



The Effect of the Use of Gadgets on the Learning Outcomes of Social Studies Subjects in Class V of SD Inpres Bumi Sagu

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ABSTRACT

This study aims to find out the existence and absence of the Influence of Gadget Use on Student Learning Outcomes in Class V of SD Inpres Bumi Sagu. The population in this study is all grade V students of SD Inpres Bumi Sagu for the 2024/2025 school year totaling 30 students, 15 VA class students as experimental classes and 15 VB class students as control classes. Sampling was done using purposive sampling techniques. Data collection using a multiple-choice test totaling 15 questions. Data analysis used Normality Test, Homogeneity Test, and Hypothesis Test. The test was carried out with the help of the IBM SPSS Statistics program version 27. The results of hypothesis testing using the Paired Sample T-Test or paired samples with the help of the IBM SPSS version 27 program showed that the significance values ($<0.001 < (0.05)$) which means H_a were accepted so that there was an influence of the use of gadgets on student learning outcomes in grade V of SD Inpres Bumi Sagu.

1. Introduction

Education and teaching is a process of efforts and demands made by educators. Goals can be interpreted as all efforts that must be achieved to provide the formulation of the expected results from educators to students after carrying out the learning process. According to Sunhaji (2014), the learning process is an effort to make students learn, so that the situation is an event of learning, which is an effort to change the behavior of students. According to Armia (2019), the term Learning and Teaching is the mastery of the acquisition and knowledge of a subject or skill with learning, experience, or teaching. As is happening today, the development of digital technology today is gadgets that have brought significant changes in various aspects of life, including in the field of education. Gadgets, such as smartphones, tablets, or laptops, have become an integral part of students' daily lives, both inside

and outside the school environment. According to Masturi (2021), gadgets are small devices that have special functions related to current technological developments. Gadget is a word that refers to an electronic device that has a very specific function, for example as a voice recorder, playing videos, displaying photos, and can even be used as a monitoring tool. According to Yumarni (2022), gadgets are electronic devices that have a variety of services, features, and applications that present the latest technology that helps human life become more practical and have special functions. From some of the opinions above, researchers conclude that gadgets are small and portable electronic devices that have functions to facilitate various daily activities of humans.

According to Putri (2021), the sophistication of information and communication technology with the emergence of gadgets is very helpful and makes it easier for humans to carry out daily activities. According to Leoni (2014), the tendency to use gadgets excessively and inappropriately can make a person indifferent to his environment. According to Rini (2021) The positive impact of using gadgets for children is that they can increase insight in terms of information, there are educational games that stimulate brain power, as a learning medium, can also increase knowledge for children. Meanwhile, the negative impact is to interfere with children's development, disturb children psychologically, disrupt children's achievements in school, and make children unable to behave well socially towards people or the surrounding environment.

From some of the opinions above, it can be concluded that the use of gadgets can affect the environment such as children are easier to understand all the new things around them, children are easier to interact and communicate with the people around them. But on the other hand, excessive or uncontrolled use of gadgets can interfere with concentration, cause addiction, and trigger a decrease in learning outcomes. To reduce the use of gadgets in this case, the role of parents is very necessary. According to Hidayatuladkia (2021), parents can provide time limits on the use of gadgets, be selective in choosing applications for children, accompany children when using gadgets, train children to be responsible for using gadgets, and parents try to supervise children in social interactions well. According to Juliati (2022), the benefits of gadgets in learning are 1.) Make it easier for students to get more information on the internet. 2) Students can ask the teacher outside of school hours if there is something they have not learned or provide guidance regarding their learning activities through their mobile phones. At school. 3) Gadgets are highly interactive.

From some of the opinions above, the researcher concludes that the use of gadgets can be useful in learning as a learning tool that can make it easier for teachers to provide material to students. According to Nurhikmah (2021), Learning is the process of acquiring knowledge and experience berupa perubahan perilaku and the ability to react relatively permanently or permanently due to the individual's interaction with his or her environment. Therefore, the researcher interprets that learning is an individual's ability as a process to acquire knowledge, attitudes, skills, and values through experience, study, or teaching. According to Somayana (2020), student learning achievement is the achievement achieved by students academically

through exams and assignments, the activeness of asking questions and answering questions that support the acquisition of learning outcomes.

Based on some of the opinions above, it can be concluded that learning outcomes are changes that occur in each student, both regarding cognitive, affective, and psychomotor aspects as a result of students' learning activities. Too much time spent playing games or accessing social media can interfere with concentration and focus on learning. From the results of initial observations made at SD Inpres Bumi Sagu, grade V, it is known that during the learning process, teachers use gadgets as a means to assist teachers in conveying information related to the material being taught. The gadgets used by grade V teachers are tablets provided by the school, students' smartphones, and digital corners in the school library. Teachers use gadgets flexibly in the learning process. However, after the learning process, teachers cannot directly supervise students in the use of the gadget. So, this can make students not focus on studying. The gadgets used by teachers are to make it easier for teachers and students to provide or find information related to learning materials through Google, You Tube.

Based on the background, the author wants to conduct further research with the purpose of the research, namely to find out whether there is an effect of the use of gadgets on the learning outcomes of students of social studies subjects in grade V of SD Inpres Bumi Sagu.

2. Methodology

The research used by the researcher in this study is quantitative research using experimental methods. Experimental methods are used to find the effect of certain treatments on others in a controlled situation or to seek the influence of certain variables on other variables. This research will be conducted at Inpres Bumi Sagu Elementary School, which is located on Jl. Letjen. Suprpto, No. 55, Besusu Tengah, Kec. Ulujadi, Palu City, Central Sulawesi, Postal Code 94118. This research activity is planned to be carried out in the 2024/2025 semester. The type of research used in this study is Quasi Experimental Design which has a control group. In the design of this study, a grouping was carried out into a control class and an experimental class. The VA class as an experimental class will be given treatment, namely the use of gadgets, while the VB class as a control class is not given treatment. The form of this research design can be seen in table 1 as follows:

Table 1. Research design

Class	Pre-test	Treatment	Post-tests
Class VA	O_1	X Gadget applicator	O_2
Class VB	O_3	–	O_4

Information:

- O_1 : Experimental Class Pretest
 O_2 : Posttest Experimental Class

x : Treatment of Gadget Use
 O_3 : Pretest Class Control
 O_4 : Posttest Control Class

The sample in this study is 15 students in class VA of SD Inpres Bumi Sagu, consisting of 6 males and 9 females and 15 students of class VB, consisting of 4 males and 11 females. The sampling technique used by the researcher in this study is purposive sampling which is a method of sampling based on certain considerations and objectives. The researcher took a research sample by considering the results of observations that had been carried out at SD Inpres Bumi Sagu. The type of data used in this study is quantitative data which is data in the form of numbers or numbers that can be input into the statistical measurement scale. The data obtained was in the form of a multiple-choice question test to determine students' cognitive understanding.

The data sources used by the researcher in this study are primary data and secondary data. For primary data, namely data obtained by researchers from students' understanding using multiple-choice test instruments from the control class and the experimental class. Meanwhile, secondary data is data obtained by researchers from various sources such as journals, books, learning tools, archives, and documents. The variables in this study are Independent Variables (Independent Variables). The independent variables in this study are Gadgets (X) and Dependent Variables (Bound Variables). The bound variable in this study is the learning outcomes of students in the science subject of class V at SD Inpres Bumi Sagu (Y). According to Djollong (2014), it is argued that an independent variable is a variable that can affect other variables.

This variable is referred to as a stimulus variable, an antecedent predictor. A bound variable (dependent variable) is a variable that is influenced by an independent variable. Often called output variables, criteria, consequential, Bound variables are variables that are affected or that are a consequence due to the existence of independent variables. This research was measured using a ratio scale. According to Tarigan (2023), the ratio scale is the most commonly encountered scale in physics. On the ratio scale, its numerical value can be changed (e.g. from inches to centimeters) by using constants. The ratio scale has an absolute zero. All types of statistical measures can be applied to the ratio scale, and only with this scale can we perform the transformation of the data correctly. Data collection techniques are an important part of the research stage.

According to Ardiansyah (2023), quantitative data collection techniques tend to pay more attention to data generalization and statistical analysis. The techniques used in this study are test techniques, documentation, interviews. The data analysis technique used normality tests, homogeneity tests and hypothesis tests. In the hypothesis testing, the data analysis technique used in this study uses a t-statistical technique (t-test). According to Syafriani (2023), the T-test is a statistical test used to test the truth or falsity of a null hypothesis. This study uses the analysis of "t" test data. According to Farida & Rahayu (2017) to test the hypothesis, the researcher used a t-test by determining a significant level of 5%, therefore if the sig value

obtained is less than 0.05 then H_a is accepted and H_o is rejected, and if the sig value is more than 0.05 then H_o is accepted and H_a is rejected. The hypothesis test used in this study uses an average difference test using the Paired Sample T-test analysis, with the help of the IBM SPSS version 27 program computer.

3. Result and Discussion

This research is a type of quasi-experimental research, where there is a control class and an experimental class. Both classes use the same learning model, namely the Problem Based Learning (PBL) model. The gadgets used in the experimental class are in the form of each student's smartphone, which is supported by the school's Wi-Fi facility and can be used during the learning process.

When using gadgets, the device acts as an aid in the learning process. Students can use it to open the Google app to search for various sources of information related to the subject matter in Topic B: "Why We Need to Eat and Drink", with a learning focus on the human digestive system. In addition, YouTube is used to help students understand the processes of the digestive system through the available learning videos.

Before learning activities or treatments, the researcher first gave pretest questions to all students in the experimental class and the control class. After the pretest, learning activities are carried out in accordance with the PBL syntax while giving treatment to the experimental class. In the first syntax, which is to orient students to problems, students are faced with a problem that they must understand and solve. At this stage, students in the experimental class can easily access a variety of learning resources through Google and YouTube when asked to understand how the processes of the human digestive system take place. It was seen that students in the experimental class could understand and see clearly the processes of the digestive system through video shows from YouTube shown in figure 1.



Figure 1. Figure Header

In the second syntax, which is organizing students to learn, the researcher directs students to seek information about "the digestive process and its disorders". In the experimental class, students are directed to use gadgets to access information from Google and YouTube. Meanwhile, in the control class, students were directed to look for information from textbooks.

There is a third syntax, which is to guide individual and group investigations, the researcher directs and supervises students in the experimental class in the use of gadgets. This is done to anticipate that students are not distracted by applications or content that are not related to learning, such as games or social media. On the other hand, in the control class, the researcher assists students in understanding the material, solving problems, and supervising the learning process.

In the fourth syntax, which is to develop and present the work, both classes present their work based on the Student Worksheet (LKPD). It was seen that the students in the experimental class were more active than the students in the control class. The activities in question include being active in discussing, asking questions, answering questions, and giving suggestions and input to friends. In the fifth syntax, which is analyzing and evaluating the problem-solving process, the researcher ensures that students have presented their work well. The researcher also provides constructive feedback and evaluates the results of students' work to ensure that learning objectives are achieved.

During the learning process, researchers found several significant differences before and after the use of gadgets, both from internal and external aspects of students in the context of learning. From an internal perspective, the use of gadgets has an impact on the mental and motivational aspects of students. Before using gadgets, students' motivation tends to depend on books, whiteboards, and direct interaction with teachers. However, after using gadgets, students become more motivated and interested in participating in more interactive learning, as well as being more active in expressing opinions and discussing with friends.

Externally, there are changes in student behavior, such as increased participation in learning activities and more active interaction during learning. This shows that the use of gadgets can create a more enjoyable learning atmosphere and increase student engagement. After the learning process and treatment were completed, the researcher gave a posttest to all students in the control class and the experimental class. The results of the pretest and posttest are then analyzed using statistical tests, namely:

- Normality test to determine the distribution of data,
 - Homogeneity test to test for similarity of variance between classes, and
 - Test hypotheses to see significant differences between student learning outcomes in the experimental class and the control class.
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Normality Test Results

Based on the results of the pretest and posttest obtained in the control class and the experimental class. Furthermore, a Normality Test was carried out using the Shapiro-Wilk method with the help of the SPSS 27 program. The results of the normality test can be seen in table 2.

Table 2. Prettest and Posttest Data Normality Test Results

Class		Shapiro-Wilk		
		Statistic	df	Sig.
Result	Experimental Class Pretest	0.923	15	0.217
	Posttest Experimental Class	0.902	15	0.103
	Control Class Pretest	0.904	15	0.109
	Control Class Posttest	0.904	15	0.110

Based on the results of the normality test, it was shown that all research data had a Sig value of > 0.05 , the Sig value of the experimental pretest was ($0.217 > 0.05$) and the pretest value of the control was ($0.109 > 0.05$), the value of the experimental posttest was ($0.103 > 0.05$) and the value of the control posttest was ($0.110 > 0.05$). Thus all data is distributed normally.

Homogeneity Test Results

Based on the results of the pretest and posttest obtained in the control class and the experimental class. Furthermore, a Normality Test was carried out with the help of the SPSS 27 program. The results of the normality test can be seen in table 3.

Table 3. Homogeneity Test Results

Test of Homogeneity of Variance					
		Levene			
		Statistic	df1	df2	Sig.
Learning	Based on Mean	2.122	3	56	0.108
Outcomes	Based on Median	1.277	3	56	0.291
	Based on Median and with adjusted df	1.277	3	45.846	0.293
	Based on trimmed mean	2.169	3	56	0.102

Based on the results of the homogeneity test in table 3, it is known that the data from the Based on Mean test results show a sig value of > 0.05 ($0.05 > 0.108$). Thus, it can be concluded that the data chose the same variance. Furthermore, the data can be continued to carry out hypothesis tests using the Paired sample t test.

Hypothesis Test Results

Based on the results of the normality test in table 2 and the homogeneity test in table 3, a hypothesis test was then carried out using the paired sample T-test to see whether there was a significant influence or no influence by using gadgets on the learning outcomes of students of science subjects in grade V of SD Inpres Bumi Sagu. The Paired sample T-test analysis test was carried out with the help of the

IBM SPSS Statistic 27 program. The hypothesis of the Paired Sample T-Test analysis test is as follows:

Ha : The use of gadgets affects the learning outcomes of students of science subjects in grade V of SD Inpres Bumi Sagu.

Ho : The use of gadgets has no effect on the learning outcomes of students of science subjects in grade V of SD Inpres Bumi Sagu.

Hypothesis testing was carried out at a significant level of 5% (0.05). The decision-making criteria for accepting and rejecting Ho on this test is a significant value of > 0.05 then Ha is rejected or Ho is accepted, on the other hand, if the significant value is < 0.05 then Ha is accepted and Ho is rejected. The results of the analysis of the Paired Sample T-Test with the assistance of the IBM SPSS Statistic 27 program. It can be seen in the following table 4.

Table 4. Results of Paired Sample T Test Experimental class

		Paired Samples Test							
		Paired Differences							
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	PretestExperiment - PosttestExperiment	-40.533	11.1603	2.88158	-46.7137	-34.3529	14.06	14	< 0.001

Based on table 4, the results of the Paired Sample T-Test analysis test with the help of the IBM SPSS Statistic program 27 sig value. (2.tailed) is < 0.001 < 0.05, then Ha is accepted by Ho rejected so that it can be concluded that there is an influence of the use of gadgets on the learning outcomes of students of science subjects in grade V of SD Inpres Bumi Sagu.

Discussion

Based on the results of data analysis on the results of the pretest and posttest in the control class and the experimental class, a normality test was carried out which can be seen in table 2 obtained that the results of the normality test of normalized data were normal, then because the requirements of the normalized research data have been met, then a homogeneity test was carried out which can be seen in table 3 obtained from the results of the homogeneity test obtained homogeneous data or had the same variance, Furthermore, a hypothesis test can be carried out using the Paired Sample T-Test analysis or paired samples with the help of the IBM SPSS version 27 program seen in table 4 obtained a significance value of < 0.001 < 0.05 which means Ha is accepted so that there is an influence of the use of gadgets on student learning outcomes in grade V of SD Inpres Bumi Sagu. This is also supported by Sandi (2023) in a study entitled "The Effect of Gadget Use on Social Studies Learning Outcomes of SDN 13 Muaradua Students" and Yuliati &

Yi'Tsabit (2023) in their research entitled "The Effect of Gadget Use on Mathematics Learning Outcomes of Elementary School Students".

4. Conclusion

Based on the results of research that has been conducted by researchers at SD Inpres Bumi Sagu, it can be concluded that there is an influence of the use of gadgets on the learning outcomes of students of science subjects in grade V of SD Inpres Bumi Sagu. This is evidenced by the results of the tests that have been carried out. The use of gadgets can actually provide students with the will to find and solve the problems given to them. However, it is very unfortunate if students get answers to the problems given that are not in accordance with what they should be.

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