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The Effectiveness of Using YouTube as a Learning Media in Class VII Informatics Subjects at SMP Pertiwi 2 Padang

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Abstrak
Untuk pemanfaatan YouTube sebagai media pembelajaran masih terbilang baru, dikarenakan guru tidak memiliki pengetahuan dan keterampilan yang cukup efektif untuk memanfaatkan YouTube dalam pembelajaran. Penelitian ini dirasa akan mampu menumbuhkan kemandirian peserta didik sehingga mereka akan mengalami proses belajar yang lebih bermakna serta pembelajaran pun menjadi lebih efektif dan efisien. Tujuan penelitian ini adalah untuk mengetahui efektivitas pemanfaatan YouTube sebagai media pembelajaran pada mata pelajaran Informatika kelas VII di SMP Pertiwi 2 Padang.Metode penelitian yang digunakan dalam penelitian ini adalah kuantitatif. Dengan desain penelitian Pretest dan Post Test one group design. Populasi dalam penelitian ini adalah siswa kelas VII. Sampel diambil menggunakan teknik Sampling jenuh yang terdiri hanya dari satu kelas VII sebanyak 27 orang peserta didik sebagai kelas eksperimen. Teknik yang digunakan dalam pengumpulan data adalah hasil skor nilai Pretest dan Post Test pada mata pelajaran Informatika berupa pilihan ganda dengan 20 butir soal.Hasil penelitian menunjukkan bahwa nilai rata-rata Post Test kelas eksperimen yang memanfaatkan YouTube adalah 82,22 ini lebih tinggi dibandingkan dengan nilai rata-rata Pretest sebelum diberi perlakuan pembelajaran YouTube yaitu 60,74. Maka berdasarkan hasil perhitungan uji-t diperoleh bahwa $\hbar >$ yaitu 9,306 > 2,056 dengan dibuktikan taraf signifikan α 0,05 nilai signifikansinya adalah 0,001 < 0,05 maka H0 ditolak dan H1 diterima. Kesimpulannya pemanfaatan YouTube sebagai media pembelajaran efektif pada mata pelajaran Informatika Kelas VII Di SMP Pertiwi 2 Padang.

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Abstract
For the utilization of YouTube *as a learning media, it is still relatively new, as teachers lack sufficient knowledge and skills to effectively utilize* YouTube *in teaching. This research is believed to be able to foster students' independence so that they will experience a more meaningful learning process, and learning will become more effective and efficient. The purpose of this study is to determine the effectiveness of utilizing* YouTube *as a learning media in the subject of Informatics for seventh-grade students at SMP Pertiwi 2 Padang.The research method used in this study is quantitative, with a Pre-Test and Post-Test one group design. The population in this study is seventh-grade students, and the sample was taken using a saturated sampling technique, consisting of only one experimental class with 27 students. The data collection technique involved scoring Pre-Test and Post-Test values in Informatics, in the form of multiple-choice questions with 20 items. The research results show that the average Post-Test score for the experimental class utilizing* YouTube *is 82.22, which is higher than the average Pre-Test score before receiving* YouTube*-based instruction, which was 60.74. Based on*

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1. INTRODUCTION

Technological advances have brought about fundamental changes in the way we interact with the world around. From using *smartphones* to communicate to using *e-commerce platforms* to shop, technology has permeated almost every aspect of daily life. Even the Internet and digital *platforms* have revolutionized the way we communicate. Social media, instant messaging, and video conferencing have made it possible for us to connect with people from all over the world in almost instantaneous time.

Learning effectiveness is a measure of the success of a process of interaction between students and between students and teachers in educational situations to achieve learning objectives. Miarso (2004) said that the effectiveness of learning is one of the quality standards of education and is often measured by achieving goals or can also be interpreted as accuracy in managing a situation. Hamalik (2001) states that effective learning is learning that provides students with the opportunity to learn on their own or do activities as wide as possible for students to learn. The provision of self-study

opportunities and activities as wide as possible is expected to help students understand the concepts being studied.

YouTube is a learning medium that allows users to save, watch, and share videos publicly. YouTube is the best place or means to share videos from all over the world, ranging from short videos, tutorials, vlogs, short *films*, movie trailers, *music, education*, animation, entertainment, news, TV , and a variety of other interesting info. The growth of *smartphone* and internet users is getting higher and higher, making YouTube videos also more varied. After the pandemic, several students often use YouTube as a learning resource, this is because the content presented is interesting and educational. YouTube provides a variety of content that can be used as a learning resource.

Learning Media is an information carrier specifically designed to meet objectives in teaching and learning situations. Learning media as a tool in teaching in the methodological component arranged by the teacher to organize the learning environment.

(Peter J. Denning, 2007) describes informatics as "the science that studies the transformation of information from one form to another. In his view, informatics blends various concepts and principles from various disciplines, including mathematics, computer science, information science, cognitive science, and even social science. This is because informatics involves an understanding of how computers work, how humans interact with computers, and the impact of information technology on society. The goal of informatics itself is to understand how information can be transformed from one form to another

Effective learning occurs when students are actively involved in the construction of knowledge. The use of social media can create an environment where students can collaborate, interact, and share knowledge, building strong linkages in learning. Some theories and expert views can help in designing relevant questionnaires. Technology-Based Learning Theory focuses on the use of technology to enhance learning. Six principles of technology-based learning, including the principle of linkage. This principle says that learning should have a connection with the real life and experience of students.

2. RESEARCH METHODS

This type of research is *field* research, which is research conducted by going directly into the field to research learning. While this research approach is a type of quantitative research. Saifuddin Anwar (2005) Quantitative approach is an approach that emphasizes its analysis on *numerical* data (numbers) processed by statistical methods. This research design is Pre-Experimental Designs research using "Pretest and *Post Test one group design*" where researchers only use one experimental class without a comparison class. The selection of *Pretest* and *Post Test one group design* in this study was used to determine the effectiveness of using YouTube as a learning medium for students in informatics subjects at SMP Pertiwi 2 Padang. The design used in one group *design* is research conducted on one research sample, namely the experimental group given Pretest and *Post Test treatment*.

The study used one group that compared variables bound between before and after treatment. In this study what will be sought is the effectiveness of YouTube social media as a variable "X", while the quality of Pretest *and Post Test results as a dependent variable (Dependent Variable) which is denoted by the letter "Y". The form of data collection is in the form of* Pretest *and Post* Test

Table 3.1 *One Group Design Research Design*

Group	**Pretest**	**Treatment**	***Post Test***
Experiment	O1	X	O2

One Group Pretest-*Post Test*
Information:
O1: Pretest
O2: Posttest

1) **Uji started The Test (Paired Samples T-Test**

The T-test is a test using the distribution of t against the significance of the difference in the mean value of a certain two groups of unrelated samples. The case of this study used a paired *sample T-test difference test*. *Paired sample t-test* is a test performed on two paired samples. A paired sample can be interpreted as a sample with the same subject but experiencing two different treatments. (Budi, 2006)

If the significant value > 0.05 then H0 is accepted (No Difference)

If the significant value < 0.05 then H1 is accepted (There is a difference)

H0 = there is no difference in the effectiveness of using YouTube as a learning medium.

H1 = there is a difference in the effectiveness of using YouTube as a learning medium.

2) **Learning Outcomes Score**

Student learning outcomes are measured through tests carried out 2 times, tests before treatment and tests after treatment. The questions given are the same, both before and after, which consist of 20 double questions. The raw scoring on multiple-choice questions uses the following formula: $\text{Skor} = \text{B} - \frac{S}{n-1}$

Information:

B = Number of correct answers

S = Number of incorrect answers

n = Number of *options* (alternative answers)

The maximum raw score that students may get is 20, the raw score obtained by students is known by summing the scores from the correct answers between multiple-choice tests, and to find out the value obtained by students can be calculated using the following criteria:

$$\text{Nilai peserta didik} = \frac{Skor\ Perolehan}{Skor\ maksimum\ ideal} \text{ x } 100$$

After obtaining the students' scores, the values will be clarified with the following categories.

Table 3.4 Interpretation of Value Results

No	Value	Qualification
1	80-<100	Very Good
2	65-<80	Good
3	55-<65	Enough
4	40-<55	Less
5	<40	Fail

Indicators of student learning success are measured using standards set by the school. Individually, students are said to be successful in learning if they obtain a > score of 70.00. The indicator to be achieved is at least students get a value of 70.

2. RESULTS OF RESEARCH AND DISCUSSION

In this section, the results of the research are explained and at the same time a comprehensive discussion is given. Results can be presented in the form of images, graphs, tables and others that make the reader easy to understand [2, 5]. The discussion can be done in several sub-chapters.

3.1. Research Results

3.1.1. Hypothesis Test aims to prove the research hypothesis. To see if there is a change in the score result from *Pre-test* That is before learning treatment using learning media is given YouTube. From the calculated data using SPSS 29.0 for *Windows* There are differences in results *Mean* at Pretest and *Post Test*. Results score Pretest and *Post Test* can be seen in the following table:

Table 4.3 Pre *Test* and *Post Test Score Results*

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre test	60.74	27	14.122	2.718
	Post test	82.22	27	11.547	2.222

Seen in table 4.3, a value of 60.74 is produced on the Pretest *score*, and a value of 82.22 on the *Post Test score*. The data can be interpreted that Ho in this research hypothesis is rejected, and H1 in this research hypothesis is acceptable because the *mean* Pretest and *Post Test* changes in value to be higher.

3.1.2. Test *paired Sample T-test* Also called the average difference test of two paired samples. *Uji paired sample t-test* used to test for the presence or absence of differences *Mean*.

Table 4.4 Paired *Sample T-Test Test Data*

Paired Samples Test

			Pair 1 Pre test - Post test
Paired Differences	Mean		-21.481
	Std. Deviation		11.995
	Std. Error Mean		2.308
	95% Confidence Interval of the Difference	Lower	-26.226
		Upper	-16.737
t			-9.306
df			26
Significance	One-Sided p		<.001
	Two-Sided p		.000

From the data of table 4.4, it is produced that the t-count is greater than the t table, which is 9,306 > 2,056 so that it can be interpreted that there are differences in social adjustment before and after treatment is given by utilizing YouTube as a learning medium. In the table above, T count negative because the *Post Test score value* is greater than *the* Pretest.

For the significant level of this study, it can be seen in table 4.4 that in this study a sig value of <0.001 was obtained, meaning that this study has a high significant level because the sig value is less than 0.05.3.1.3. A data normality test is performed to find out whether the data is normally distributed or not. Syafril stated that (2010: 211 - 213) a normality test was carried out to find out whether the processed data came from normally distributed data or not. Data is normally distributed if the instrument test is at a high confidence level, while data is abnormally distributed if the instrument test is at a low confidence level, or is doubtful. The data normality test used is the Z test *Shapiro-Wilk* (p > 0.05) because the sample used was less than 50. Data processing that can be used manually or with the help of *software* SPSS. Data normality testing for research in education uses a significance level of 95% (α = 0.05). The normality of the data can be known after calculating the value of Z, and finding and knowing the probability value of the data (p). The data normality criterion that is referenced is "if both p values of the current research results Pretest and *Post Test* greater than 0.05 then the data is normally distributed"

Table 4.2 *Shapiro Wilk Normality Data*

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre test	.188	27	.015	.894	27	.010
Post test	.206	27	.005	.901	27	.014

a. Lilliefors Significance Correction

The table above can be explained that the experimental group data after the Pretest *and* Post Test are *normal because the sig values in the table above 0.010 and 0.014 are greater than 0.05, so the data is normally distributed.*

3.2.Discussion

Based on the research that has been done, several discussions can be taken as follows:

1. Pre-test *score results* of students before using YouTube as a learning medium in class VII informatics subjects at SMP Pertiwi 2 Padang, 5 students who got good scores from the number of students 27 people and 22 other students still got enough scores. From the learning results before using YouTube as a learning medium, many students get scores of 40, 50, and 60 so that the average obtained from the Pretest results is 60.74.
2. The *results of the Post test* of students after using YouTube as a learning medium in *class VII informatics subjects at SMP Pertiwi 2 Padang have increased, compared to the learning outcomes before using* YouTube *as a learning medium in informatics* subjects. This is based on the results of the analysis of student learning outcomes by getting a very good category value, the value obtained is (85-100) so that the average obtained is 82.22.

Based on the results of tests conducted with the Paired Sample t-test *T-test* taken based on probability values. For learning outcomes, testing with a test known significance value is 0.001 < 0.05 then H0 is rejected and H1 is accepted. So it can be said that learning using YouTube as a learning medium in informatics subjects can have a significant influence as a learning medium for students at SMP Pertiwi 2 Padang.

4. CONCLUSION

Pre-test *score results* of students before using YouTube as a learning medium in class VII informatics subjects at SMP Pertiwi 2 Padang, 5 students who got good scores from the number of students 27 people and 22 other students still got enough scores. From the learning results before using YouTube as a learning medium, many students get scores of 40, 50, and 60 so that the average obtained from the Pretest results is 60.74. The *results of the Post test* of students after using YouTube as a learning medium in *class VII informatics subjects at SMP Pertiwi 2 Padang have increased, compared to the learning outcomes before using* YouTube *as a learning medium in informatics* subjects. This is based on the results of the analysis of student learning outcomes by getting a very good category value, the value obtained is (85-100) so that the average obtained is 82.22. Based on the results of tests conducted with the Paired Sample t-test *T-test* taken based on probability values. For learning outcomes, testing with a test known significance value is 0.001 < 0.05 then H0 is rejected and H1 is accepted. So it can be said that learning using YouTube as a learning medium in informatics subjects can have a significant influence as a learning medium for students at SMP Pertiwi 2 Padang.

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