PUSAKA: Journal of Educational Review, (2024) Vol 1 (2): 84 - 92
https://doi.org /10.56773/pjer. v1i2.9

Application of the Traditional Dakon Game in Second Grade Elementary School Multiplication Operation Material

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Abstract
The lack of learning resources and limited media or teaching aids is one of the causes that results in learning being more one-way and boring, which has an impact on reducing student learning outcomes. Learning media that can be applied in elementary schools as a solution to improve student learning outcomes is the use of dakon media. The aim of this research is to apply the dakon game media to introduce the basic concepts of multiplication calculation operations which are very important for students. Number counting operations are very important because they are often used every day and are the basis for understanding further mathematical concepts. The research used is descriptive qualitative research. observations and interviews with class teachers to find out the obstacles faced in learning mathematics in class II at SD Muhammadiyah Complex Gresik. The observation results show that the introduction of mathematics learning with the dakon game to introduce the concept of multiplication operations is quite easy to use and accepted by students to make it easier to understand the basic concept of multiplication.

Keywords: Dakon, Mathematics, Traditional Game

Abstrak
Sedikitnya sumber belajar dan terbatasnya media atau alat peraga merupakan salah satu penyebab pembelajaran lebih bersifat searah dan membosankan sehingga berdampak pada penurunan hasil belajar siswa. Media pembelajaran yang dapat diterapkan di sekolah dasar sebagai solusi untuk meningkatkan hasil belajar siswa yaitu penggunaan media dakon. Tujuan penelitian ini untuk menerapkan media permainan dakon dalam mengenalkan konsep dasar operasi hitung perkalian yang sangat penting bagi siswa. Operasi hitung bilangan sangat penting karena sering digunakan sehari-hari dan menjadi dasar dalam memahami konsep-konsep matematika selanjutnya. Penelitian yang digunakan ialah penelitian kualitatif dekriptif. observasi dan wawancara dengan guru kelas untuk mengetahui kendala yang dihadapi dalam pembelajaran matematika

dikelas II SD Muhammadiyah Kompleks Gresik. Hasil pengamatan menunjukkan pengenalan pembelajaran matematika dengan permainan Dakon untuk pengenalan konsep operasi perkalian bilangan terbilang cukup mudah digunakan serta di terima oleh para siswa untuk memudahkan memahami konsep dasar perkalian.

Kata kunci: Dakon, Matematika, Permainan Tradisional

INTRODUCTION

Education is the government's effort to educate the nation's children, one of which is through learning which can later increase the competence of students. The Indonesian government's policy in education is stated in the Preamble to the 1945 Constitution in the fourth paragraph of the Republic of Indonesia, namely, to educate the life of the nation. For this reason, it produces students who can master competencies, starting with the elementary school level, which is the beginning of education for students to take the next level. The provision of education in elementary schools, one of which is mathematics lessons, is to maximize students' basic numeracy potential for the future.

Mathematics is one of the subjects at every level of education, from elementary school to college (PT). Mathematics lessons are a sufficient requirement to continue education to a further level. Because by studying mathematics, someone is able to learn how to reason critically, creatively and actively (Hikmah, et.al., 2023; Al Afgoni et.al., 2020). Mathematics is also important for students to study in elementary school, because mathematics is a scientific discipline that is directly related to all human activities every day, according to Oktaviani (Fendrik, 2019). Therefore, it is important for students in elementary school to study mathematics so they are able to solve problems in everyday life. This is also in line with the opinion (Zuhrotul, 2015), that everyone needs to learn mathematics, as a means of solving everyday problems.

The ability to calculate multiplication operations is also one of the main prerequisite concepts in mathematics lessons for students to master optimally. So that students do not experience difficulties in subsequent learning activities or solving daily life problems related to arithmetic operations. The ability to count is the ability that every child has to develop his abilities, the characteristics of his development starting from his immediate environment (Susanto, 2011). .Meanwhile, according to (Habau, 2018) "the ability to calculate operations is a skill that students must master in completing calculation tasks correctly." It can be concluded that numeracy ability is the ability that every student has in calculating. For this reason, educators should understand the character and abilities of each student in arithmetic operations, especially multiplication, because quite a few students have difficulty understanding multiplication arithmetic operations.

Mathematics lessons are one of the subjects that are quite unpopular for students, in fact many students assume that mathematics lessons are very difficult, which is a reason for some students which ultimately affects the interaction of the teaching and learning process. Apart from these problems, the lack of learning resources and limited media or teaching aids is one of the causes that results in learning being more one-way and boring, which has an impact on reducing student learning outcomes. This is also in line with Wasliman's opinion (Susanto, 2013), the learning outcomes achieved by students are the result of the interaction of various influencing factors, both from internal factors such as intelligence, interest and attention, learning motivation, perseverance, attitudes, study habits. , as well as physical and health conditions as well as external factors such as family, school and community. In numeracy material that tends to be memorized, the role of learning media is needed to help students understand the numeracy material, so that students are able to learn the numeracy material without feeling afraid or stressed.

Looking at the problems above, it is hoped that teachers will be able to provide learning media, even though they are simple, to facilitate explanations of subject matter which will enable them to improve student learning outcomes and be able to attract students' attention in teaching and learning activities. Sudjana and Rivai argue that the benefits of teaching media in the student learning process are able to make the teaching process more attractive to students so that it can foster student learning motivation. Efforts to overcome this problem require appropriate and effective learning in the teaching and learning process related to multiplication calculation operations at the elementary school level, namely traditional games. Learning media that can be applied in elementary schools as a solution to improve student learning outcomes is the use of dakon game. According to (Hatim et al., 2019), the dakon game can help and make it easier for students to understand the concept of mathematical calculations and can also make students happy because it contains elements of play. the dakon game can influence students' mathematics learning outcomes (Utami et al., 2018). Therefore, researchers apply dakon game to facilitate students' understanding in learning mathematics material related to multiplication calculation operations.

RESEARCH METHOD

The approach used in this research is descriptive qualitative with the aim of introducing the basic concepts of multiplication using dakon game to students at Muhammadiyah Elementary School, Gresik Complex. The techniques used in data collection are observation and interviews. This research was carried out at the Gresik Complex Muhammadiyah Elementary School, the subjects of this research were class II students. The research was carried out in the odd semester of the

2022/2023 academic year in class II at SD Muhammadiyah Gresik Complex. Learning activities were carried out in class II of SD Muhammadiyah Gresik Complex, researchers collected qualitative data in the form of observations and interviews. Observation results show that students tend to get bored in class and are not enthusiastic about the learning process with the teacher.

The data collected in this research are the results of observations of teacher performance and student activities, interviews with class teachers and students. Based on the type of data involved, the research method used is qualitative research. Starting with a literature review to get information about the dakon game. The next stage was observing several students in elementary schools playing dakon game. The results of these observations were used as a basis for analyzing the concept of the operation of calculating multiplication of numbers in the dakon game. Next, an analysis of method development in mathematics learning was carried out to introduce the concept of number counting operations to elementary school students through the dakon game.

RESULT AND DISCUSSION

Based on the results of initial observations, it is known that the learning abilities of class II students at Muhammadiyah Elementary School in Gresik Complex are still lacking in understanding multiplication material using the teacher center method. There are problems faced by class II students with this method, namely in learning Mathematics in multiplication material using the teacher center method without any assistance from other learning media, so that students are not fully able to improve their ability to learn Mathematics in multiplication material so that the results obtained are still has not yet reached completion.

Introduction to the concept of the operation of calculating multiplication numbers through dakon game is one of the alternatives used by teachers in the classroom. This is in accordance with the level of development of elementary school students who still like to play. Researchers carried out actions in class II of Muhammadiyah Elementary School, Gresik Complex. During the observation, the researcher made observations of teachers and students during learning activities using dakon media. The observation sheet used is an observation sheet that shows the implementation of the learning process using dakon game. Observations were carried out at the end of the odd semester of the 2022/2023 academic year. The steps for applying dakon game in the learning process are as follows: Firstly, in this learning process the teacher first demonstrates how to use dakon media and how to solve multiplication problems using dakon game in front of the class. The two teachers asked student representatives to try to solve multiplication problems in front of the class using dakon media. The three teachers organized students into several groups. The four teachers distributed

dakon game and dakon seeds to each group. The five teachers gave questions that would be used as discussion material for students. The six students and their groups worked on the questions that had been given by the teacher using dakon game and dakon seeds in turns. The seven students and their groups came to the front of the class to explain the results of their group's discussion and prove the truth using dakon media and dakon seeds. The eight teachers evaluated the results of the discussions presented by the students.

Figure 1. Demonstrate How to Use the Dakon Game

The following are steps for introducing the concept of number counting operations through dakon game in mathematics learning in elementary school. Introduction to the concept of the operation of calculating addition numbers through the dakon game in mathematics learning is as follows: (1) Students and teachers prepare boards and dakon seeds, (2) For example, the teacher gives examples of questions 4+4+4=..., (3) Students fill in 3 dakon holes with 4 dakon seeds in each first hole, (4) Students then move the dakon seeds into the container hole while counting them, (5) Students count the number of dakon seeds they moved from the two dakon holes, (6) Students then add up the seeds dakon in several holes in the house and can be continued according to the student's ability level.

Figure 2. Example of Filling a Hole in a Dakon House

In the arithmetic operation of multiplying integers, it is known that 4 x 3 (read four times three) is interpreted as 3+3+3+3. Meanwhile, 3 x 4 (read three times four) means 4+4+4. Thus, it can be said that multiplication of a number is the same as repeated addition (Isrokatun, 2021). The introduction of the concept of operations for calculating multiplication numbers through the dakon game in mathematics learning in class is as follows: (1) The teacher gives examples of multiplication problems to students, for example 4x3=..., (2) The teacher gives several dakons to students without mentioning the numbers, (3) The teacher directs students to fill the four holes in the dakon house with three dakon seeds, (4) Students then move each dakon seed to the holding hole on the right/left of the dakon while counting, (5) Students are asked to determine the number of dakon seeds they move.

Figure 3. Students try to Solve Problems Using the Dakon Game

3 + 3 + 3+3 = ...

4 times

Because the number 3 occurs 4 times, it can be written:

3+3 + 3 + 3 = 3 x 4 = ... (12)

The results of data analysis show that mathematical learning of multiplication counting operations can be integrated using dakon game. Students are able to understand the basic concept of multiplication, namely in the form of repeated addition through dakon media. This shows that there is success in integrating Dakon game into basic multiplication concept material in class II at SD Muhammadiyah Gresik Complex.

According to the results of the data that researchers have identified, dakon game can help students understand the basic concepts of multiplication calculation operations. The presence of dakon in learning can support more optimal learning of mathematics, multiplication material. Dakon game can also help teachers convey material and help students understand the multiplication material presented by the teacher. This is in accordance with Rusmana's opinion

in (Trisnani et al., 2021) that dakon game has the potential for children's cognitive development, such as stimulating and building cognitive abilities, developing concentration, training learning to solve problems and training counting skills.

Based on the results of interviews and observations in class II, researchers were able to find out that dakon game, apart from helping to understand the concept of multiplication, can also foster good character in students. By using dakon games in learning, students can also practice accuracy, honesty, and patience. This agrees with research from (Rohmatin, 2020) that dakon media can train students' cognitive thinking abilities, calculation skills, sharpen social skills and train students in honest and sportsmanship situations. Other researchers found that there is a mathematical element in the dakon game, namely the element of counting, the game can also develop honest, thorough, and sportsmanlike character, train students' motor skills. Dakon is also useful for motivating students and encouraging students to learn mathematics (Febriyanti et al., 2019).

Data from interviews with students also shows that they are very interested in playing dakon. Having dakon as a learning medium can provide learning motivation for students so that students can be more active in their learning activities. The dakon game used can also be a form of preserving traditional games in Indonesia. So dakon is better known among the current generation. This is in accordance with the opinion of (Rahayu, 2016) who believes that traditional games based on local wisdom can be used as a mathematics learning medium by linking the learning process to students' local culture. So, with traditional games such as dakon, students are expected to be able to optimize their mathematics learning outcomes, especially in multiplication calculation operations, while students can learn and preserve local culture in their area. Apart from that (Himmatul, 2017) stated that the use of traditional games as a medium in learning mathematics can provide variety in learning so that it is not monotonous and boring. Traditional games can provide learning experiences by incorporating material into real situations and learning becomes more effective and efficient. Another opinion shows that through traditional games, students gain direct experience in real situations 5to learn mathematical concepts (Prasasty et al., 2020).

CONCLUSION

The application of dakon game in learning number counting operations, especially multiplication, for elementary school age students has been proven to be able to introduce the concept of multiplication counting operations to students. The results of data analysis show that mathematical learning of multiplication counting operations can be integrated using dakon media. So that

students are able to understand the basic concept of multiplication, namely in the form of repeated addition through dakon game. This shows that there is success in integrating Dakon media into basic multiplication concept material in class II at Muhammadiyah Elementary School, Gresik Complex. Dakon game, apart from helping to understand the concept of multiplication, can also foster good character in students. By using dakon games in learning, students can practice accuracy, honesty, and patience. Dakon game can also train students' cognitive thinking abilities, calculation skills, hone social skills and train students in honest and sportsmanship situations. The use of dakon game in mathematics learning can help preserve traditional Indonesian games which are starting to be replaced by electronic games. So, the researcher proposed a suggestion to apply dakon game to help students understand number counting operations. According to relevant research, dakon game can help introduce the material on number counting operations well.

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