Effectiveness Of Dakon Media In Improving Numeracy Skills In Lower Grade Elementary School Students

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Abstract

The purpose of this study is to determine the effectiveness of the use of dakon media in improving numeracy skills in lower grade elementary school students. This research uses pre-experimental research method with one group pretest and posttest research design design. The subjects of this study were as many as 10 grade 1 elementary school students consisting of various schools. The research is divided into two cycles, namely before and after being given special treatment. The mean test result before treatment is 41 and the posttest test result gets 79 which results in the mean difference between pretest and posttest which is 38. Where there is a mean increase from the pretestt to the posttest. From the results of the study students showed an increase of pretest which only showed that as many as 90% of students were incomplete and only 10% of students completed. The student learning results in the posttest test showed an increase of 20% of students were incomplete and 80% of students completed.

***Keywords**: Dakon media; Numeracy Skills; lower class*

Efektivitas Media Dakon Dalam Meningkatkan Kemampuan Berhitung Pada Siswa Sekolah Dasar Kelas Bawah

Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui efektifitas penggunaan media dakon dalam meningkatkan kemampuan berhitung pada siswa sekolah dasar kelas bawah. Penilitian ini menggunakan metode penelitian *pre-eksperiment* dengan rancangan desain penelitian *one group pretest dan posttest.* Subjek penelitian ini adalah sebanyak 10 siswa kelas 1 Sekolah Dasar yang terdiri dari berbagai sekolah. Penelitian dibagi menjadi dua siklus yakni sebelum dan sesudah diberikan perlakuan khusus. Hasil uji mean sebelum diberikan *treatment* yaitu sebesar 41 dan hasil uji *posttest* mendapatkan 79 yang mengahsilkan selisih *mean* antara *pretest* dan *posttest* yaitu 38. Dimana terjadi kenaikan *mean* dari uji *pretes*t menuju *posttest.* Dari hasil belajar siswa menunjukkan peningkatan dari *pretest* yang hanya menunjukkan bahwa sebanyak 90% siswa tidak tuntas dan hanya 10% siswa yang tuntas. Adapun hasil belajar siswa pada uji *posttest* menunjukkan kenaikan yaitu sebanyak 20% siswa tidak tuntas dan 80% siswa tuntas.

***Kata kunci**:* Media Dakon; Kemampuan Berhitung; Kelas Bawah

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1. Introduction

Learning mathematics in elementary school is one of the most important learnings to learn and develop. But in fact there are still many problems that occur in elementary students, especially in math learning. Without realizing it, mathematics is a science that plays a role in various aspects of life. Mathematics is the study of calculation and the ability to think logically. Mathematics is not just counting. Mathematics learns things, mathematics cannot study things that never existed. So that mathematics has an understanding of science that is needed in everyday life and in order to face the progress of the development of science and technology. Even today the study seems still a very scary scourge for some elementary students, who reasoned that math learning is a lesson that is not and difficult to understand. Mathematics is an important and compulsory lesson that must be taught to them. [1]

The problem that is still widely encountered is the growing perception in students that mathematics is something of science that has no benefit. Moreover, those who do not like mathematics must assume that thislmu is complicated, confusing,and dizzy. Eventually they became lazy to learn mathematics. This kind of perception is very bad in the process and learning outcomes of students. Because with distorted perceptions will decrease students' learning interest and have an impact on student learning outcomes.

Mathematics is the science of structure, sequences (arranged hierarchically), and relationships that include the basis of calculation, measurement, and depiction of the shape of objects. While math lessons are one of the lessons learned by students ranging from elementary to college. Therefore mathematics plays a very important role, because by learning mathematics correctly, the power of reason students will be able to be processed. Mathematics subjects contain basic calculating operating materials namely addition, subtraction, multiplication, and division. Until now many students have difficulty doing the counting operation, especially when online learning like this. Many factors cause a lack of mastery of mathematics, one of which is an error in understanding mathematical concepts because teachers use methods that are less appropriate so that students lack understanding of the concept of calculating operations.

Therefore, media is one alternative way to overcome and reduce learning problems in elementary school. The influence of methods and media is very large in determining the success of learning, especially learning mathematics is a definite learneran, meaning the result is definitely not to be calculated like IPS or Language lessons.

As for the media and learning methods that can be used to help educators overcome the problem of elementary school children's math learning, namely by using dakon learning media. The use of this learning media becomes a way to be able to provide a learning understanding that is ringanand fun. Because according to the theory of cognitive development, children at elementary age are still at a simple level of thinking, limited to concrete things. Meanwhile, the object of the study of ematika mat is absrtak.

So that the use of Dakon as a learning medium students can train sharpness of thinking quickly in a calculated operation such as addition, subtraction, division, and multiplication. So that students who play Dakon can simultaneously defendthe jar about basic counting operations.

2. Method

In this study the authors used experimental research methods. Experimental research methods are research methods used to look for the influence of certain treatments on others in controlled. To improve the numeracyof elementary school elementary school elementary school students, this Classroom Action Research uses pre-

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experimental research design. Pre-experimenter desaigns is often referred to by the term quasi eksperiment because it is often viewed as an experiment that is not actual or considered a type of experiment that has not been meet the requirements of scientific experiments that follow certain regulations.

To support this research researchers used the design design of one group pretest and posttest research. The use of this design hanya using one group without anygroup comparison. Where this group will be measured and observed before and after treatment. By design one-group pretest-posttest bound variable will be measured as one group before(pretest)and after (posttest)a treatmentis given. With the design of one group pre test post test at the beginning of the study will be measured against the bound variables that have been owned by the subject. Then given treatment and re-measured against variables bound to the same measuring instrument. From the results of tests conducted between before and after treatment will then be compared to find out the influence of Media Dakon In Improving Numeracy Skills in Elementary School Students.

Table 1. Design matching pretest-posttest group design.

Group	*Pretest*	*Treatment*	Posttest
Ekperimen	Or	X	Or

The data collection used in this study is using observation techniques, tests, documentation with pretest data collection procedures (Tests given before treatment), treatment (Research provides treatment to groups using dakon learning media), and posttests (Tests given after treatment).

The data analysis method used is¬ Paired Sample T – Test. The purpose of testing with ¬ Paired Sample T – This test is to compare the average value of the numeracy ability of elementary students and after being given treatment with learning media in the form of dakon.

3. Result and Discussion

This research begins with the preparatory stage, which is to find the right location and research subjects and then conduct the preparation of research instruments in the form of problem tests. The criteria of the study sample are the following ai: 1) Elementary students grade I, 2) Ages 6-7 tahun,3) Male or female. From these criteria, researchers collected 10 subjects from grade I students using purposive sampling techniques, namely sampling based on research needs where each individual taken from the population was selected deliberately based on certain considerations. . After the study subjects were collected the researchers gave pretest questions to 10 subjects of the study sample. Then from the results of pretest work obtained results. Researchers then gave treatment in the form of learning media dakon as much as three times in one week. The first treatment of students is given a dakon game using the standard rules of the game, the treatment of kedua siswa using dakon to help operate the count of addition and subtraction, and the treatment ofthestudent's ribs using dakon to help operate multiplication and division counts. Researchers again gave a test about counting (post-test) after the treatment of the sample was completed. During the study, researchers made observations to all research subjects.

At the first stage of research, students have not received special treatment and still use their old ways of learning. Where student activities are very limited, students only become recipients of information, sit, write and hear explanations from teachers so as to make students limited in interacting and communicating with teachers and fellow friends.

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The following is presentedwith data on student learning outcomes that have not received treatment:

Table 1 : Student Learning Outcomes of Grade 1 Elementary School (Pretest)

No	Name	Value	Information	
			Completed	Incomplete
1	RTS	50		✓
2	BUT	40		✓
3	ST	60		✓
4	PP	40		✓
5	VKH	50		✓
6	TYA	30		✓
7	ADK	20		✓
8	GPL	70	✓	
9	ZSR	30		✓
10	LTF	20		✓

Based on the results of data obtained from the provision of pretests to students can be seen that the ability to count each student is very low. Proven by the number of incomplete grades more than students who got a complete score of 10% or 1 student and 90% or 9 other students are not completed.

Table 2 : Hasil Learning Grade 1 Elementary Students (Posttest)

No	Name	Value	Information	
			Completed	Incomplete
1	RTS	80	✓	
2	BUT	80	✓	
3	ST	100	✓	
4	PP	70	✓	
5	VKH	90	✓	
6	TYA	80	✓	
7	ADK	60		✓
8	GPL	100	✓	
9	ZSR	70	✓	
10	LTF	60		✓

Based on the results of the data obtained in the posttest can be seen that there is a significant increase in results. The results are obtained from the evaluation of the provision of prestes and after students get special treatment. Data shows as many as 80% or 8 students whohave completed grades and only 20% remain.

Tabel 3 : **Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	41.00	10	16.633	5.260
	Posttest	79.00	10	14.491	4.583

From *the pretest* and *posttest* tests obtained the results of *paired samples statistics* containing descriptive statistics from two data with a *pretest mean of 41 and mean posttest* 79. Obtained *standard deviation pretest* results 16,633 and *standard deviation posttest* 14,491. The *standard error mean* is 5,260 and and the *standard error mean* is 4,583.

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Tabel 4 : Paired Samples Correlations

		N	Correlation	Itself.
Pair 1	Pretest & Posttest	10	.927	.000

From the results of *pretest* and *posttest* in table 4 obtained *paired differences* that is to know the relationship between *pretest* and *posttest.* Both test results have a strongrelationship, proven with a significant < 0.05 i.e. 0.000.

Tabel 5 : Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pretest - Posttest	-38.000	6.325	2.000	-42.524	-33.476	-19.000	9	.000

A significance value (2-tailed) of 0.000 < 0.05 indicates a significant difference between the initial veriabel and the final variable. This suggests there is a meaningful influence on thedifferences in treatment given to each variable. The difference in treatment can be proven from the increase in the *mean* value of *pretest* and *posttest* which has a difference of 38.

From the results of the above research successfully demonstrated the effectiveness of the use of traditional game learning media dakon to improve the numeracy skills of elementary students such as addition, subtraction, multiplication, and division. This is indicated by an increase in the average numeracy ability of elementary students after being given the medium of learning traditional congklak games. Congklakyang seeds are concrete objects can help students to solve numeracy problems so as to support the child's ability to count in accordance with the stage of development.

In this study there are other factors that support the effectiveness ofthe use of game media dakon as a medium of learning. Other factors obtained from observations during the research process include affective, cognitive, and psychomotor aspects. In the affective aspect, the observer observes students in response to instructions delivered, student attention, and honesty of students such as not cheating or cheating when working on numeracy problems. In observation on this affective aspect found two students who cheated on each other and one student who did not pay attention to instruction. In the cognitive aspect, the observer observes the ability of students to answer numeracy questions. In the psychomotor aspect, observer observes students in operating congklak games and students' ability to apply numeracy activities using boards and seeds. [2]

The purpose of this study is to describe students' learning outcomes based on improving their calculating ability. Throughmathematics learning in elementary school with the media of dakon games as a medium of learning, it is expected that students are able to develop numeracy skills and apply mathematical mindset in everyday life.

With the use of this learning medium can also help students learn the concept of basic calculating operations, prime numbers, divisor numbers, and multiples of a number. When students play dakon, without realizing it they also use counting operations to play it. From that, it can slowly hone students' numeracy skills that will later be useful for student life when pursuing the next level of education and in everyday life.

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4. Conclusion

Based on the results of the study it can be concluded that there is a difference in the average numeracy ability of elementary students before and after being given a learning medium in the form of traditional gamesl dakon, namely an increase in mathematical learning outcomes with pretest results of 41 and posttest results of 79. This shows a 70% increase in the difference between pretest and posttest.

Mathematics learners with the media of dakon games have an influence on students' numeracy skills, especially on the competence of addition, subtraction, and multiplication and division, in other words, learning mathematics with dakon games affects the literacy of lower class students. It also proves that traditional game learning media is effective for improving the numeracy skills of elementary students.

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