

Improving Mathematics Learning Outcomes Through Contextual Teaching Learning (CTL) Models with Auxiliary Objects of the Surrounding Environment at Madigondo Samigaluh Public Elementary School, Kulon Progo Regency, 2021/2022 Academic Year

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ABSTRACT: This research was conducted to improve mathematics learning outcomes in the 2019 Coronavirus Disease (Covid-19) pandemic era through face-to-face meetings, increase student motivation in learning and improve teachers' abilities in carrying out teaching and learning activities. This type of research is Classroom Action Research (CAR). The subjects of this study were all fifth-grade students at SD Negeri Madigondo Kapanewon Samigaluh for the 2021/2022 academic year, with a total of 14 students consisting of 9 boys and 5 girls. The object of research is solving problems related to learning mathematics by using the CTL learning model to increase student motivation and achievement as well as teaching abilities in teaching and learning activities. The data collection technique in this study used the evaluation of student test assessments and observation sheets. The results showed that there was an increase in students' mathematics learning outcomes through the CTL learning model, namely in cycle I for 1st meeting of 55.56% in the "very low" category, and in 2nd meeting, the percentage of learning completeness was obtained by 66.67% in the "low" category, while in cycle II for 1st meeting percentage of 77.78% category "Enough" and at 2nd meeting obtained a percentage of 100%. The results showed that there was an increase in the learning motivation of fifth-grade students at SD Negeri Madigondo Kapanewon Samigaluh, namely in cycle I for the 1st meeting obtained a percentage of 49.39%, and the 2nd meeting obtained a percentage of 70.31%. While in cycle II for 1st meeting obtained a percentage of 84.60%, and the second meeting obtained a percentage of 92.70%. The results showed an increase in the current teacher's ability (KBM), that is, in cycle I a presentation of 89.68% was obtained with a conversion of 4 "Very Satisfactory" values, while in cycle II a percentage of 95.91% was obtained with a conversion of 4 "Very Satisfactory" values.

Keywords: Contextual Teaching Learning (CTL), motivation, learning outcomes

INTRODUCTION

The outbreak of the Covid-19 pandemic in Indonesia has had several impacts on various sectors of life, especially in the education sector [1]. To overcome the rampant outbreak, the Minister of Education, Culture, Research, and Technology, Minister of Religion, Minister of Health, and Minister of Home Affairs produced a joint decision Number 5 of 2021 concerning Guidelines for Organizing Learning During the 2019 Coronavirus Disease Pandemic (Covid-19) that face-to-face learning limited activities can be carried out based on the level of Enforcement of Restrictions on Community Activities (PPKM) and vaccination achievements of educators, education staff and senior citizens [2]. One of the elementary school education institutions that implement limited face-to-face learning is SD Negeri Madigondo Samigaluh, Kulon Progo Regency.

Madigondo Samigaluh Public Elementary School, Kulon Progo Regency uses the Education Unit Level Curriculum (KTSP) and 2013 Curriculum (KURTIAS) in the Teaching and Learning Activity (KBM) process. In KTSP itself there are several subjects that need to be taught to students,



one of which is mathematics. Meanwhile, in the 2013 curriculum, mathematics is a subject that is integrated with other subjects. Mathematics is one of the subjects that must be taught to students from the Elementary School level to the next level of education. It is intended that students are able to think analytically, systematically, logically, and critically [2]. One of the characteristics of abstract mathematics causes many students to experience difficulties in learning mathematics. In addition, the student's perspective on mathematics, which is difficult to learn, is the cause of students' difficulties and even laziness in working on the material [3]. The same thing also happened at Madigondo Samigaluh Public Elementary School, Kulon Progo Regency, especially for fifth-grade students, where these students were not conducive and bored with mathematics lessons.

The phenomenon that occurs at Madigondo Samigaluh Public Elementary School, Kulon Progo Regency can be proven by the acquisition of student scores that are still below the Minimum Completeness Criteria (KKM). The KKM score that must be obtained by fifth-grade students in mathematics is 65. Of the 14 students, only 5 students scored above the KKM or around 35.71%, while students who scored below 65 were 9 students or around 64.29%. Based on the low learning outcomes of students, the motivation and discipline of learning mathematics are very lacking. One way to overcome this phenomenon is to take action to improve the quality of learning practices through the learning model used [4]. One of the learning models that can be applied to phenomena that occur in Madigondo Samigaluh Public Elementary School, Kulon Progo Regency is Contextual Teaching and Learning (CTL).

Contextual Teaching and Learning (CTL) is a learning concept that can assist teachers in connecting the material being taught with real-world situations, encouraging students to connect the knowledge they have and its application in everyday life [5]. The steps of the CTL learning model are as follows [6]:

1. Develop students' thinking in carrying out more meaningful learning activities.
2. Carry out as far as possible inquiry activities in all topics being taught.
3. Develop the curiosity of students.
4. Building learning communities such as discussions, questions, and answers, etc.
5. Presenting models/illustrations as examples of learning.
6. Familiarize yourself with reflection.
7. Conduct an objective assessment.

Based on the phenomenon that occurred at Madigondo Samigaluh Public Elementary School, Kulon Progo Regency, the researcher was interested in conducting research with the title "Improvement of Mathematics Learning Outcomes through the CTL Learning Model with Auxilliary Objects of the Surrounding Environment at Madigondo Samigaluh Public Elementary School, Kulon Progo Regency for the Academic Year 2021/2022", where this research aims to overcome problems in the implementation of limited face-to-face learning in the era of the Covid-19 pandemic including to increase learning outcomes in mathematics in the 2019 Coronavirus Disease (Covid-19) pandemic era through face-to-face, increase student motivation in learning and improve teacher's ability to carry out teaching and learning activities (KBM) in mathematics in the 2019 Coronavirus Disease (Covid-19) pandemic era by using the face-to-face CTL learning model.

RESEARCH METHODS

This type of research is classroom action research (CAR). This research was conducted from January to March 2022. The sample in this study were fifth-grade students at Madigondo Samigaluh Public Elementary School, Kulon Progo Regency for the 2021/2022 academic year, totaling 14 students with details of 9 boys and 5 girls. Data collection techniques in this study used documentation, interviews, and observations which were presented in tabular form.

RESULT AND DISCUSSION

Based on the implementation for 2 cycles which were carried out 4 times in meetings, it was obtained data that the learning outcomes of students had increased. This increase in student learning achievement can be seen by applying the CTL learning model. The results of the application of the CTL model can be seen in Table 1.

Based on Table 1, shows that the average results in cycle I meetings 1 and 2 increased by 6.43 while cycle II meetings 1 and 2 experienced an increase of 6.43. In cycle 1 meetings 1 and 2 there was an increase of 14.29% of students who passed and in cycle II meetings 1 and 2 there was an increase of 7.14%. These results indicate that the use of the CTL learning model has a positive impact on the learning achievement of students at SD Negeri Madigondo Samigaluh, Kulon Progo Regency. One of the causes of increased student learning outcomes in each cycle is that the CTL

learning model is a learning model that can help students understand the meaning of teaching materials and relate them to the context of everyday life, which causes students to have dynamic and flexible knowledge/skills to actively construct their own understanding [7]. When applying the CTL learning model, the teacher should explain using language that is easily understood by students when explaining the steps of the CTL learning model so that students will not have difficulty carrying out learning activities.

TABLE 1. Student Learning Outcomes Cycles I and II

No.	Research result	Cycle I		Cycle II	
		1 st meeting	2 nd meeting	1 st meeting	2 nd meeting
1	Average value	67.86	74.29	86.43	92.86
2	Total Completed Students (%)	57.14	71.43	92.86	100.00
3	Number of Students Who Have Not Completed (%)	42.85	28.57	7.14	0.00

The learning completeness of students from cycle I to cycle II has increased in each cycle. This is because students do not find it difficult to carry out the process of learning mathematics due to the help of the surrounding media which can help students understand the material being studied and assist students in completing their assignments in a timely manner. So from the data generated, it can be concluded that the CTL learning model can improve student learning outcomes in mathematics.

Based on the results of observations of students' motivation to learn mathematics in cycle I and cycle II, can be seen in Table 2.

TABLE 2. Observation Results of Students' Learning Motivation in Cycles I and II

No.	Indicator	Cycle I		Cycle II	
		1 st meeting (%)	2 nd meeting (%)	1 st meeting (%)	2 nd meeting (%)
1	Strong will act	56.43	70.71	89.29	95
2	The amount of time set aside for study	55	70.71	87.86	93.57
3	Willingness to leave other obligations or duties	52.86	70	82.86	95.71
4	Perseverance in doing the task	45.71	70	75.71	91.43
5	Tenacious in the face of adversity	43.57	67.86	82.86	91.43
6	Shows interest in a variety of adult problems	45.71	69.29	86.43	92.14
7	Prefer to work independently	47.86	71.43	85	91.43
8	Can defend his opinion	52.14	76.15	88.57	92.14
Average Value		49.39	70.31	84.60	92.70

Table 2 shows that in cycles I and II students had significant developments in their learning motivation. Observations in cycle I, 1st meeting obtained an average value of 49.39% and at 2nd meeting, obtained an average value of 70.31%. While in cycle II for 1st meeting, an average value of 84.60% was obtained; at the 2nd meeting, an average value of 92.70%. Motivation to learn is a force, driving force, a tool for building willingness and a strong desire in students to learn actively, creatively, effectively, innovatively, and fun in the context of changing behavior towards a better direction in cognitive, affective, and psychomotor aspects [8]. In addition, motivation is everything that is shown to encourage the enthusiasm of students in carrying out learning activities [9]. If students have good motivation in learning, it will also produce good learning outcomes [9].

There was an increase from 1st meeting to 2nd meeting for each cycle I and cycle II because students felt motivated to participate in the whole process of learning mathematics. The emergence of motivation possessed by students is due to the application of the CTL learning model, so that

students can complete the assignments given by the teacher in a timely manner. So it can be concluded that the CTL learning model can increase students' learning motivation in mathematics.

The results of observations on teacher teaching and learning activities (KBM) as seen from the activities during learning that took place from cycle I and cycle II experienced significant developments. In this case, the teacher always tries to improve his performance when learning activities take place. The results of the teacher's KBM observations in cycles I and II can be seen in Table 3.

TABLE 3. Results of Observation of Ability in Learning Activities in Cycles I and II

No.	Observation results	Cycle I		Cycle II	
		1 st meeting	2 nd meeting	1 st meeting	2 nd meeting
1	Average score sum	3.31	3.57	3.85	3.83
2	Percent (%)	82.14	89.29	95.54	98.21
3	Value Conversion	3	4	4	4
Category		Satisfactory	Very Satisfactory	Satisfactory	Very Satisfactory

Table 3 shows that there was an increase in the teacher's ability in teaching and learning activities in cycles I and II by using the CTL learning model in Mathematics learning in class V SD Negeri Madigondo, Kapanewon Samigaluh, Kulon Progo Regency. The results in cycle I showed that the average score was 3.34, while the average number reached 83.46% with the conversion of 3 categories of "Satisfactory". Meanwhile, in Cycle II, an average score of 3.71 was obtained, while the percentage reached 92.80% with the conversion of the value of 4 categories "Very Satisfying", an increase in the total average score of Cycle I for meetings 1 and 2 there was an increase of 4.31%, while cycle II meetings 1 and 2 there is an increase of 6.23%.

There was an increase in cycles I and II that the use of the CTL learning model in mathematics subjects could make it easier for students to understand the material taught by the teacher. In addition, the explanation given by the teacher is clearer which can help students understand the material provided. Teachers also provide more encouragement to students to be able to foster the active participation of participants. It can be concluded that the increase in teacher activity occurred because in carrying out learning activities through the CTL learning model the principles of learning were applied, namely attention and motivation, student activity, direct involvement, repetition, challenges, feedback and reinforcement, and individual differences. [10].

CONCLUSION

Based on the results of classroom action research that has been carried out using 2 cycles, it can be concluded that the CTL learning model can improve student learning outcomes during a pandemic. Then, students' learning motivation to participate in the learning process also experienced a significant increase. While the teacher's ability to carry out the process of teaching and learning activities is in the Very Satisfying category.

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