



THE IMPACT OF SMARTPHONE USE ON LEARNING ACHIEVEMENT OF 11 GRADE MILLENNIAL STUDENTS, VOCATIONAL TECHNICAL HIGH SCHOOL BECORA

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ABSTRACT

This study aims to measure and determine the impacts of smartphones on learning achievement. Researchers utilize a quantitative method in this study. The population in this study was 420 students of Becora Vocational Technical High School. Purposive sampling was used to determine 81 students. Data collection techniques were observation, questionnaires, and documentation. The data analysis used validity, reliability, normality, Linearity, simple linear regression, and partial test (t-test). The results show that the items for using Smartphone (X) are (0.000; 0.001; 0.002; 0.003; 0.004; 0.005) < 0.05, indicating that the items are valid. Learning achievement (Y) is (0.006; 0.001; 0.009; 0.002; 0.003; 0.002) < 0.05 items are valid. The results showed that utilizing smartphones does not significantly impact student learning achievement. Based on observation, smartphones facilitate students' communication, research, and network expansion, suggesting that teachers and parents supervise and control all students using smartphones.

INTRODUCTION

Information technology (IT) is one of the things that will not be separated from modern human life in the 21st century. Information technology has existed for

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centuries. Nothing is developing without information technology. Humans need IT to communicate and convey information. Technology development is rapid, including WhatsApp, Facebook, music, games, videos, handphones, internet, TikTok, and so on (Rumetna et al., 2022).

Technology has positive and negative impacts. It is likened to a sharp cognition; using it correctly will bring good benefits. However, if it is misused, it will negatively impact one's life. One becomes addicted to technology, especially the internet (Atmoko et al., 2022; Fitri et al., 2022). For some people, the level of happiness is measured by an unlimited internet connection for hours, days, even months, and beyond. Various information from all parts of the world can spread directly. That is why one should be grateful for technological advances. One can find out about disasters that occur inside and outside the country, even though we are in Timor-Leste, of course, this technological advancement has caused enormous changes in the life of mankind with all its civilizations and cultures, (Rumetna et al., 2022).

Smartphones are a combination of cellular telephone devices or mobile phones (Ilyas et al., 2022). Those computers provide more convenience for users, including students, for communicating, obtaining, sharing information, entertainment, and playing games online (Abidin et al., 2023). It is the benefit of using smartphones (A. da Costa et al., 2019).

Using smartphones as learning media can increase student knowledge, facilitate access to information, and increase interaction between students and teachers and between students and society. Students use smartphones as learning media to find sources of information, make it easier to find references for school assignments and readings for learning, and support new learning methods. (Sari & Hamid, 2024). In the millennial era, technological advances dominate all communities, from elementary school to university students. Students often use smartphones in things that are fun on their own will. It includes the willingness to facilitate learning activities such as reading, finding references for school assignments, communication, music, games, and so on (Husnah et al., 2024).

Students nowadays use smartphone technology. It's essential, however, that there are also positive and negative impacts. Positive impacts, such as smartphones being a practical learning tool. This is increasing student knowledge, being a source of reading and learning information for doing assignments, and making learning easier

and more fun. The negative impacts of using smartphones unwisely can reduce student learning achievement, reduce diligence, make them less resilient, and less motivated to learn. It also causes social disturbances, disrupting direct interaction with teachers and classmates. Disrupting creates negative characteristics in students such as selfishness and arrogance (Abidin et al., 2023).

METHOD

The researcher uses quantitative methods in this research. Collect data through observation, questionnaires, and documentation. Those data were measured and analysed statistically (Brito & Da Costa, 2024; Harahap, 2024). In the context of the impact of smartphone use on learning. This method determines the impact of smartphone utilization on the learning utilization of class 11⁰ millennial students at ESTV-GTI Becora. There is a total population of 11⁰ class students at ESTV-GTI Becora, totaling 420 students. The sample is 81 students. The researcher chose the quantitative method to determine the impact of using smartphones in learning through a hypothesis test, instrument validation through validity and reliability tests.

This test measures the validation of the question items of variables X and Y as valid and reliable. The data analysis utilizes simple linear regression analysis. According to Brito & da Costa (2024), regression analysis is a data analysis method used to predict the value of the dependent variable from several independent variables. Here are two variables, one dependent and one independent variable. Researchers use this technique to determine whether the independent variable influences the dependent variable. Before analyzing data with simple linear regression, there are several prerequisite tests: the Normality test, linearity test, simple linear regression, and hypothesis testing (Brito & da Costa, 2024; Sari & Hamid, 2024).

RESULT AND DISCUSSIONS

Instrument validity and reliability test

Based on the results of the instrument, which was tested validly and reliably according to the following requirements: if the significance value < 0.05 (5%), then the item is significantly valid, and if the significance value > 0.05 (5%), then the item

is significantly invalid. From the results of the X and Y variable output shows that the items of the Smartphone Usage (X) variable with a significant value of (0.000; 0.001; 0.002; 0.003; .0.004; .0.005) < 0.05 , significant items are valid. The Learning achievement (Y) with a significant value of (0.006; 0.001; 0.009; 0.002; .0.003; .0.002) < 0.05 significant items are valid. The results of Cronbach's Alpha from the Smartphone Usage variable (X) show a value of 0.810, and the results of Cronbach's Alpha from the Learning Utilization variable (Y) show a value of 0.877.

The following conditions must be met to decide whether one variable is reliable: If the Cronbach's Alpha value is > 0.6 , it is significantly reliable. It is significantly unreliable if the Cronbach's Alpha value is < 0.6 . So, if the Cronbach's Alpha value > 0.6 or $0.810 > 0.6$, the Smartphone Usage variable (X) is reliable. Furthermore, if the Cronbach's Alpha value is > 0.6 or $0.877 > 0.6$, the Learning Utilization variable (Y) is reliable.

Data Normality Test

Referring to the output of the data normality analysis, with the interpretation of the results on the following conditions:

1. Hypothesis testing

- ✓ H0: The sample comes from a normally distributed population
- ✓ H1: Samples come from a population that is not normally distributed

2. Whether the data is normally distributed or not:

- ✓ If the significance < 0.05 , then reject H0 and accept H1, meaning that the data is not normally distributed.
- ✓ If the significance value > 0.05 , then accept H0 and accept H1, meaning with normally distributed data.

To determine whether the data is usually distributed, look at the significance of the value. Then, we look at the significance value of Kolmogorov-Smirnov because the sample is more than 50. From the results, the sig. Kolmogorov-Smirnov value > 0.05 , then accept H0, meaning that the population data is usually distributed.

Table 1. Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Utilizing Smartphone	.090	81	.165	.977	81	.150
Functioning Learning	.124	81	.003	.965	81	.027

a. Lilliefors Significance Correction

Referring to table 1, the significance value of the Smartphone Usage variable is > 0.05 ($0.165 > 0.05$), then we accept H_0 . This means that the data from the Smartphone Usage variable is normally distributed. Meanwhile, the Learning Utilization variable, the significance value > 0.05 ($0.003 > 0.05$). The result showed that the test hypothesis accepts H_0 and rejects H_1 . Meaning the data for the Learning Utilization variable is normally distributed (Brito & da Costa, 2024; Husnah et al., 2024).

Data Linearity Test

The linearity test becomes another essential test for analyzing parametric statistics. The purpose of this test is to discover whether the relationship between the two variables (independent and dependent) is linear or not. These two variables have a linear relationship where the significance value (Linearity) < 0.05 . (Brito & da Costa, 2024; Cut Nelga Isma1, 2022)

Table 2: Linearity results

ANOVA Table

	Sum of Squares	df	Mean Square	F	Sig.
Utilizing a learning * functioning smartphone	141.827	1	10.910	1.063	.405
Between Groups	37.478	1	37.478	.652	.600
Deviation from Linearity	104.350	1	8.696	.847	.602
Within Groups	687.531	6	10.262		
Total	829.358	8			

1. Condition for data to be linear or not

- ✓ If the significance < 0.05 , then reject H_0 and accept H_1 , meaning there is a linear relationship between variables X and Y.
- ✓ If the significance > 0.05 , then accept H_0 and reject H_1 , meaning there is no linear relationship between variables X and Y.

2. The significance value of Linearity indicates the Linearity or lack thereof of the relationship between variables X and Y. Referring to the results, since the significance value. Value <0.05 , then accept H1, meaning a linear relationship exists between the variables X and Y. If the Sig. Value >0.05 , then reject H1, meaning no linear relationship exists between the variables X and Y. The following table compares the significance value of Linearity with a significance degree of 5%.

Table 3: table comparison

Variable	Sig. Linearity	Comparison	P sig.	Conclusion
Utilizing Smartphone * Functioning Learning	0,060	>	0,05	Non-Linear

Based on the results of the comparison in the table above, the value of sig. (significance) > 0.05 ($0.060 > 0.05$). It means there is no linear relationship between Smartphone Use (X) and Learning Utilization (Y) variables.

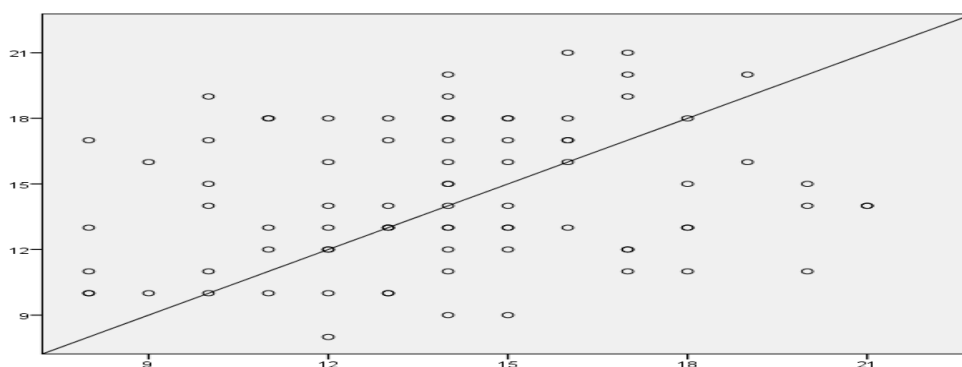


Figure 1: Results of linearity analysis on scatterplot charts.

Figure 1 shows no linear relationship between Smartphone Usage (X) and Learning Utilization (Y) variables. After placing a diagonal straight line on top, it can be observed that the data is somewhat distant from this diagonal line. Based on the results of the normality and linearity analysis in Table 1 on Smartphone Use and Learning Utilization, it shows that the data of these two variables are from a population with a normal distribution, and these two variables also indicate that there is no linear relationship.

Partial test (t-test)

Table 4 Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta		
(Constant)	11.432	1.572		.272	.000
Utilizing Smartphone	.212	.110	.213	.934	.057

a. Dependent Variable: Functioning Learning

It is known that the value of sig. for the variable of smartphone use (X) to learning utilization (Y) is $0.057 > 0.05$. So it can be concluded that receiving H0 and total H1 means that smartphone use (X) has no impact on learning utilization (Y).

CONCLUSIONS

Based on the results of the analysis that has been carried out, it can be concluded that H0 and H1 are rejected, which means that the use of Smartphones (X) has no impact on the Utilization of Learning (Y). This research is expected to be a reference for future researchers to make updates by researching other factors regarding the problem of smartphone use for students, as a reference, comparative material in research related to the use of smartphones in learning, and as basic data in future research.

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