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**THE EFFECT OF TECHNOLOGY USE ON STUDENT LEARNING INTEREST AT SMA  
NEGERI 13 SURABAYA**

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**Abstrak**

This study aims to examine the impact of technology use, especially smartphones, on students' learning interest at SMA Negeri 13 Surabaya. The method used is descriptive quantitative with data collection through questionnaires given to 32 grade XII students. Data were analyzed using SPSS version 22 with several statistical tests, namely validity, reliability, normality, homogeneity, linearity, and simple linear regression tests. The results showed that all research instruments were valid and reliable, and the data met the required statistical assumptions. Regression analysis showed a positive and significant influence between technology use and students' learning interest, as evidenced by the results of the F test (Sig.= 0.000 < 0.05) and the t test (t count = 5.736; Sig. = 0.000). These findings confirm that technology, including smartphones, has an important role in increasing students' learning interest through the presentation of materials that are more interactive, interesting, and relevant to students' needs in the digital era. This study recommends the effective use of technology to support improving the quality of learning in schools.

**INTRODUCTION**

Over the past twenty years, the rapid and dynamic growth of information and communication technology (ICT) has triggered a digital revolution that has transformed the way of life around the world.

This has brought about major changes in many areas, including industry, trade, and social communication. It has also changed paradigms and practices in many areas of human

life, including the most important one, namely education. ICT, which includes high-speed internet, smart devices, and digital learning platforms, is now essential for reshaping the way students, teachers, and educational institutions learn in this digital age (Ahmad et al., 2020). In the digital age, the comprehensive integration of information and communication technology (ICT) into the learning process has become an urgent necessity. Various devices and resources encompass this phenomenon. These include the use of personal devices such as tablets and smartphones, internet connections as a gateway to unlimited sources of information, the use of interactive educational applications, and the development of virtual reality-based learning media. These components not only serve as tools but also function as the basic infrastructure for transforming conventional classrooms into flexible learning environments that are full of resources and tailored to the needs of today's generation of learners (Hanum et al., 2023).

Technology has great potential to create a more interactive, flexible, and personalized learning environment. This is expected to increase students' interest in learning. One psychological factor that has a major influence on students' success in achieving learning objectives is interest in learning. Students who have a high level of interest are more likely to show greater interest, pay more attention, and participate more actively in learning activities. In terms of technology, the appropriate use of information technology can make lessons more interesting and relevant for students who grow up in a digital culture (Ramdani et al., 2025). Therefore, the purpose of this article is to thoroughly examine how the use of technology in various forms affects students' interest in learning. Another purpose is to evaluate whether smartphones affect students' interest in learning at SMA Negeri 13 Surabaya.

## **METHODS**

This study uses a quantitative descriptive approach. The purpose of this study is to systematically and factually explain the symptoms, events, or phenomena that are occurring. A quantitative approach is used as the main framework to achieve this objective, and is characterized using numerical data throughout the process, from data collection, statistical analysis, interpretation of results, and presentation of results. The quantitative approach is used because it relies on numbers, from the data collection process to the interpretation of the data results.

This research will be conducted at SMA Negeri 13 Surabaya, East Java, in October 2025. The main focus of this research is to analyze the impact of technology use on students' interest in learning. The specific objectives of this research are to identify and study the factors that influence changes in students' interest in learning, as well as to evaluate the impact of the presence and use of technology on the quality and intensity of students' interest in learning in the school environment.

Two variables were used in this study. The independent variable is the variable that causes changes in other variables. Smartphone use is the independent variable (X). The dependent variable is the variable that undergoes changes due to the influence of the independent variable. Learning interest is the dependent variable (Y). In this study, the population includes some students at SMA Negeri 13 Surabaya. Only one class was used to

take a sample of 32 people. In this study, primary data was collected through the distribution of questionnaires to 32 students in class XII at SMA Negeri 13 Surabaya. The purpose of this data collection is to measure the variables of learning interest and smartphone use (Fitri et al., 2022). Furthermore, the data will be analyzed using SPSS version 22, which includes statistical tests such as the Validity and Reliability tests of the instrument, Assumption Tests (Normality, Homogeneity, and Linearity), Inferential Tests such as T-test and F-test (ANOVA), and Descriptive Tests (Muskita & Muskita, 2022).

## RESULT AND DISCUSSION

### A. Descriptive Tests

Ghozali (2018:19) states that descriptive statistics are a type of statistic used to analyze data by providing an overview or explanation of the data through mean values, maximum values, minimum values, and standard deviation (Rosdiani & Hidayat, 2020). The following are the results of the descriptive test in SPSS:

#### → Descriptives

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
X	32	25	47	72	54.09	1.031	5.833	34.023	1.134	.414	1.504	.809
Y	32	34	45	79	58.09	1.237	6.995	48.926	1.315	.414	2.788	.809
Valid N (listwise)	32											

Figure 1. Descriptive Statistics Test Result

It is known that the amount of data (N) for both variables is 32. For variable X, the smallest value is 47 and the largest value is 72, with an average of 54.09 and a standard deviation of 5.833. Meanwhile, variable Y has a minimum value of 45 and a maximum value of 79, with a mean of 58.09 and a standard deviation of 6.995.

The average shows that the score on variable Y is generally higher than variable X. The variance of data on variable X is 34.023, while on variable Y it is 48.926, which means that the data on variable Y is more spread out than variable X. From these results, it can be concluded that the two variables have a relatively normal data distribution and can be used for further analysis.

### B. Validity Test

Validity testing is a way to check how well a measuring instrument can measure what it is supposed to measure (Sanaky et al., 2021). The test was conducted using the Pearson Product Moment correlation technique by correlating the score of each statement item with the total variable score. A statement can be considered valid if the calculated correlation value (r-value) is greater than the table correlation value (r table). If the calculated correlation value (-value) is less than the table correlation value (r table), then the statement item is considered invalid.

Variable statement X use of technology

		.039	.427	.096	.240	.410	.007	.400	.302	.314	.299		1.000	.011	
P12	Pearson Correlation	.284	.192	.309	.306	.306	.063	.079	.347	.264	.536		.000	1	.12
	Sig. (2-tailed)	.115	.291	.086	.089	.089	.732	.868	.052	.144	.002		1.000		.51
	N	32	32	32	32	32	32	32	32	32	32		32	32	32
P13	Pearson Correlation	.233	.227	.162	.148	.396	.397	.083	.055	.199	.208	.451**	.010	.513	
	Sig. (2-tailed)	.199	.211	.376	.418	.025	.025	.653	.767	.276	.253	.001	.010	.513	
	N	32	32	32	32	32	32	32	32	32	32	32	32	32	32
P14	Pearson Correlation	.228	.243	.254	.229	.323	.148	.352	.183	.150	.120	.427	.000	.067	.06
	Sig. (2-tailed)	.210	.181	.161	.208	.071	.419	.048	.316	.413	.515	.015	.015	.715	.73
	N	32	32	32	32	32	32	32	32	32	32	32	32	32	32
P15	Pearson Correlation	.412	.332	-.093	.478	.622	-.025	-.047	.607	.647	.670	-.070	.571	.23	
	Sig. (2-tailed)	.019	.063	.614	.006	.000	.891	.797	.000	.000	.000	.704	.001	.19	
	N	32	32	32	32	32	32	32	32	32	32	32	32	32	32
P16	Pearson Correlation	.376	.297	.408	.169	.270	.444	.487	.153	.116	.047	.551	.063	.15	
	Sig. (2-tailed)	.034	.099	.020	.355	.136	.011	.005	.403	.526	.797	.001	.732	.38	
	N	32	32	32	32	32	32	32	32	32	32	32	32	32	32
P17	Pearson Correlation	.205	.247	-.126	.421	.590	-.226	-.116	.467	.492	.730	-.027	.466	.18	
	Sig. (2-tailed)	.261	.173	.492	.016	.000	.213	.528	.007	.004	.000	.883	.007	.32	
	N	32	32	32	32	32	32	32	32	32	32	32	32	32	32
P18	Pearson Correlation	.260	.430	-.145	.486	.784	-.119	.025	.517	.435	.547	.098	.269	.32	
	Sig. (2-tailed)	.150	.014	.427	.005	.000	.518	.893	.002	.013	.001	.593	.136	.06	
	N	32	32	32	32	32	32	32	32	32	32	32	32	32	32
TOTAL	Pearson Correlation	.726	.696	.358	.701	.764	.397	.501	.686	.679	.624	.449	.477	.430	
	Sig. (2-tailed)	.000	.000	.044	.000	.000	.024	.004	.000	.000	.000	.010	.006	.01	
	N	32	32	32	32	32	32	32	32	32	32	32	32	32	32

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

Figure 2. Validity Test of Variable X Statements Results

Variable statement Y student interest in learning

		.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
P14	Pearson Correlation	.409	.126	.259	.538	.424	.246	.259	.340	.270	.491**	.215	.401	.398
	Sig. (2-tailed)	.020	.493	.152	.002	.016	.175	.152	.057	.136	.004	.237	.023	.02
	N	32	32	32	32	32	32	32	32	32	32	32	32	32
P15	Pearson Correlation	.097	.311	.333	.351	.321	.083	.382	.052	.252	.349	.512	.065	.33
	Sig. (2-tailed)	.596	.083	.062	.049	.073	.653	.031	.778	.165	.050	.003	.723	.06
	N	32	32	32	32	32	32	32	32	32	32	32	32	32
P16	Pearson Correlation	.506	.088	.572	.731	.229	.011	.466	.224	.225	.571	.407	.081	.628
	Sig. (2-tailed)	.003	.631	.001	.000	.207	.953	.007	.217	.215	.001	.021	.659	.00
	N	32	32	32	32	32	32	32	32	32	32	32	32	32
P17	Pearson Correlation	.437	.255	.474	.685	.239	.191	.415	-.156	.269	.594**	.572	-.054	.575
	Sig. (2-tailed)	.012	.158	.006	.000	.189	.295	.018	.395	.136	.000	.001	.768	.00
	N	32	32	32	32	32	32	32	32	32	32	32	32	32
P18	Pearson Correlation	.240	.089	.606	.593	.283	.057	.408	.179	.015	.651	.504	.045	.551
	Sig. (2-tailed)	.186	.627	.000	.000	.117	.757	.020	.327	.936	.000	.003	.807	.00
	N	32	32	32	32	32	32	32	32	32	32	32	32	32
P19	Pearson Correlation	.278	.192	.084	.249	.402	.409	-.095	.171	.656	.176	.029	.461	.00
	Sig. (2-tailed)	.123	.291	.647	.170	.023	.020	.604	.351	.000	.336	.873	.008	.96
	N	32	32	32	32	32	32	32	32	32	32	32	32	32
P20	Pearson Correlation	.185	.312	.111	.299	.277	-.002	.515	-.173	.120	.176	.434	-.059	.442
	Sig. (2-tailed)	.310	.082	.544	.096	.125	.990	.003	.343	.514	.336	.013	.748	.01
	N	32	32	32	32	32	32	32	32	32	32	32	32	32
TOTAL	Pearson Correlation	.599	.417	.545	.632	.664	.486	.490	.363	.525	.608	.615	.468	.636
	Sig. (2-tailed)	.000	.018	.001	.000	.005	.004	.004	.041	.002	.000	.000	.007	.00
	N	32	32	32	32	32	32	32	32	32	32	32	32	32

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

Figure 3. Validity Test of Variable Y Statements Results

From the SPSS output above, the table correlation value (r-table) used is 0.349, with a total of 32 respondents and a significance level of 5% ( $\alpha = 0.05$ ). Based on the validity test results obtained from SPSS, it is known that all items in the technology use variable (X) and student learning interest variable (Y) have a calculated correlation value greater than the table correlation value (r-value > 0.349) and have a positive correlation.

Thus, it can be concluded that all items in the technology usage variable and student learning interest variable are considered valid because they meet the requirement that the r-value is greater than the r-table. This shows that the instruments used can measure the variables accurately and can proceed to the reliability testing stage.

### C. Uji Reliabilitas

According to Sugiharto and Situnjak (2006) in Sanaky et al. (2021), reliability is defined as the extent to which data collection instruments in a study can be relied upon and are capable of accurately representing the actual data in the field. Reliability is measured using Cronbach's Alpha coefficient, which has several levels:

- Cronbach's Alpha  $< 0,60$  → Low reliability
- $0,60 \leq$  Cronbach's Alpha  $< 0,70$  → Sufficient reliability
- $0,70 \leq$  Cronbach's Alpha  $< 0,80$  → Good reliability
- Cronbach's Alpha  $\geq 0,80$  → Excellent reliability

Cronbach's Alpha	N of Items
.868	18

Figure 4. X Variable Reability Test

Cronbach's Alpha	N of Items
.874	20

Figure 5. Y Variable Reability Test

The Cronbach's Alpha value for the technology use variable (X) is 0.868 and the Cronbach's Alpha value for the student learning interest variable (Y) is 0.874. These results are greater than 0.70, so it can be concluded that all questions in the two variables above have excellent internal consistency. This means that each question in the questionnaire can measure the same construct consistently.

### D. Normality Test

According to Nurhaswinda et al. (2025), one way to determine whether data comes from a normally distributed population is to perform a normality test. If the Sig. value is greater than 0.05, this indicates that the residual data is normally distributed, so the statement can be considered normal. The residual data does not follow a normal distribution if the Sig. value is 0.05 or less.

Statistic	df	Sig.
.946	32	.112

Figure 6. Normality Test Results

Because the number of participants in this study was less than fifty ( $N = 32$ ), the Shapiro-Wilk test was used. Analysis conducted with IBM SPSS Statistics produced a Shapiro-Wilk value of 0.946 and a significance value of 0.112. The decision rule states that residual data is considered normally distributed if the Sig. value is greater than 0.05. The

results of the study show that the residual data are normally distributed because the significance value of 0.112 is higher than the threshold of 0.05. This means that the assumption of normality in the regression model has been met, so that the regression analysis can be continued.

### E. Homogeneity Test

The homogeneity test is used to determine whether several population groups are similar or not (Usmadi, 2020). The basis for determining the results of the homogeneity test uses the significance value (Sig.) from the Levene test. If the Sig value is  $> 0.05$ , the data is said to be homogeneous. However, if the Sig value is  $< 0.05$ , the data is considered non-homogeneous.

**Test of Homogeneity of Variances**

TOTAL JUMLAH

Levene Statistic	df1	df2	Sig.
.087	1	62	.769

Figure 7. Homogeneity Test Results

The results from the SPSS output above in the sig column show a significant value greater than 0.05 ( $0.769 > 0.05$ ), meaning that the data has homogeneous variance. This means that the assumption of homogeneity has been met and the analysis can proceed to the next stage.

### F. Linearity Test

Linearity testing is used to determine whether two or more variables being examined have a significant linear relationship or not (Setiawan et al., 2020). The basis for decision making in linearity testing is that if Sig. Linearity  $< 0.05$  and Sig. Deviation from Linearity  $> 0.05$ , then the relationship between variables X and Y can be said to be linear..

**ANOVA Table**

			Sum of Squares	df	Mean Square	F	Sig.
Y * X	Between Groups	(Combined)	1095.802	15	73.053	2.777	.025
		Linearity	793.302	1	793.302	30.155	.000
		Deviation from Linearity	302.500	14	21.607	.821	.641
Within Groups			420.917	16	26.307		
Total			1516.719	31			

Figure 8. Linearity Test Results

The significance value for the Linearity component is 0.000, which is less than 0.05, according to the results of the analysis using the SPSS program. This indicates that X and Y

have a significant linear relationship. However, there is no significant deviation from the linear relationship, as indicated by a significance value of 0.641 in the Deviation from Linearity component, which is greater than 0.05. Since X and Y do have a linear relationship in this study, the analysis can proceed to the next stage, namely linear regression analysis.

Simple Linear Regression Test

### G. F-Test

To determine whether there is a significant relationship between two variables, X and Y, the F test is used. This test also assesses the suitability of the regression model in the study, which in this case is defined as the model's ability to explain the overall relationship between the two variables. If the significance value (Sig.) is less than 0.05, the regression model is considered significant according to the F-test decision criteria. This indicates that variable X collectively affects variable Y.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	793.302	1	793.302	32.898	.000 <sup>b</sup>
	Residual	723.417	30	24.114		
	Total	1516.719	31			

a. Dependent Variable: Y  
b. Predictors: (Constant), X

Figure 9. F-Test Results

According to the results of the ANOVA table analysis, the calculated F value is 32.898 and the significance value (Sig.) is 0.000, which is less than 0.05. These results indicate that the regression model in this study is statistically significant, thus supporting the conclusion that X has a positive and statistically significant effect on Y. Therefore, the regression model in this study can be used to explain the relationship between the variables X and Y. In addition, the null hypothesis stating that the two variables are not independent of each other can also be accepted.

### H. T-Test

One way to determine how much influence variable X has on other variables is to use the t-test. This test is conducted to determine whether each independent variable has a significant effect on the dependent variable in the regression model. The results can be seen by looking at the significance of the value (Sig.). A large effect of variable X on variable Y is indicated when the significance value is less than 0.05. Variable X does not have a significant effect on variable Y if the significance value is higher than 0.05.

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.180	8.225		1.359	.184
	X	.867	.151	.723	5.736	.000

a. Dependent Variable: Y

Figure 10. T-Test Result

From the analysis of the Coefficients table, a t-value of 5.736 and a significance value (Sig.) of 0.000 were obtained. Since the significance value is less than 0.05 ( $0.000 < 0.05$ ), it can be concluded that variable X has a significant effect on variable Y.

## DISCUSSION

Based on the results of statistical analysis, it appears that all instruments in this study have good validity and reliability. The data used also has a normal distribution and uniform diversity, thus fulfilling the classical assumptions required in performing regression analysis. The results of simple linear regression analysis show that there is a positive and significant effect between the use of technology and student learning interest at SMA 13 Surabaya. This means that the more frequently and effectively technology is used in the learning process, the higher the students' interest in learning. This finding is in line with constructivist theory, namely that students will be more interested in learning if they are actively involved and able to construct their own knowledge through learning experiences that use technology. The use of interactive media, educational videos, and digital applications can increase students' motivation and attention to the material being taught.

The results of this study are also supported by previous research conducted by (Gaho, 2023), which found that the use of technology such as computers, laptops, and Wi-Fi networks increases students' interest, attention, and participation in learning. It can be concluded that technology plays an important role in increasing students' interest in learning, especially in today's increasingly digital world. By utilizing technology such as computers, laptops, the internet, and various interactive learning media, the learning process becomes more interesting, livelier, and more relevant to students' daily lives. Technology is not only useful as a tool for delivering material, but it can also be a means of stimulating curiosity, increasing student participation, and strengthening their intrinsic motivation to learn.

## CONCLUSION

Based on the results of research conducted at SMA 13 Surabaya, it was concluded that the use of technology on student learning interest has a significant effect at the school. The F test shows that this regression model is quite significant (Sig. =  $0.000 < 0.05$ ). In addition, the t-test results show that the variable of technology use (X) has a significant effect on learning interest (Y) with a t-value of 5.736 and Sig. = 0.000. This means that the more frequently and effectively students use technology in learning, the higher their interest in learning.

The tools used in the study were proven to be valid and reliable. The data also met the

assumptions of normality, homogeneity, and linearity, so the analysis results were trustworthy. These findings indicate that technology plays a significant role in enriching the learning process, making it more interesting, interactive, and relevant to students' lives today. The use of technology-based learning media, such as interactive videos, educational applications, and internet access, can increase students' attention, motivation, and participation in learning. Thus, the appropriate use of technology in education can be an effective way to increase students' interest and quality of learning in school.

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