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IMPROVING MOTIVATION AND LEARNING OUTCOMES THROUGH BUTTERFLY GAMES ON ODD EVEN MATERIALS AT SDN CENGKRONG

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ABSTRACT

Mathematics is often seen as something difficult and scary, so it is not uncommon for students to feel bored and lazy when dealing with mathematics. However, mathematics will look fun if delivered with the right learning model and media, for example, by using a learning model that involves games with a level of challenge in it. The purpose of this research is to find out the activities and learning outcomes of students by applying the butterfly game learning model to learning odd-even number material for grade 2 students so as to create creative and effective learning, namely learning through playing. This research is a Classroom Action Research (CAR). The research population involved 16 grade 2 students at Cengkrong Elementary School. This research uses data analysis and is qualitative in nature. Descriptive statistical data collection techniques are carried out by observation, and tests (pretest and posttest). In this study learning on odd-even number material for grade 2 by using the butterfly game is proven to be able to maximize student activity and learning outcomes.

Keywords: motivation, butterfly game, odd even number

1. Introduction

Education is a conscious effort made to change towards the maturation of thoughts, attitudes, behavior and so on (Kurniani Ningsih et al., 2021). Educational programs have a very big contribution to national, economic and social progress (Erawaty et al., 2019). The main education that is used as a vehicle in life is education and skills regarding mathematics or numeracy. Numeracy includes the skill of applying mathematical concepts and rules in real everyday situations, when problems are often ill-structured, have many ways of solving, or even no complete solution, and are related to non-mathematical factors (Mahmud & Pratiwi, 2019). However, it is not uncommon for students to experience many obstacles and obstacles in learning mathematics. In mathematics learning, if children experience learning difficulties it is considered a normal thing and that is generally the reality. This is because mathematics is a subject that is frightening for children. Mathematics is considered a science that is difficult to understand because it is abstract, not only by elementary school students but also by university students (Nugraheni, 2017). However, if examined further, children's learning difficulties are a problem that must be addressed from an early age because they will affect children in their future academic careers (Yang & Esa, 2016). The difficulties experienced by these students often lead to low student interest in learning. The low interest in student learning is not unreasonable, this can be caused by external factors, namely teachers do not utilize the use of learning media that can stimulate students and attract students' interest in learning, this is due to the lack of knowledge and skills that teachers have in using media and learning models so that teachers only giving assignments only from student worksheets (Erawaty et al., 2019) (Djonomiarjo, 2019). In this way, the learning

outcomes achieved by students are also not optimal. This can be caused by a lack of interest and lack of attention of students to follow the ongoing learning. Apart from that, the material presented cannot be absorbed well because the media used by the teacher is less interesting or monotonous (Widya et al., 2021). Considering the importance of education and mathematics learners in life, this is the background for researchers to conduct research on the effect of using the butterfly game learning model on odd-even number material on increasing student activity and learning outcomes. In this research, whether a learning model involving games can change students' perceptions and motivation regarding mathematics or even vice versa. Because actually mathematics lessons are not just about calculations (Yeni, 2015). However, in learning mathematics, students must be able to apply it realistically in everyday life as creatively as possible so that students are said to be able to think mathematically. The thinking process in learning mathematics is known as mathematical thinking ability (Nurhikmayati, 2017). Mathematical thinking is the ability to think well so as to achieve a simple to complex goal, therefore every student must have the ability to think mathematically at every level of education (Studi et al., n.d.). Thus, there needs to be motivation and encouragement that can change students' thinking patterns and enthusiasm for learning so that they are interested in learning mathematics. High motivation and learning discipline will make students more mature in the learning process (Lomu & Widodo, 2018). This can be proven if a student has the desire and enthusiasm when learning, they will be more focused and more easily accept the lessons delivered by the teacher so that the learning results achieved will be as expected (Permainan et al., 2021). One step that can be taken to raise motivation and enthusiasm as well as students' bad perceptions about mathematics is by using a learning model that is fun and involves games in it, so that in a lesson students are not focused on learning but are more inclined towards playing while learning. Even playing activities tend to be considered more meaningful for elementary school students. Play for children is related to events, situations, interactions and actions (Zhou et al., 2020). So by implementing game-based learning, it is hoped that it will help students to more easily understand the learning material presented. This means that a child's learning experience, if it occurs correctly, can form a path for the growth of motivation to defend.

2. Research Methods

This type of research is classroom action research. Classroom action research is reflective and collaborative classroom action research carried out with the aim of improving the quality of learning practices in the classroom. This research uses a qualitative descriptive method, namely research that describes what is happening currently. The method used in this research is field research using data sources and direct practice. The population of this study was class 2 students at SDN Cengkrong, with a total sample of 16 students. This research was carried out at SDN Cengkrong during the Class 5 Teaching Campus assignment, so this research was carried out for approximately 4 months. The selection of research subjects is adjusted to the type of learning model or mathematical game and the learning materials used. Data collection took the form of learning with odd-even number material but without involving mathematical games in it and after that at the end of the lesson students were given a test in the form of questions regarding odd-even number material, then on the second day learning was carried out with the same material but using mathematical games. namely the butterfly game. When learning using the butterfly game is carried out outside the classroom. In this way, students' attitudes and enthusiasm for learning can be analyzed as well as the learning outcomes achieved by students based on the results of tests carried out at the end of learning

3. Results and Discussion

Analysis of Students'

Initial Conditions Based on the initial analysis carried out through learning outcomes that do not involve butterfly games, it can be analyzed that students tend not to be interested in continuing learning. They often ask that break times and classes are not conducive. Likewise, the results of the tests carried out at the end of the lesson were quite low on average. The following is a table of test results carried out when learning odd-even number material in class 2 without using elements of mathematical games or butterfly games in it.

Tabel 1. Hasil Tes tanpa menggunakan permainan matematika pada saat pembelajaran

Student	Score	Sum of Equations
S1	50	10
S2	40	10
S3	50	10
S4	30	10
S5	40	10
S6	50	10
S7	60	10
S8	20	10
S9	20	10
S10	30	10
S11	40	10
S12	30	10
S13	20	10
S14	10	10
S15	40	10
S16	50	10

Based on this table, the average score achieved by students when learning without involving mathematics games can be analyzed, namely 36.25. Based on this average figure, the learning outcomes achieved are very inefficient and a solution is needed so that student learning outcomes and motivation in learning mathematics, especially odd-even number material, increases in the future.

Learning Odd-Even Numbers Using Mathematical

Games Odd-Even Numbers material is mathematics material in class 2 of elementary school. In this material, children are expected to be able to identify the difference between odd and even numbers. This material includes natural number material which is considered the basis of mathematics learning. However, even though this material is basic material in mathematics, it is not uncommon for students to tend to be confused in understanding this material. This can be caused by the lack of media and models used in learning. Besides that, if the model used is not appropriate to the students' conditions, it will cause a lack of enthusiasm and motivation when carrying out the learning. Therefore, during this research the researcher used mathematics learning in class 2, namely odd and even number material with the aim of comparing the motivation and learning outcomes produced when using and not using learning with a mathematical game model. The game models that can be used in mathematics learning are of course very numerous and varied, but according to the material used by researchers in this study, the type of mathematical game that is appropriate to the Odd-Even Numbers material is the Butterfly Game, where the game is carried out outside the classroom and there are several students. the berberine is an odd number, then several students act as even numbers, one student as a tree and the rest as butterflies. In this game, the student who plays the role of a tree says the word "Odd" or "Even" then the one who plays the role of a butterfly immediately runs around the tree then lands or sticks to another student who plays the role of saying odd or even according to what the tree says. A maximum of 2 butterflies can infest one number and if there is a butterfly that doesn't find a place to stay then as a punishment they have to replace the student who plays the role of the tree and also answer the verbal questions given by the teacher at that time.

Figure 1. Butterfly Game on Odd-Even Numbers

Based on observations made during learning, learning using this mathematical game model is certainly more fun and has an impact on students' learning motivation. Because when compared to previous learning activities which did not use mathematical game models, students tended to be less enthusiastic and looked bored. This is different from the condition of students when learning using a learning model that involves games, one of which is the butterfly game on odd-even numbers in class 2 at SDN Cengkrong. Apart from that, regarding the learning outcomes obtained by students when using a game-based learning model, namely the butterfly game which is applied to odd-even number material in grade 2 students, a fairly good increase in learning outcomes can be achieved, this is due to the existence of game-based learning activities. will form a learning activity that can stimulate student

activity so that learning will feel meaningful and will be easily absorbed by students. This can be proven by comparing student scores obtained at the end of learning when using game-based learning and previous learning that did not use the game-based learning model.

Table 2. Comparison of test results without using math games and when using math games during learning

Student	Score without Game	Score with Game	sum of questions
S1	50	80	10
S2	40	70	10
S3	50	80	10
S4	30	80	10
S5	40	90	10
S6	50	90	10
S7	60	80	10
S8	20	90	10
S9	20	70	10
S10	30	60	10
S11	40	70	10
S12	30	70	10
S13	20	90	10
S14	10	90	10
S15	40	90	10
S16	50	80	10
Mean	36,25	80	10

Based on this table, it can be seen that there is a difference in the learning outcomes of grade 2 students at SDN Cengkrong in learning mathematics regarding odd-even numbers when using a learning model without involving mathematics games and learning that involves mathematics games in it. Thus, a learning model is an important element in generating maximum student motivation and learning outcomes. Because the more active students are and feel that a learning activity is a meaningful activity that involves them, the more quickly students will grasp the material being taught. So in learning, a learning model should be applied which includes mathematics games. This is done so that bad perceptions about mathematics among students can change because they feel that mathematics lessons are not as scary and scary and boring as they think

4. Conclusions

Based on research conducted on grade 2 students at SDN Cengkrong regarding motivation and learning outcomes obtained when using the Butterfly game on odd-even number material, it can be concluded that students will be more interested in following the lesson to completion if a learning model is applied that is appropriate to the student's condition. namely, grade 2 students at SDN Cengkrong are more suited to using a game-based learning model such as the Butterfly game which is applied to odd-even numbers. This can be seen in the enthusiasm and enthusiasm of students when learning takes place. Apart from that, the learning outcomes achieved when implementing the learning model using the Butterfly game on odd-even number material experienced quite a high increase. If the test results carried out when the game-based learning model was not applied, the average achieved was 36.35, this is inversely proportional to the test results achieved by students when the game-based learning model was applied, namely the Butterfly game, which was the average score obtained. 80. So it can be concluded that learning in class 2 with odd-even number material is more effective and efficient if you use a game-based learning model, namely the Butterfly game which researchers have applied to class 2 odd-even number mathematics material.

Based on the research that has been carried out, researchers hope that in teaching mathematics, all teachers at all levels should use a learning model that involves games. This is so that students do not feel bored and are more motivated to carry out learning with enthusiasm.

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