to identify the subject of integers; (4) in cycle II the teacher must expand the material so that students will get a more in-depth subject; (5) in the first cycle students were less varied in solving the problems given by the teacher, so in the next cycle the teacher must be able to provide learning that is able to invite students to be braver in solving the problems given in a variety of ways.

The second cycle was carried out according to the plan made after doing the first cycle. In this second cycle, the researcher prepared the lesson plans, observation sheets, and evaluation sheets. Cycle II was implemented to improve learning in cycle I, and the learning outcomes of cycle II show an increase in learning outcomes, which was 9 or 90% of students completing their learning outcomes with an average of 78.66. And one person or 10% of students do not complete their learning outcomes with an average learning result of 64.

So it can be seen that the second cycle has increased from cycle I. This increase occur in the completeness of student learning outcomes by 11.7%. In the second cycle, students who already have nine students who complete their learning outcomes or 90%. These results have increased compared to the results of the first cycle. Based on the indicators of success, the results of the second cycle can be said that the improvement of student learning outcomes through learning that uses stickrim media in operations on integers is said to be successful successfully 88% of students have completed mastery of the material.

After the implementation activities that have been observed, the reflection in cycle II was carried out by researchers and IV grade teachers. The purpose of this reflection activity is to discuss what are the obstacles in the implementation of cycle II. In this cycle, overall learning has been going well. Students could look for primary and secondary ideas freely from the natural environment and the artificial environment that exists in the learning.

The learning outcomes in cycles I and II can be illustrated in a graph,as follows:

Fig. 1 Learning outcomes in Cycle I and Cycle II

Conclusions and Suggestions

Conclusions

The use of stikrim media to improve mathematics learning outcomes for IV grade students at SDN 10 Kuala Mandor B in the academic year 2017/2018 has increased. Before using the media in learning, as many as seven students were obtained, or 70% were complete, and three students or 30% were incomplete. But after taking action by using stickrim media in learning can improve learning patterns and improve student learning outcomes that are marked by the completeness of learning outcomes in each cycle. This success is due to utilizing this media in learning, causing student activity to be active and happy to participate in learning. It can be seen from the results of learning in cycles I and II obtained data that student learning outcomes increase. The results of the first cycle test were obtained by six students or 60% complete, and four students or 40% incomplete. Then the results of the second cycle test showed nine students or 91% complete and three students or 10% not complete. The increase occurs in students who have reached 88% of students have completed and exceeds 75% indicators of success, and it is stated that the improvement of this learning has been successful.

Suggestion

Based on the conclusions of the results of research on improving learning outcomes by utilizing stickrim media to Improve Mathematics Learning Outcomes for IV grade Students at SD Negeri 10 Kuala Mandor B, the writer can make some suggestions that could be used as input/considerations: (1) For teachers using media Stickrim can be used as an alternative in learning because using the media in learning can bring a pleasant atmosphere for them so that it can ultimately improve student learning outcomes and is also very good for use in other learning; (2) For students, after making use of the media these standards are expected to be more active in learning and better understanding what is learned.

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