International Journal of Scientific Research and Engineering Development-– Volume 6 Issue 6, Nov- Dec 2023

Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

The Effect of Gadget Use and Parental Attention in Improving the Learning Outcomes of High Grade Students at SD Negeri 2 Airmadidi

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Abstract:

Many factors affect learning outcomes, including from an environment that is integrated with advances in science and technology, namely gadgets that are used in learning as well as parental attention to student learning development. the purpose of this study was to determine the effect of gadget use and parental attention on student learning outcomes in high grades at SD Negeri 2 Airmadidi. This study used a correlational quantitative method, with the research sample being grades 4, 5, and 6 of SD Negeri 2 Airmadidi totaling 61 students. The variables in this study are X_1 gadget use, X_2 parental attention and Y learning outcomes. Data were collected with a questionnaire that had been tested for validity and reliability. Hypothesis testing in this study begins with a prerequisite test, namely normality test and linearity test. Furthermore, testing hypothesis 1 and hypothesis 2 using simple regression analysis and testing hypothesis 3 used multiple regression analysis testing. The results showed that there was a significant effect both individually and jointly or simultaneously on the gadget use variableand theparental attention variable to the learning outcomes variable of high grade students at SD Negeri 2 Airmadidi.

Keywords **—Gadget Use,Parental Attention,Student Learning Outcomes**

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I. INTRODUCTION

LearningTechnological progress is now very rapid and increasingly sophisticated. Many advanced technologies have been created and made enormous changes in human life in various fields. The current generation, especially those in elementary school, is called the Alpha generation or millennium children. Excessive the gadget use can make children dependent on gadgets, even they are closer to gadgets than to their families. Gadgets can make children forget about their duties as students, they forget to do the assignments given by the teacher, they are lazy to study at school and there is no motivation in learning.

In the existing learning process, if there is an assignment given they do it with the help of gadgets, they no longer rely on their own abilities. But it is not only about excessive gadget use that has an impact on student learning outcomes, but also lack of parental attention. Nowadays, the role of teachers and even parents is very important to develop students' interest in learning. Teachers are required to provide learning that can generate students' passion for learning, by presenting fun and enjoyable learning. In order to take students to a

higher level, a quality teaching and learning process is needed. From this learning process, the learning outcomes will be known. Based on the above background, the authors conducted a study on the Effect of Gadget Use and Parental Attention in Improving the Learning Outcomes of High Grade Students at SD Negeri 2 Airmadidi.

II. METHOD

This research uses correlational quantitative research, with the research sample being grades 4, 5, and 6of SD Negeri 2 Airmadidi, totaling 61 students. The variables in this study are X_1 gadget use, X_2 parental attention and Y learning outcomes. Data were collected with a questionnaire that hasbeen tested for validity and reliability. Hypothesis testing in this study begins with aprerequisite test, namely normality test and linearity test. Furthermore, testing hypothesis 1 andhypothesis 2 using simple regression analysis and testing hypothesis 3 used multiple regressionanalysis testing.

III. RESULT AND DISCUSSION

The pre-requisite analysis carried out in this study is the normality test and the linearity test. The statistical results of the normality test using the Kolmogrov Smirnov test is 0.463>0.05. The results of this normality test show that parental attention data on learning outcomes are normally distributed, or meet the assumptions of data normality. Furthermore, the linerity test X_1Y shows the significance value of *deviation from linearity* which is 0.65>0.05 which indicates that between the variables of gadget use (X_1) and learning outcomes (Y) has a significant linear relationship. Likewise, the results of the X_2Y linerity test obtained a significance value of *deviation from linearity*, namely 0.821>0.05, which shows that between the variables of parental attention (X_2) and learning outcomes (Y) has a significantly linear relationship. The prerequisite test results indicate that the data is normally distributed and has a linear relationship between the independent variable and the dependent variable, thereforecorrelational hypothesis testing can be continued.

Testing hypothesis 1 used simple regression analysis to determine the effect of gadget variables (X_1) on learning outcomes (Y). Data analysis using the SPSS version 20 use application as shown in the following table.

TABLE I
HYPOTHESIS TEST 1 : EFFECT OF VARIABLE X_1Y

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	118.055	8.078		14.614	.000
Gadget Use	.175	.084	.261	2.075	.042
a. DependentVariable: LearningOutcomes					

Based on the data in table 1, the regression equation is obtained as follows.

$$Y' = a + bX_1 = 118{,}055 + 0{,}175X_1 \ldots\ldots\ldots (1)$$

Equation 1 shows a constant of 118.055 which means that the consistency value of the gadget use variable (X_1) is 118.055 the regression coefficient (X_1) is 0.175 which states that adding 1% to the value of gadget use, learning outcomes will increase by 0.175. The regression coefficient is positive so it can be said that the direction of the effeect of gadget use (X_1) on learning outcomes (Y) is positive. Furthermore, the data in table 1 shows the $t_{value} = 2.075 > t_{table\text{-}value}\ (\alpha = 0.025) = 2.001$ for the effect of variable X_1, on Y. Thus the research findings in hypothesis 1 test are the use of gadgets has a significant effect on learning outcomes.

While the research findings on hypothesis testing 2, namely to determine the effect of parental attention variables (X_2) on learning outcomes (Y) using the SPSS version 20 application as shown in table 2.

TABLE II
HYPOTHESIS TEST 2 : EFFECT OF VARIABLE X_2Y

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	76.119	11.436		6.656	.000
Parental Attention	.275	.118	.290	2.325	.024
a. DependentVariable: LearningOutcomes					

Based on the data in table 2, the regression equation is obtained as follows.

$$Y' = a + bX_2 = 76.119 + 0.275X_2 \ldots\ldots (2)$$

Equation 2 explains that the constant is 76.119 which means that the consistency value of theparental attention variable (X_2) is 76.119 the regression coefficient (X_2) is 0.275 which statesthat the addition of 1% parental attention value, the learning outcomes will increase by 0.275.The regression coefficient is positive so it can be said that the direction of the effect ofparental attention (X_2) on learning outcomes (Y) is positive. Based on the results of the simpleregression test in the table above, the t_{value}obtained for the effect of variable X_2 on Y is 2.352while the $t_{table\text{-}value}$ can be seen in the statistical table at a significance of 0.05/2 = 0.025 (2-side test) with degrees of freedom (df) n - k or 61-2 = 59, the result obtained for the $t_{table\text{-}value}$ is 2.001. When compared, thet$_{value}$=2.352>$t_{table\text{-}value}$ = 2.001. Thus the second finding inthis study is that parents' attention has a significant effect on learning outcomes.

Furthermore, in testing hypothesis 3, multiple regression analysis was used to determinethe effect of gadget use variables and parental attention simultaneously on learning outcomes.Data analysis using the SPSS version 20 application as shown in table 3.

TABLE III
HYPOTHESIS TEST: SIMULTANEOUS EFFECT OF VARIABLES X_1 X_2Y

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.256	15.250		.468	.454
Gadget Use	.654	.105	.652	6.021	.000
Parental Attention	.331	.146	.440	2.811	.005
a. DependentVariable: LearningOutcomes					

The data in table 3 shows that the significance value of 0.454 is greater than 0.05, so the regression model can be used to predict the participation variable or in other words, there is an effect of the gadget use variable (X_1) and parental attention (X_2) on learning outcomes (Y). From the table of multiple regression analysis results, the multiple regression equation is as follows.

$$Y' = a + b_1X_1 + b_2X_2 = 8.256 + 0{,}654\ X_1 + 0{,}331X_2 \ldots (3)$$

Fromtheregressionequationobtained, thefollowingcanbeexplained:

1) The constantvalueof 8,256, statesthatifthelearningoutcomesvariable (Y) is not effectedbythetwoindependentvariablesortheuseofgadgets (X_1) and parental attention (X_2) is zero, thentheaverageteacherperformancewillbe 8.256.
2) The regressioncoefficientfortheindependentvariable X_1 gadget usageispositive, indicating a unidirectionalrelationshipbetween gadget usage (X_1) andlearningoutcomes (Y). The regressioncoefficientofvariable$X_1$is 0.654, whichindicatesthatforeveryincrease in the gadget usescore (X_1) byone unit, itwillcauseanincrease in learningoutcomes (Y) by 0.654.
3) The regressioncoefficientfortheindependentvariable X_2 parental attentionispositive, indicating a unidirectionalrelationshipbetween parental attention (X_2) andlearningoutcomes (Y). The X_2variableregressioncoefficientof0.331 indicatesthatforeachincrease in parental

attentionscore (X_2) byone unit willcauseanincrease in learningoutcomes (Y) by 0.331.

Furthermore, hypothesis testing is continued by using Anova, the results of which are presented in table 4 below.

TABLE IV
F-TEST (SIMULTANEOUS)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1016.149	2	508.074	3.466	.038[b]
	Residual	8500.999	58	146.569		
	Total	9517.148	60			
a. DependentVariable: LearningOutcomes						
b. Predictors : (Constant), Parental Attention, Gadget Use						

The data from the hypothesis testing results in table 4 shows that the F_{value} is 3.466 while the $F_{table-value}$ can be seen in the statistical table with a significance value of 0.05, with degrees of freedom df 1 = (number of variables-1) or df 1 = 3-1 = 2 and df 2 = (n-k-1) or df 2 =61-2-1 = 58, the results obtained $F_{table-value}$is 3.16. When compared, the value of F_{value} = 3.466>$F_{table-value}$ = 3.16. Thus it can be concluded that the gadget use and parental attention simultaneously affect learning achievement.

Finding 1 in this study is that the use of gadgets affects the learning outcomes of high- grade students at SD Negeri 2 Airmadidi. The rapid development of culture is followed by the advancement of sophisticated technology. If you are not able to utilize it positively, especially for learning needs, it will make things that interfere with learning activities. This is inseparable from Balitbang's theory about the function of gadgets, among others: 1) as a communication tool to stay connected with friends or family, 2) as business support, 3) as a social boundary changer, and 4) as a stress relief tool. If the intensity is not followed by proper use, especially for students who are still in elementary school, it can affect their interest in leaming. This can interfere with learning achievement at school. Technological advances should be utilized to obtain broader information, for example through the internet students can search for materials or lesson materials that students do not understand when learning at school. As stated by[1] that current learning which we often hear as 21st century learning should be able to form human resources who are literate in information, data and technology. This is in accordance with the opinion stating that the use of gadgets can support learning activities by using a browser to find learning resources other than books[2]. Gadgets have benefits as a means of learning for children. The benefits include learning to speak by showing introductory videos which can then be imitated by children, learning to count, recognize letters, recognize animals, and so on. Learning by using gadgets will certainly be more interesting because there are many interesting features that can be utilized for learning activities. Students will be eager to learn when they feel happy and interested, they will be more motivated to continue learning[3]. Apart from having a positive impact, it turns out that gadgets also have a negative impact, such as addiction to online games in elementary school children, making children slow in understanding lessons, and can also cause the risk of radiation due to playing gadgets too often and too close to the eyes. With the negative impact of gadget use on elementary school children, there are also solutions to prevent unwanted things from happening. For example, avoid introducing gadgets to elementary school children, give good examples to children, and do not spoil children too much.

This means that excessive use of gadgets both for communication and interaction withothers, looking for information or something related to education or entertainment such as watching videos on YouTube, listening to music and so on, will make someone forget their time and obligations. However, when students are able to minimize the use of their gadgets and not forget their time andobligations, then these students can be said to have self-awareness as a form of awareness in learning.

The journal article in[4] explained that gadgets have a positive effect and negative effect on the learning process and learning outcomes. The positive effect is that gadgets can help them to stimulate their senses and imagination. In addition,

gadgets can also help listening skills, learning sounds and also speaking skills, various gadget devices and various game applications, encourage cognitive and analytical skill development. It also helps in developing innovative thinking, strategic thinking, investigative skills and enhances children's creative potential.

Furthermore, the second research finding in this study is that the parental attention variable affects student learning outcomes, this is in line with thesis[5] which explains that there are many factors that effect these learning outcomes. The findings of this study also show that the effect of the environment, either the school environment or the family environment, can improve learning outcomes[6]. In this study it is also known that simultaneously, parental parenting and gadget use can also affect student learning outcomes. if a student who uses a gadget is accompanied or in the use of gadgets parental supervision is very good, then get good learning outcomes, because if he uses or utilizes gadgets without supervision from parents, children can use the gadget by finding things as they wish or maybe the gadget is used to play games and not to study. If they use gadgets accompanied by supervision from parents, parents can provide direction and guidance in the use of good gadgets that can support student learning. The results of this study are in line with the research findings of journal article in[7] which state that there is an effect of parental guidance on student learning responsibilities that lead to optimal learning outcomes.

When parents provide good attention and education as well as habituation of positive things at home, children will get used to discipline in everything, including discipline in learning. This means that parents who always pay attention to their children such as choosing a good environment for children, providing adequate care, educating and training children, providing affection, providing religious guidance, fulfilling children's needs both psychological and physical needs, and providing examples to their children, then there will be a feeling that children get support from both parents, children also know things that are allowed and not allowed, so as to bring up disciplinary behavior in all matters including discipline in learning, then children will have good learning awareness. This shows that the higher the parental attention to students, the better the students' learning awareness.

While the third research result in this study is that simultaneously the gadget useandparental attention of high-class students at SD Negeri 2 Airmadidi jointly affect learning outcomes. Parental attention and gadget use at SD Negeri 2 Airmadidi can simultaneously make student learning outcomes better. The journal article in [8]explain that if parental attention and gadget use are both well optimized, it is not impossible that these two things can affect children and make them enthusiastic about learning and later get good learning results too. Basically, the use of gadget technology at this time has positive and negative impacts on children, including in the formation of children's mindset, which can help children in regulating the speed of play, processing strategies and analysis in games, and helping children improve their right brain abilities as long as they are under good supervision by parents[9]. However, from some of these positive impacts, if examined further, the dominant factor is more towards the negative impact that affects children's development. Children usually get gadgets from their parents as entertainment. Initially, the first use is only filled with audio features such as music so that children are not bored and become an entertainment medium for their children. However, over time children are usually bored with the content or features available, so that children escape from parental supervision. Children will utilize gadgets for the benefit of playing games, watching YouTube, and so on that are fun rather than communication.[10] Children become complacent with gadgets and no longer care about their learning. Therefore, there needs to be cooperation between parents and teachers in designing programs that can minimize the use of gadgets in a negative direction. And of course this is teacher creativity that needs to be developed[11]in collaboration with parents.

In the 4.0 era like today, children's interest in learning is decreasing, especially due to the effect of rapidly developing information technology including gadgets. Gadgets affect children in the

process of interacting within the scope of their school and at home, especially during this pandemic. Gadgets can facilitate children in the learning process, but it does not rule out the possibility that gadgets can also hinder children from learning. Therefore, parents' attention is needed to always accompany children in using gadgets. If unaccompanied by parents, children will prefer to play games or social media rather than studying or doing schoolwork.

IV. CONCLUSIONS

Based on data analysis, hypothesis testing and the results of the discussion that has been stated by the researcher, it can be concluded as follows.

1. Thereis a significanteffectof gadget useonthelearningoutcomesofhighgradestudentsat SD Negeri 2 Airmadidi. Thismeansthatthegadget usecanimprovestudentlearningoutcomes.
2. Thereis a significant effectof parental attentiononthelearningoutcomesofhigh-classstudentsat SD Negeri 2 Airmadidi. Thisillustratesthat parental attentioncanbeoneofthefactorsthateffecttheimprovementofstudentlearningachievement.
3. Thereis a significanteffectof gadget useand parental attentiononthelearningoutcomesofhighgradestudentsat SD Negeri 2 Airmadidi. Thus, thegadget useand parental attentioncanimprovestudentlearningoutcomes.

ACKNOWLEDGMENT

Thank you very much to Universitas Negeri Manado and SD Negeri 2 Airmadidi for supporting the team in this research and thank you also to the International Journal of Scientific Research and Engineering Development (IJSRED).

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