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## The Effect of the Use of Addition Bag Board Media on the Learning Outcomes of Mathematics Subjects

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### Abstrak

Penelitian ini bertujuan untuk mengetahui apakah hasil aktivitas anak dalam penggunaan media papan kantong penjumlahan dapat meningkatkan hasil belajar peserta didik pada mata pelajaran matematika dan Untuk mengetahui apakah penggunaan media papan kantong penjumlahan dapat meningkatkan hasil belajar peserta didik pada mata pelajaran matematika dikelas III SD Negeri 26 kota pagar alam. Penelitian ini menggunakan jenis penelitian kuantitatif, *pre-eksperimental design*. teknik pengumpul data menggunakan tes, observasi, wawancara dan dokumentasi. Hasil dari penelitian ini menunjukkan adanya pengaruh dalam peningkatan hasil belajar siswa pada mata pelajaran Matematika. Adanya pengaruh tersebut ditegaskan dari hasil hipotesis menggunakan uji *paired sample t-test* dengan pengolahan data SPSS versi 23 membandingkan suatu  $t_{tabel}$  dengan  $t_{hitung}$  jika  $t_{hitung} > t_{tabel}$  ( $t_{hitung} 17,000 > t_{tabel} 2,064$ ) maka  $H_0$  di tolak dan  $H_a$  diterima.

Kata Kunci: *Hasil Belajar, Media Pembelajaran, Papan Kantong Penjumlahan*

## Abstract

This study aims to determine whether the results of children's activities in the use of addition bag board media can improve student learning outcomes in mathematics subjects and to find out whether the use of addition bag board media can improve student learning outcomes in mathematics subjects in grade III SD Negeri 26 Pagar Alam city. This study used a type of quantitative research with a pre-experimental design. Data collection techniques include tests, observation, interviews, and documentation. The results of this study show an influence on improving student learning outcomes in mathematics subjects. The existence of this influence is confirmed from the results of the hypothesis using a paired sample t-test with SPSS data processing version 23 comparing a  $t_{\text{table}}$  with  $t_{\text{count}}$  if  $t_{\text{count}} > t_{\text{table}}$  ( $t_{\text{count}} 17,000 > t_{\text{table}} 2,064$ ) then  $H_0$  is rejected and  $H_a$  is accepted.

Keywords: *Learning Media, Learning Outcomes, Addition Bag Board*

## INTRODUCTION

Education is a deliberate and structured effort to create a learning environment and learning process to actively develop their potential, including spiritual strength, self-control, personality, intelligence, good morals, and the skills needed to contribute to society, nation, and country. According to Ki Hajar Dewantara, education is an effort that accommodates children's growth needs in life. Education aims to direct all the natural potential children have to achieve maximum happiness and safety as individuals and members of society. (Desi Pristiwati, 2022 : 1)

Education at the primary level not only aims to teach knowledge but also to shape the attitudes and skills necessary for children's personal and social development so that they are ready to continue their education to a higher level. In the current era of globalization, technology has become easily accessible to humans, including children. The use of technology in the field of education is essential because it can help in the learning and knowledge process. (Miftah Nurut Anisa, Dan dkk, 2020:2). The elementary / MI curriculum uses an integrated thematic learning approach from grades I to IV, while grades V to VI use an independent curriculum. Thematic learning is a learning approach that combines various competencies from various subjects from multiple subjects into various themes. In this study, I took thematic subjects focused on learning third-grade mathematics, which I learned about addition.

Learning is a change in student behavior through active training and experience. Learning only occurs when experienced alone by the person concerned and not replaced by others, ways of understanding and applying that are individual, which in turn will also cause personal results. (Tri Arifprabowo, 2018 : 13). The success of mathematics learning is

very influential on the teacher's ability to manage learning to be active and fun, a teacher in teaching in addition to mastering teaching materials, is also required to use learning media where the media must be by the subjects taught. The focus of math in lower grades, mainly grades 1, 2, and 3, is to develop practical numeracy skills that students can do independently. Until now, many students still face difficulties in understanding the concept of addition. (Ayu Rosanti, 2022 : 22). Learning media includes all tools or materials used in the learning process, both as teaching support for teachers and as a means of delivering material from learning resources to students. As intermediaries and messengers, learning media sometimes replace the role of teachers in conveying information to students. (Dr. Abdul Wahab Dan dkk, 2021 : 3) While the media is an alternative for teachers to deliver exciting material, many teachers have not used varied media to deliver learning. Many students play around and tell stories with their friends during the learning process, so they lose concentration. Therefore, using learning media is highly recommended, especially in mathematics subjects. It can be concluded that the media is a container of the message or source of its distribution that is forwarded to the target or recipient of the message that the material to be delivered is learning and that the goal to be achieved is the occurrence of the learning process. Learning using Pakajum media can increase student interest in learning because using media will interest students in these subjects. Moreover, the media to be used is in the form of visuals, which can motivate students to learn.

## RESEARCH METHOD

This type of research uses field *research*, which is directly carried out in the field or on respondents. In this case, direct learning should be conducted to determine the ability of children to recognize letters before and after using the *intelligent fun alphabet* method. The research design uses a *type of pre-experimental one group design*, because this design is not yet a natural experiment, which means that there is one experimental research requirement that is not met. The approach used in this study is quantitative. According to Sugiyono (2017:14), Quantitative research is used to examine a specific population or sample, data collection using research instruments, and data analysis is quantitative or to test hypotheses that have been set.

## RESULT AND DISCUSSION

From the *pretest* and *post-test* results conducted on grade III students of SD Negeri 26 Kota Pagar Alam, it was found that the average score on the *pre-test* results obtained

was 38.00 students who had scores above the average of 15 people. In contrast, students who had scores below the average amounted to 10 people. Then, the average post-test score obtained was 72.00. Students who had scores above the average on the post-test results were 11 people, while those who had scores below the average were 19. The *post-test* results are greater than the *pre-test* results. After researchers get the *pre-test* and *post-test* results, the data is tested using SPSS version 23.

In this section, the first and second problem formulations will be answered using SPSS version 23, so basic testing is needed first through a normality test, homogeneity test, then a hypothesis test to answer the first formulation, and a determination test to answer the formula.

### Normality Test

The normality test is used to test how much data is in a group and whether the data is normal or not. Researchers used the SPSS version 23 program to test the data. The basis for decision-making is that if the sig value  $> 0.05$ , then the data is considered normally distributed. The Kolmogorov-Smirnov normality test used, where the data will be presented below.

Table 1. Normality Test Result
Kolmogorov-smirnov normality test
0,071

Based on the table above, the results of the *pre-test* and *post-test normality tests* using SPSS version 23 with the Kolmogorov-smirnov formula obtained that the sig values in the *pre-test* were  $0.071 > 0.05$  and  $0.056$ . In contrast, for *the post test* of  $0.054 > 0.05$  and  $0.121 > 0.05$ , it can be said that *the pre test* and *post test* have a value (sig) of  $> 0.05$  so that the data *Pre test* and *post test* in this assessment are normally distributed.

### Homogeneity Test

The homogeneity used in this study used the Levene test. The homogeneity test is performed after the data is normally distributed. A homogeneity test is performed to determine whether the data has homogeneous variance. A homogeneous test conducted using SPSS 23.0 data can be said to be homogeneous if the significant value (sig)  $> 0.05$ . The homogeneity test results can be seen in the table below:

Table 2. Homogeneity Test Result

Levene Statistic test
0,754

Based on the results of data processing using SPSS version 23, the homogeneity test carried out on the pretest and posttest results above using the Levene formula can be known to have significant values of  $0.754 > 0.05$ , it can be concluded that the variance of posttest data is homogeneous because the sig value is greater than 0.05.

### Hypothesis Test

In the normality test and homogeneity test, the results of the data obtained are normal and homogeneity, it is necessary to do a t-test to answer the first problem formulation, whether there is an influence of the use of smart bag board media on the learning outcomes of mathematics subjects at SD Negeri 26 Kota Pagar Alam. The results of the paired t-test calculation *using* SPSS version 23 are as follows.

Table 3. Hypothesis Test Result

Uji paired sample t-test.			
Df	Sig.2-tailed	Standard Deviation	t-value
24	0,000	10,000	17,000

Based on the table above, by looking at the value of Df 24, the provisions on the distribution table apply. Hence, the researcher takes 2.064 as a reference in comparing a  $t_{table}$  with  $t_{count}$ , if  $t_{count} > t_{table}$  ( $t_{count} 17.000 > t_{table}$  of 2.064) then  $H_0$  is rejected and  $H_a$  is accepted. So, according to the results obtained, it can be concluded that  $H_a$  is accepted. This means the effect of using addition bag board media on the learning outcomes of mathematics subjects at SD Negeri 26 Pagar Alam City. An increase in the value before media use from 38.00 to 72.00 also reinforced the findings.

### Coefficient of Determination

The coefficient of determination is used to determine how much influence the use of addition bag board media has on the learning outcomes of mathematics subjects. The result of the coefficient of determination or  $R^2$  can be seen in the following table:

Table 4. Coefficient of Determination

Determination Coefficient Test ( $R^2$ )
0,460

Based on the output above, it is known that the value of the coefficient of determination or *R square* is 0.460. This translates to a variable variation in student learning outcomes (dependent) of 46.0%. Changes in variable Y, namely student learning outcomes, can be explained by the independent variable of addition bag board media, the remaining 54.0% is influenced by other variables not mentioned in this study.

Based on the analysis of research results, the addition bag board media is effective in improving student learning outcomes; in using the addition bag board media, the classroom atmosphere is not boring, so it makes students excited at the time of learning. So, it can be concluded that the teacher's learning process must be able to master engaging media that can be adjusted to the needs and conditions of students so that maximum learning results can be obtained.

This conclusion is corroborated by opinion (Furika meudina, 2023) yang states that the use of teacher summation board media is easier in delivering learning material and students are more interested in using the media so that in this case it can affect learning outcomes. This can be seen from the results of the hypothesis test, namely  $t_{count} > t_{table}$ , which is 18.799 greater than 2.048. In this case  $H_0$  is rejected  $H_a$  accepted so that there is an influence on the use of addition board media with student learning outcomes.

Previous research by Safhira Putri Nadilla entitled The Influence of Smart Pocket Board Media on Student Learning Outcomes on Summation Material in Grade III SD Negeri 1 Mata Le Aceh Besar with the results of research obtained calculations using t-test t-value count  $9.858 > t_{table} 2.034$ . These results show an influence of the use of smart bag board media on the learning outcomes of Mathematics Class III SD Negeri 1 Mata Le Aceh Besar.

## CONCLUSION

Before using the addition bag board media in mathematics learning, the average *pre-test score* of the students was 38.00. After using these media, there was an improvement in learning outcomes in grade III students of SD Negeri 26 Kota Pagar Alam in mathematics. This can be seen from the students' learning outcomes, where after using addition bag board media, the average score increased to 72.00.

The use of addition bag board media in learning has been proven to have a positive impact in improving the learning outcomes of grade III students of SD Negeri 26 Kota

Pagar Alam. This is reinforced by the results of hypothesis analysis using t-test (*paired sample t-test*) with data processing using SPSS version 23, which compares  $t_{\text{count}}$  values with  $t_{\text{table}}$ . In the analysis, it was found that the t-count (17,000) is greater than the t-table (2,064), so the null hypothesis ( $H_0$ ) is rejected, and the alternative hypothesis ( $H_a$ ) is accepted. Thus, it can be concluded that the use of addition bag board media has a significant influence on improving the learning outcomes of students at SD Negeri 26 Kota Pagar Alam.

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