IMPROVING MATHEMATICS LEARNING OUTCOMES THROUGH THE CONTEXTUAL TEACHING AND LEARNING MODEL ASSISTED WITH CHARACTER CALENDAR

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ABSTRACT

One way that can be used to make mathematics learning more concrete and easy to understand is the contextual model of media-assisted teaching and learning. Classroom Action Research has the aim of improving mathematics learning outcomes for arithmetic operations on integers, addition and subtraction in class I at SDN Bintoro 05 Jember by using the Contextual Teaching and Learning model with the help of a Character Calendar. Contextual Teaching And Learning Learning Model is a learning model that connects material with the real world. The method used is the Class Action Research method with the Kemmis and MC Taggart spiral cycle which has 2 cycle stages. The approach used in this research is descriptive quantitative. The results of the research that have been carried out show that the application of the Contextual Teaching and Learning model assisted by the Character Calendar can affect student learning outcomes with a significant increase in results in the first cycle of 50% with an average value of 70 in addition and a percentage of 50% with an average score of 62.5 on subtraction. The next increase can be seen in the second cycle of 100%.

A. Introduction

Education is a basic human need to improve the integrity and quality of human resources (HR) to be superior with the increasingly successful world progress (Rusmini, 2017). Humans can live a good life if they get various kinds of basic education during their lifetime. This has been arranged in the Law of the Republic of Indonesia No. 20 of 2003 concerning the National Education System in article 1, it is stated that education is a conscious and planned effort to create a learning atmosphere and the learning process of students actively develops their potential to have spiritual, religious strength. self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and state.

One of the basic subjects that students need to learn is mathematics. Mathematics is one of the subjects that need to be studied to make it easier to learn other sciences (Kusmanto & Marliyana, 2014). Understanding mathematics makes it easier for students to apply basic mathematical concepts in their future lives. As for one type of material in basic mathematics subjects that are very important to learn, namely the operation of counting integers on addition and subtraction. Integers are whole numbers, in other words, they are not fractions. Integers are represented by B = {……, -3, -2, -1, 0, 1, 2, 3,……}. The integer arithmetic operations applied in SD are addition and subtraction.

Based on the results of a preliminary study conducted in class I at SDN Bintoro 05 Jember, it was found that most students did not understand how to calculate addition and subtraction, especially in the tens grade. According to the results of interviews conducted by researchers to resource persons, namely elementary school grade I teachers, that on average most students are less able to sort numbers from units to tens so that it has an impact on students who have difficulty in working on addition and subtraction arithmetic operations which resulted in students have difficulties in determining the answer. then students do not understand how the concept of calculating addition and subtraction is correct. This results in decreased student learning outcomes until they cannot meet the KKM in mathematics.

In addition, the lack of interest in students' learning in understanding the material taught by the teacher, namely addition and subtraction and the lack of learning media to support students' understanding of the material provided by the teacher. This has an impact on the difficulty of students in understanding the material contained in mathematics. To overcome these obstacles, one method that

can be applied is the Contextual Teaching and Learning (CTL) model. The Contextual Teaching and Learning (CTL) model is a holistic learning model that aims to help students understand the material by relating it to the context of everyday life so that students can have flexible skills and knowledge to be able to construct their own understanding (Hasibuan, 2014). as for learning support that can be used, namely learning media as a tool so that students can understand the material in various directions such as counting, feeling, and interpreting what they observe, with the Character Calendar (KATER) media.

Learning that is carried out using a contextual teaching and learning (CTL) model is very appropriate to be used in mathematical integer arithmetic operations in addition and subtraction in order to shape students' character, students can think critically, and be creative by utilizing real media as learning aids (Vitiarti , 2014). From the various problems above, the title of class action research was compiled, namely Efforts to Improve Learning Outcomes of Mathematics Subjects Material Concept of Operations Counting Integers on Addition and Subtraction with Contextual Teaching And Learning (CTL) Learning Models in Class I UPTD SDN Bintoro 05 Jember 2022 to find out easy and fast way for students to learn arithmetic operations. The purpose of this study is to improve mathematics learning outcomes through the application of contextual teaching and learning models assisted by character calendars.

B. Method

The design used in this classroom action research uses the Spiral Kemmis and MC Taggart cycle model which consists of several stages, namely planning, action, observation, and reflection (Wulandari, 2017). The data needed in this study were collected through the methods of observation, tests, and documentation. Observation is the data obtained then will be analyzed using quantitative data analysis techniques.

C. Result and Discussion

This research was conducted in class I SD Negeri Bintoro 05 Jember, totaling 6 students consisting of 3 female students and 3 male students with the application of the Contextual Teaching And Learning (CTL) model assisted by Kater learning media (Character Calendar) in mathematics learning material addition and integer subtraction. This research was carried out in 2 cycle stages, the first cycle, namely the pretest test was carried out on April 9, 2022. While in the second cycle the

posttest test was carried out on 27 April 2022. The data analysis results can be seen in the following table:

Table 1. Recapitulation of Student Learning Outcomes at the Pre-cycle, Cycle I, and Cycle II Stages

No	Criteria	Precycle		Cycle I		Cycle II	
		Sum	Subtraction	Sum	Subtraction	Sum	Subtraction
1.	Average	53	60	70	63	90	83,33
2.	Completeness Percentage	17%	33%	50%	50%	100%	85%
3.	Percentage of incompleteness	83%	67%	50%	50%	0%	15%

Based on the table above, it can be concluded that the use of the Contextual Teaching And Learning (CTL) learning model assisted by Kater's learning media (Character Calendar) in mathematics subjects with round-count operations, addition and subtraction for class I SD Negeri Bintoro 05 Jember affects student scores. This can be proven by an increase in the final score of students in each cycle from pre-action, cycle I, to cycle II.

At the pre-cycle stage, the percentage of the number of students who completed the addition material only reached 17% with an average value of 53, while in the subtraction material the number of students completed reached 33% with an average of 60%. Both of these values indicate that the class cannot be said to have completed learning. This refers to the mastery learning theory from (Trianto, 2012), that a class is said to have completed learning if the percentage of the number of students completed reaches 85% of the total number of students. The average learning outcome also shows a value that is still much lower than the applicable KKM score of 75. Therefore, the researcher took an action, namely applying the contextual teaching and learning model of teaching and learning assisted by character calendar media to improve student learning outcomes. The general purpose of this research is to improve the quality of learning (Jalaludin, 2021).

In the first cycle, the contextual teaching and learning model assisted by a character calendar was applied. This causes an increase in the percentage of completeness and average learning outcomes. Based on the table above, the percentage of students who completed the addition and subtraction material increased to 50% with an average learning outcome on the addition material of 70 while the subtraction material was 63. This indicates that the action taken by the researcher was the application of the contextual model of teaching and learning assisted by the character calendar. have a good impact on improving the quality of

mathematics learning in the classroom. However, in the first cycle the increase in learning outcomes has not reached the set target. The percentage of complete learning outcomes obtained, when referring to the completeness theory (Trianto, 2012), has not yet reached the classical complete criteria. The average learning outcomes in addition and subtraction material have not yet reached the KKM, which is 75. Therefore, the researcher repeated the action. This is supported by (Mulyatiningsih, 2015), which states that repetition of actions in classroom action research is carried out if the data obtained have not reached the desired target.

In cycle II, the repetition of actions that were carried out again made an increase in students' mathematics learning outcomes. Based on the table above, the percentage of the number of students who completed the addition material increased again to 100% with an average learning outcome of 90, while in the subtraction material, the percentage of the number of students who completed learning also increased to 85 with an average learning outcome of 83. The percentage of the number of students completed on the addition and subtraction material both reach the classical complete criteria. The average learning outcomes of the two materials also show a value above the KKM (the applicable KKM is 75). Therefore, the researcher did not repeat the action again and it can be concluded that the application of the teaching and learning contextual learning model is effective in improving the mathematics learning outcomes of first grade students at SD Negeri Bintoro 05 Jember.

In addition to learning outcomes, based on the score of the observation sheet, the contextual teaching and learning model assisted by character calendar media can also increase student activity in the teaching and learning process at each stage of the cycle. This increase in students leads to positive improvements such as students being brave enough to ask questions, often discussing, reminding each other if the answers given contain errors, etc.

D. Conclussion

Based on the research results that have been obtained, it can be concluded that the contextual teaching and learning model assisted by character calendar media can improve mathematics learning outcomes and student activity at SD Negeri Bintoro 05 Jember. This can be seen from the increase in average learning outcomes and the percentage of the number of students who complete which continues to increase in each cycle. Starting from the pre-cycle stage, the average

learning outcomes have not shown a value above the KKM and the percentage of the number of students who have completed can not be said to have passed the classical until the second cycle which shows the average student learning outcomes above the KKM and the percentage of the number of students who have completed learning is above 85 so that it can be said to have completed learning.

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