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The Influence of Using Smart Multiplication Table Learning Media (Takalintar) on the Learning Outcomes of Grade III Elementary School Students

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Abstract
Teaching learning activities usually occur between teachers and students. Teachers as learning managers, play a role in creating a comfortable and conducive learning climate. Therefore, as a teacher, you must be able to choose and apply effective learning media to achieve learning goals and be able to attract student learning results. The purpose of this study is to determine the influence of the use of TAKALINTAR learning media on the learning outcomes of students in grade IIIA SD Inpres Kuanino 3. This type of research is quantitative research classified as Quasi Experimental research, using a pretest-posttest- control group design. The sampling technique uses a saturated sampling technique with a sample of 30 respondents. The instruments in this study used observation, test and documentation data. The data was analyzed by normality tests, homogeneity and hypothesis tests using t-tests. The results of this study showed that the average score of the pretest-posttest- of the experimental class and the pretest-posttest- of the control class using the t-test, the posttest of the experimental class and the control class was 84.67 > 75.00 with a difference of 1.98 and the pretest of the experimental class and the control class was 50.67 > 51.33. Further through hypothesis testing (Paired Sample T-test) shows that the value of sig. (2-tailed) t-test for Equality of Means of 0.000 < 0.05 means that H_0 is rejected and H_a is accepted. The conclusion of this study is that there is a significant influence of the use of smart multiplication table (TAKALINTAR) media learning on the learning outcomes of grade IIIA students of SD Inpres Kuanino 3.

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1. INTRODUCTION

Education is a process that includes 3 dimensions of the individual, society, and the entire content of reality. The content of reality, whether material or spiritual, plays a role in determining a person's nature, form and fate (Nurkholis 2019:1). Education can determine a person's character and change a person into a better and more useful human being. Education occupies a good or strategic position in efforts to improve a person's quality and capacity in life (Musanna, 2017:31).

In the world of education, teachers are educators who provide a certain amount of knowledge to students at school (Djamarah & Zain, 2019: 126). Teachers play a very important role in the success of learning in the classroom. A teacher is said to be successful in teaching in class if all students understand what the teacher is teaching. This certainly cannot be separated from the teacher's expertise in applying strategies, methods, models and techniques in teaching. Whether a teacher is successful or not in teaching can be seen from student learning outcomes that reach or exceed the KKM score (minimum completeness criteria) in learning, the learning process occurs in the minds of students. It is clear that student factors are very important in addition to other factors. Interest can be viewed from the process of change, because one of the essences of learning is the change in a person's behavior thanks to experience. This change will provide optimal results if the change is desired by the learner, in other words the active process of the learner in the context of this goal is a very important factor. Susanto (2016:5), learning outcomes are the abilities that children gain after going through learning activities. Most teachers

assess students' cognitive abilities only by looking at their learning results. If a student gets a score above the KKM, the student is said to be intelligent. Vice versa, if a student gets a low score, then the student is said to be less intelligent or has low cognitive abilities.

In fact, Indonesia is a country with low student learning achievement. One of the reasons for this low student achievement is the low quality of education. The 2022 Program for International Student Assessment (PISA) research results were recently announced on December 5 2023, and Indonesia is ranked 68th with a score of; math 379, science 398, and reading 371. Its position (Indonesia) is also in 6th place from the bottom, the same as in 2018, namely for the reading ability category, Indonesia got an average score of 371, ranking 74th, far below Thailand which was ranked 68th, Malaysia was ranked 58th while Singapore was ranked 2nd. And in mathematics ability Indonesia had an average score -an average of 379 is ranked 73rd, below Thailand which is ranked 58th and Malaysia is ranked 48th, while Singapore is ranked 2nd. Meanwhile for PISA results on science ability, Indonesia has an average score of 396 which is in ranked 71st below Thailand which is ranked 54th and Malaysia is ranked 49th, while Singapore is ranked 2nd. (Sutrimo, 2023:72)

The main factor causing Indonesia's low learning outcomes is the lack of teacher skills in managing learning. The low ability of teachers to create media to help students understand concepts has implications for low student learning outcomes (Idris, 2018: 106). Meanwhile, the low quality of learning outcomes in NTT itself has been in the spotlight of the central government for a long time. The low quality of education in NTT can be seen from several indicators, one of which is the Human Development Index (HDI). HDI itself is data that explains how residents can obtain development results and the rights they should receive, including education. According to data from the Central Statistical Index Agency, from 2021 to 2023 Human Development in NTT is still ranked 32nd, competing with the province of Papua. In 2021, the HDI of NTT province was ranked 32nd with a percentage of 65.28%, in 2022, 2023 it rose one level to 31st with a percentage of 65.90% and 66.68% respectively. From this data it can be seen that the HDI of NTT province always increases every year but has not yet reached the national HDI percentage. (Rosyadah, 2021:41).

A similar thing also happened at SD Inpres Kuanino 3 where student learning outcomes in mathematics were still low. Low learning outcomes cannot be separated from teacher and student factors. Based on the results of observations carried out on August 7 2023 at SD Inpres Kuanino 3 class IIIa, it was found that most of the learning was still conventional. This can be seen from teacher-centered learning where the teacher has a greater role in the learning process. Apart from that, the method used in learning is only the lecture method so students tend to be passive because they only listen to explanations from the teacher and students become bored quickly. Apart from the teacher's lack of innovation in using methods, teachers also rarely use media in mathematics learning, causing low student interest in learning. In learning, most students are less enthusiastic about participating in the ongoing learning. Students also become indifferent to the teacher's explanation.

Another problem that was found was that many students' learning outcomes did not meet the KKM set by the school, namely 72. This is shown in the average student learning outcomes in multiplication material, where 30 of the total number of students in class IIIa met the KKM. only 33% or 10 people, while those who have not met the KKM are 67% or 20 people. This is because many students have difficulty learning multiplication. When learning multiplication, many students have not memorized multiplication and also have difficulty solving multiplication problems because they do not understand how to solve them.

Seeing the problems found, it is necessary to provide solutions to overcome these problems. Therefore, researchers chose the smart multiplication table learning media (TAKALINTAR), as a solution to overcome the problem of student learning outcomes in mathematics subjects which are still low. Through the use of TAKALINTAR learning media, it is hoped that Mathematics learning will become active and provide concrete experiences to students, so that students gain a real understanding of concepts so that learning outcomes are more optimal.

Seeing the gap between expectations and reality which has not been confirmed, the researchers were interested in conducting research with the title "The influence of the use of smart multiplication table learning media (TAKALINTAR) on the learning outcomes of class IIIA students at SD Inpres Kuanino 3".

2. METHOD

This research is quantitative research with a research design using an experimental design *pretest-posttest control group design*. The design of this research emphasizes the comparison of treatment between the two groups, namely the experimental group and the control group, where the experimental group is the group that was given special TAKALINTAR learning media in this study, while the control group did not receive special treatment. *Pretest-posttest control group design* takes into account the score *from the priest* and *posttest* carried out at the beginning and end of the research. After carrying out all these stages, the researcher analyzed the data, tested the hypothesis and drew research conclusions. The location of this research is SD Inpres Kuanino3. The population in this study was 30 grade IIIA elementary school students. The sample taken in this study used a saturated sampling technique, so that the entire population was used as the research sample. There is also a time when the research will be carried out in the odd semester of the 2023/2024 academic year.

3. RESEARCH RESULT

1. Testing data analysis requirements

   Before testing the hypothesis, a normality test and homogeneity test are first carried out on the data that has been collected. Here are the results:

   a. Normality Test

   The following are the results of data normality testing using the formula *output Shapiro-wilk* with the help of the IBM SPSS Statistics 16 for windows application program:

Table 1. Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Say.	Statistic	Df	Say.
PreEks	,188	15	,163	,965	15	,782
PosEx	,179	15	,200*	,911	15	,140
Controll	,139	15	,200*	,973	15	,894
Postponed	,167	15	,200*	,902	15	,103

Normality test results in table *Tests of Normality* above, learning outcome data *posttest* the experimental class shows the significance value of the test *Shapiro-Wilk* is 0.140, then the test has a significance value greater than 0.05 so that the learning outcomes data *posttest* the experimental class is normally distributed. Learning outcome data *posttest* the control class shows the significance value of the test *Shapiro-Wilk* is 0.103, then the test has a significance value greater than 0.05 so that the learning outcomes data *posttest* the control class also had a normal distribution

a. Homogeneity Test

The following are the results of data normality testing using the formula *Levene's test* with the help of the IBM SPSS Statistics 16 application program for windows :S

Table 2. Homogeneity Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Say.
mathematics learning outcomes	Based on Mean	,074	1	28	,787
	Based on Median	,050	1	28	,825
	Based on Median and with adjusted df	,050	1	27,201	,825
	Based on trimmed mean	,077	1	28	,783

Based on the results of the homogeneity test in the table *Test of Homogeneity of Variances* above, then the learning outcomes data *posttest* the experimental class and control class show the significance value of the test *Levene* (*levene test*) is 0.787, so the significance value is greater than 0.05, so the learning outcomes data *posttest* the experimental class and the control class are homogeneous.

2. Hypothesis testing
   The results of the paired t test can be seen in the following table:

Table 3. T-Tests

Paired Samples Test

	Paired Differences							
			95% Confidence Interval of the Difference					
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	Sig. (2-tailed)
experiment – control	9,66667	7,66874	1,98006	5,41986	13,91347	4,882	14	,000

From the results of hypothesis testing in table 4.10 T-Tests (*Paired Sample T-test*) above, at the sig value. (2-tailed) test *t-test for Equality of Means* is 0.000, then the significance value is <0.05, meaning H_0 rejected or H_a accepted so it can be concluded that there is a significant influence of the use of smart multiplication table learning media (TAKALINTAR) on the learning outcomes of class IIIa students at SD Inpres Kuanino 3.

4. DISCUSSION

The research results show that the control class got an average score *pretest* amounting to 51.33 with the highest value of 75 and the lowest value of 35 while the average value *posttest* amounting to 75.15 with the highest score being 85 and the lowest being 65. Meanwhile, the experimental class got an average score *pretest* amounting to 50.67 with the highest value of 75 and the lowest value of 30, while the average value *posttest* amounting to 84.67 with the highest value of 95 and the lowest value of 75.

From the results of data translation *pretest* and *posttest* for both the experimental class and the control class, it can be concluded that learning using smart multiplication table media (TAKALINTAR) has quite good effectiveness compared to learning without using TAKALINTAR media. This can be seen from the results of calculating the average value *posttest* in the experimental class; it was higher, namely 84.67, while the control class average was 75.00.

The results of the normality test carried out with the help of SPSS 16.0 showed that the learning outcomes of the experimental class were tested *Shapiro-wilk* (sig: 0.140 > 0.05). Shows a significance level greater than 0.05. The control class learning outcomes were tested with *Shapiro-wilk* (sig: 0.103 > 0.05) and also showed a number with a greater level of significance. Thus, the learning outcomes data, whether from the experimental class or the control class, are all normally distributed because they have a sig value > 0.05. The results of the data analysis homogeneity trial using SPSS before it was discovered that the significant value obtained was 0.787 and this value was greater than 0.05 (0.787 > 0.05), so it could be concluded that the data had the same variance or homogeneity was met.

Apart from that, the results of the hypothesis test are in the table *Paired Sample T-test* shows the sig value. (2-tailed) test *t-test for Equality of Means* is 0.000, then the significance value is <0.05, meaning H_0 rejected or H_a accepted so it can be concluded that there is a significant influence of the use of smart multiplication table learning media (TAKALINTAR) on the learning outcomes of class IIIa students at SD Inpres Kuanino 3. One of the factors that causes student learning outcomes to increase is the role of the teacher in combining learning media.

Based on averages and hypothesis testing, the learning outcomes of students who use TAKALINTAR media are better than the learning outcomes of students without TAKALINTAR media. The results of observations made by researchers during learning activities showed that students in the experimental class who used Takalintar media became more actively involved and enthusiastic in learning activities about multiplication material, were able to think systematically without thinking about the teacher, were taught to understand themselves, and trained their understanding by solving problems. about multiplication. TAKALINTAR media also makes students gain new nuances in learning, because students who use TAKALINTAR media to learn not only retain information but also gain new experiences. Therefore, studying it is more than just remembering or memorizing. This was also stated by Lestari, (2021:35) that TAKALINTAR media is a teaching aid or mathematics learning media related to the concept of multiplication. TAKALINTAR aims to make it easier for students to carry out multiplication operations.

This is proven by research conducted by Auliya (2016), comparing the results of the research conducted by the researcher with previous research that the level of understanding of students' concepts was higher than that of the researcher, this can be seen from the average result for the experimental class, namely 84.67 while previous research, the average value was 68.76. This research is also in line with that conducted by Fitri, (2019) regarding the Use of TAKALINTAR Teaching Aids to Improve Mathematics Learning Results for Multiplication Counting Operations at SD Negeri 5 Ramang Aji KEC. Comparison of the results of research conducted by researchers with research conducted by previous researchers is seen from the learning results of the first cycle of questions *pretest* given by the teacher, no students completed or the completion rate was 0%. Meanwhile on the post*test* in the first cycle, the student completion rate increased to 69.23%. In cycle II questions *pretest* given by the teacher there were only 8 students who completed with a completion level of 51.53%, whereas in *posttest* in the second cycle, the student's level of completion increased to 92.30%. So that the target indicator for the success of student learning outcomes of 75% was achieved, while the researchers saw the average results that the researchers conducted for the experimental class, namely 84.67.

This research is also in line with research conducted by Utami (2018). Comparison of the researcher's results with the results of research conducted by previous researchers shows that the Wilcoxon test results have a significant difference with the Asymp value. Sig (2-tailed) was 0.000 < 0.05 and was also proven by the change in the average pretest score of 70.5 and after being treated with takalintar media the posttest score was 80.4, while the researcher looked at the results of the average value of the experimental class, namely 84.67.

Based on the explanation above, it is proven that TAKALINTAR media has a significant effect on student learning outcomes, where learning outcomes in the experimental class are better than learning outcomes in the control class. The results of this research provide an understanding that TAKALINTAR media shows improved learning outcomes for class IIIA students at SD

Inpres Kuanino 3. Therefore, TAKALINTAR media can be used as a creative and innovative learning alternative in an effort to improve the quality of education, especially in mathematics subjects.

5. CONCLUSION

Based on the results of the research and discussion obtained, it can be concluded that the learning outcomes of students who use the smart multiplication table media (TAKALINTAR) in the experimental class are higher than the learning outcomes of students who do not use the TAKALINTAR media in the control class on multiplication material in mathematics for class students. IIIA SDK SD Inpres Kuanino 3. This can be proven from the results of data analysis which shows that the average score of the pretest-posttest for the experimental class and pretest-posttest for the control class using the t-test, posttest for the experimental class and control class is 84.67 > 75.00 with a difference of 1.98 and the pretest for the experimental class and control class was 50.67 > 51.33.

These results were further strengthened by data processing using hypothesis testing and t-tests carried out on the post test scores of both classes, namely the experimental class and the control class, using the help of SPSS 16.0 which resulted in a Paired Sample T-test obtaining a sig value. (2-tailed) t-test for Equality of Means is 0.000, then the significance value is <0.05, meaning H0 is rejected while Ha is accepted, so it can be concluded that there is a significant influence of the use of smart multiplication table learning media (TAKALINTAR) on learning outcomes Class IIIa students at SD Inpres Kuanino 3.

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