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THE EFFECT OF USING SMARTPHONES ON THE LEARNING ACHIEVEMENT OF CLASS XI MIPA SMA KARTINI UTAMA STUDENTS

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Abstract: *- This study aims to examine whether there is an influence of the use of smartphones on student achievement in SMA Kartini Utamain the Department of Mathematics and NaturalSciences class XI. Sampling using simple random sampling technique. The sample taken was MIPA 1 class XI with 36 students. This study uses one independent variable, namely the use of smartphones (X) and one dependent variable, namely learning achievement (Y). The data usedin this study are primary data in the form of questionnaires with 36 respondents and secondary data in the form of average report cards. This research method uses ex post facto. The data analysis technique used in this study is simple regression analysis. The results of this study note the significance value (Sign.) of 0.416, which means greater than 0.05. In addition to the independent variable (smartphone usage),* t_{count} *= 0.823 <2.0322 =* t_{table} *is obtained. So it can be concluded that H0 is accepted and Ha is rejected which means there is no significant effect between smartphone usage (X) on student achievement (Y).*

Keywords: Influence, Learning Achievement, Smartphone

A. Introduction

The increasingly rapid development of information and communication technology is changing the order of human life in various aspects of life. The field of communications is one example. It can be seen that there are many changes in the field of communication. One of them is electronic communication (Saputra, 2017). Smartphones are an example of changes in electronic communication that are developing rapidly. According to Winarno (2009) in (Rachmawati, Rede, & Jamhari, 2017) states that smartphones are electronic devices that have special functions. According to Manumpil, et al (2015) in (Aini Musariffah, 2018) smartphone is a product made with various advanced features that can make it easier for users to search for information, access the internet, present news and find the various entertainment they want. Common features on smartphones include camera, internet, GPS, video calls, telephone, SMS, email, Bluetooth, WiFi, games, music and others. Because the many features make smartphones one of the basic needs for everyone.

Especially among students, nowadays almost every student has a smartphone. Fatima and Mufti (2014) emphasized in (Sobon & Mangundap, 2019) that with smartphones students can learn scientific material by using smartphones as an interesting learning resource. Not a few schools have legalized the use of smartphones in the school environment. The use of smartphones among students has an important influence on the Teaching and Learning Activities (KBM) process. And everyone involved in educational institutions must also understand the role of technology in their lives (Handayani, Tati., Sami'in., Silalahi, 2023). For educational institutions, technological developments open up vast opportunities for students to gain knowledge that is difficult to obtain without the limitations of space and time (Purwanto, H., Ginting, Nursamsiah., Wulandari, 2023).

The existence of smartphones not only has a positive impact but also has a negative impact on students if they are used incorrectly. Excessive use of smartphones sometimes creates problems for students in the learning process. Technology can lead its users to success or vice versa if its use is not accompanied by good spiritual intelligence (Alban, Alban, Pohan, Indrawani., Rayani, 2023). Not a few students are unfocused and

don't pay attention to the teacher during learning because they are busy playing on their smartphones. This also sometimes has an impact on students' assignments, students do not do their assignments because they are too busy playing on their smartphones and even stay up late at night. The existence of smartphones should be able to enable students to think more critically in facing life, especially in the world of education (Pani, Pani, Wahidah, Pasaribu, 2023). But in the realita, the existence smartphone have a negative impact on student learning achievement in the classroom. According to Ariwaseso (2011) in (Haikal, Thohari, & Mustafida, 2018) achievement is a result of a learning or change process involving science, skills, and individual attitudes and experiences in interacting with the environment. For this reason, teachers must have adequate competence in learning by mastering technology (Butar Butar, Fadilah Sari., Sari, Dina., Arief Efendi, 2023). Apart from that, adequate curriculum support is also one of the supports for the realization of a good learning process in schools (Bancin, Aisyah., Asmitasari Manik, Loli., Cahaya, 2023). Even though in the curriculum all children must be treated the same, teachers who better understand the character of their students must be able to provide treatment that is appropriate to the child's character, even though its implementation is not easy (Henri Agustina, Ardiana Dalimunthe, 2023). Teachers need to do this so that students can be trained to always be tolerant, respect differences and work together wherever they are (Nikmah,, Khairun., Agung., Sihotang, Mulyadi, 2023).

According to Sanjaya (2010) in (Sjukur, 2013) learning is a process of a person's mental activity in interacting with their environment so as to produce positive changes in behavior, both changes in knowledge, attitudes and psychomotor aspects. It is said that students will get good achievements depending on the success or failure of a learning process in the learning experienced by students. Good achievement starts from a good learning process. Student success in learning can also be seen by how well students perform in the classroom. So there needs to be success in the learning process so that students get good achievements. According to Slameto (2010) in (Mulyani, 2013) there are 2 factors that influence student success in learning, namely: internal factors and external factors. Internal factors are divided into three parts, namely fatigue factors (physical and spiritual), physical factors (health, disability), and psychological factors (attention, interest, talent, maturity, motives, skills, readiness to learn and intelligence). Meanwhile, external factors are factors that originate from the individual, such as the family environment, school environment and community environment.

This research aims to determine whether there is an influence of smartphone use on student learning achievement at SMA Kartini Utama majoring in Mathematics and Natural Sciences (MIPA) class XI. It is hoped that the benefits of this research can contribute to the development of knowledge, especially in conducting school management to improve school quality

B. Methods

According to Sugiyono (2016), research methods are a scientific way to obtain data with specific useful purposes. Research methods used in this research it is ex post facto in the form of causal relationship research. Casual Relationship is a cause and effect relationship, where in this research there are independent variables (variables that influence) and dependent variables (variables that are influenced). According to Sukardi (2012) in (Asmurti, Unde, & Rahamma, 2017) ex post facto research is research that relates to variables that have already occurred and does not need to provide treatment for the variables studied.

The population in this study was class XI MIPA students at SMA Kartini Utama with the number of students can be seen in Table 1.

Table 1 Data for Class XI MIPA Students

Kelas	Jumlah siswa
XI MIPA 1	36
XI MIPA II	36

XI MIPA III	36
XI MIPA VI	36
Amount	144

Source : SMK Kartini Utama

The sample in this research was 36 students in class XI Mathematics and Natural Sciences, MIPA I class. The sampling technique used was simple random sampling technique. The simple random sampling technique means that the sampling technique from the population is carried out randomly without any terms and conditions for members of the population. Researchers use this sampling technique because the samples are taken randomly and there are no special requirements for taking existing samples.

There are 2 variables in this research. Variable X and variable Y. Variable X is an independent variable or independent variable while variable Y is a dependent variable or dependent variable. In this study, variable X is the influence of smartphone use, while variable Y is the dependent variable, namely student learning achievement.

The data collection method used in this research is in the form of a questionnaire and documentation. The questionnaire data type is primary data while documentation is secondary data. In this research, the researcher will provide a questionnaire in the form of a closed questionnaire which has been provided with alternative answers by the author. The questionnaire was filled out by class XI MIPA I SMA Kartini Utama students with a total of 10 question items. The type of data produced is data. The documentation used in this research includes the average report card score of class XI students majoring in MIPA I SMA Kartini Utama.

The data analysis technique in this research is using simple linear regression analysis. According to Johnson (2002) in (Djuniadi, Afiffudin, & Lestari, 2017) Regression analysis is a data analysis method used to predict the value of the dependent variable from several independent variables. In this study there is only one independent variable. Researchers use this technique to find out how much the significance of the dependent variable is influenced by the independent variable. Before carrying out data analysis with simple linear regression, there are several prerequisite tests, namely normality test, heteroscedasticity test and linearity test. The normality test aims to determine whether the data being analyzed is normally distributed or not. The normality test is very important because it is related to testing the requirements for data analysis techniques. The test tool used to carry out the normality test in this research is the Kolmogorof-Smirnov Test using SPSS version 16. The heteroscedasticity test is carried out to test whether when carrying out regression analysis there is no similarity between the variance of the residuals of one observation and other observations. If the variance from the residuals from one observation to another is not constant, then it is homoscedasticity and if it is different it is called heteroscedasticity. A good regression model is a regression model that does not have heteroscedasticity, which means that the regression model has homoscedasticity. To get more accurate results, carry out the heteroscedasticity test. Researchers used the SPSS version 16 program. The linearity test was used to determine whether variable X (smartphone use) and variable Y (learning achievement) had a linear relationship.

C. Result And Discussion

Presentation of research data from each variable using the IBM SPSS version 16 program. The results of data processing on smartphone use (X) show that the score on variable X, namely smartphone use, is in the range 6-10. Based on the data obtained during the research which was then processed statistically, the total result was ∑ and the maximum score is 10. For clarity, see Table 2.

Table 2 Recapitulation of Statistical Figures

	Nilai
Minimum Value	6
Maximum Value	10
Mean	7.1667
Median	7
Modus	7
Std. Deviation	1.13389
Total Scor of variable X	258

Next, from the distribution results, data classification and frequency are carried out as in Table 3.

Table 3 Frequency Distribution of Smartphone Use (X)

Scor	Frequency	Persentage (%)
6	11	30,6
7	15	41,7
8	5	13,9
9	3	8,3
10	2	5,6
Total	36	100

Based on the frequency distribution table for smartphone use scores (X), it can be seen that from 36 respondents the highest frequency was score 7 with a frequency of 15 or 41.7% of the total number of respondents. On the other hand, the lowest frequency was at a score of 10 with a frequency of 2 or 5.6% of the total number of respondents.

The results of processing student achievement data (Y) show that the total score for variable Y, namely student learning achievement, is in the range of 77 to 84. Based on the data obtained in the research, the total score = 2889, with an average value (mean) of 80.25 , median value 80, mode 81, with standard deviation 1.71339. The maximum score is 84 and the minimum score is 77. To clarify the summary of the score numbers, see Table 4 below.

Table 4 Recapitulation of Statistical Figures for Variable Y (Learning Achievement)

	Mark
Minimum Value	77
Maximum value	84
Mean	80,25
Median	80
Modus	81
Std. Deviation	1.71339
Total scor of variable Y	2889

Next, from the distribution results, data classification and frequency are carried out as in table 5:

Table 5 Frequency Distribution of Learning Achievement (Y)

Mark	Frequency	Persentage (%)
77	2	5,6
78	3	8,3
79	7	19,4
80	8	22,2
81	10	27,8
82	2	5,6
83	2	5,6

84	2	5,6
Total	36	100

Based on the frequency distribution table of learning achievement scores (Y), it can be seen that from 36 respondents the highest frequency was a score of 81 with a frequency of 10 or 27.8% of the total number of respondents. On the other hand, the lowest frequencies were at scores of 77, 82, 83, and 84 with a frequency of 2 or 5.6% of the total number of respondents.

Before the data is analyzed, there are several stages that must be carried out, namely the normality test, heteroscedasticity test, and linearity test. Based on data analysis with SPSS version 16, it can be seen that the significance value shows normality data. The value criteria used are said to be normal if the significance value (sign) is greater than Alpha (α=5% or 0.05), whereas the value criteria are said to be abnormal if the significance value (sign) is smaller than Alpha (α= 5% or 0.05). The results of the normality test in this study are as follows:

Table 6 One-Sample Kolmogorov-Smirnov Normality Test

Asymp. Sig. (2-tailed)	A(α)	Information
0,759	0,005	0,759 > 0,05 Normal

In the normality test table using one sample Kolmogorov, the significance value (Asymp. Sign) is 0.759 or 75.9%, meaning this value is more than the Alpha value (α = 5% or 0.05). So it can be concluded that the data is normally distributed. Next is the heteroscedasticity test. If the significance value (Sign.) is greater than 5% or 0.05 then heteroscedasticity does not occur. Conversely, if the significance value is smaller than 5% or 0.05 then heteroscedasticity occurs. Heteroscedasticity test results can be seen in the table:

Table 7 Heteroscedasticity Test Table

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	2.128	1.154		1.843	.074
Usage_*smartphone*	-.115	.159	-.123	-.721	.476

a. Dependent Variable: Abs_RES

Based on the heteroscedasticity test table above, it is known that the significance value (Sign.) for variable X (smartphone use) is 0.476. So it can be concluded that variable X (smartphone use) does not have heteroscedasticity.

After the heteroscedasticity test, the next prerequisite test is the linearity test. It is said that there is a significant linear relationship if the Deviation from Linearity Sig value is greater than the Alpha value (α = 0.05 or 5%). On the other hand, if the Deviation from Linearity value is less than the Alpha value (α= 0.05 or 5%), then there is no significant linear relationship between the independent variable (X) and the dependent variable (Y). The results of the linearity test between variable X (smartphone use) and variable Y (learning achievement) can be seen in the following table:

Table 8 Linearity Test

	Sum of Squares	df	Mean Square	F	Sig.
Deviation from	9.399	3	3.133	1.063	0,379

Based on the Linearity Test Table above, it is known that the Sig value. The Deviation from Linearity is 0.379, meaning it is greater than Alpha (α = 0.05 or 5%). So it can be concluded that there is a linear relationship between the smartphone use variable (X) and the learning achievement variable (Y). After all the prerequisites are met, the next step is a partial hypothesis test (t test). In this study, the hypothesis proposed by the researcher is:

H0 There is no effect of using Smartphone(X) on Achievement student learning (Y)

Ha There is an influence of using Smartphone(X) on learning achievement student (Y)

To find out whether there is an influence between variable X and variable Y, you can see it by looking at the significance value (Sign.). If the significance value (Sign.) is smaller than 0.05 then there is a significant influence of smartphone use on student achievement. On the other hand, if the significance value (Sign.) is greater than 0.05 then there is no significant effect of smartphone use on student achievement. To find out whether there is a significant influence, you can see the table below:

Table 9 Hypothesis Test Table

Model	*Unstandardized Coefficients*		*Standardized Coefficients*		
	B	*Std. Error*	*Beta*	*t*	*Sig.*
1 (Constant)	78.737	1.861		42.303	.000
Usage *smartphone*	.211	.257	.140	.823	.416

a. Dependent Variable: learning_achievement

Based on table 8 above, it is known that the significance value (Sig.) is 0.416, which means it is greater than 0.05. Apart from that, it can be seen in column t that the value t = 0.823 <2.0322 = t table. So it can be concluded that H0 is accepted and Ha is rejected, which means there is no significant influence between smartphone use (X) on student learning achievement (Y). To find out how much influence the smartphone usage variable (X) has on the learning achievement variable (Y), it can be seen in the following significance table:

Table 10 Significance of Smartphone Use Variables (X)

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	.140[a]	.020	-.009	1.72136

a. Predictors: (Constant), usage *smartphone* (X)

b. Dependent Variable: learning_achievement (Y)

Based on the table above, it can be seen that R Square is 0.020. It can be concluded that the influence of smartphone use (X) on learning achievement (Y) is 20%, while 80% of learning achievement is influenced by other variables that cannot be examined in this research.

The results of the research state that there is no influence of smartphone use on student learning achievement. This means that students can make good use of technology. Smartphones can be a good influence on learning achievement if students are able to use them well. Like using a smartphone to search for study material. On the other hand, if students use smartphones only to play games and use bad things, it can affect the student's learning achievement.

D. Conclusion

Based on the results of the research that has been carried out, it can be concluded that between the independent variable, namely the influence of smartphone use, and the dependent variable, namely student learning achievement at SMA KARTINI UTAMA, there is no significant influence.

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