

## The Differences of Students' Learning Outcomes Using the Web with Learning Using Video in Sma Private Development Galang

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**Abstract:** This research was conducted to determine the difference between learning outcomes using the web and learning using video. This study aims to determine learning outcomes between students who use web learning media determine learning outcomes between students who use video learning media, 3) find out whether there are differences in students' learning outcomes using web learning media with video learning media for class X students of Galang Development Private High School. In accordance with the results of the study, the hypothesis in this study is "there is a difference in the comparison of student learning outcomes using web-based learning media with video-based learning media in subjects for class x private high school development". This type of research is an experimental research conducted in 3 treatments. The data collection instruments are tests and observation sheets. The data obtained were analyzed by means of quantitative analysis to calculate the percentage of completeness. From the results of the analysis, it was obtained that the average in the two sample groups, namely the experimental group 1 the average value was 85.73 with a standard deviation of 5.4 and the experimental class 2 the average value of 82.23 with a standard deviation of 5.70 while the combined deviation of 5.56. Thus, according to the hypothesis formulated in this study, the truth can be accepted because the value of  $t$  (count) > from  $t$  (table) or  $2.333 > 1.676$ , therefore  $H_0$  is rejected and  $H_a$  is accepted, namely the results of studying using video media are higher than learning outcomes using web learning media of Galang Development Private High School for the 2020/2021 academic year.

**Key words:** Web Learning Media • Video Learning Media • Learning Outcomes

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### INTRODUCTION

At this time, Indonesia is colored by a virus originating from Wuhan, China, which is called covid-19. As a result of this virus, the government issued new policies, including one in the field of education, namely regulations regarding online learning. To answer the challenges in online learning, teachers are required to carry out learning with the right method, one of which is the selection of the right learning media that is specifically designed and very appropriate when applied during the COVID-19 pandemic, because learning media is a tool that aims to convey messages to students. Students to support success in the learning process, without good media the message will not reach students so that the student's success rate is low, especially during the covid 19 pandemic. Because learning media is a very important element, attention must be paid to the selection of learning media so that learning media can be applied

properly during learning during the COVID-19 pandemic in choosing appropriate learning media. It's just that the teacher in choosing the learning media is not right in its application thus giving rise to the assumption that E-learning learning is not better than face-to-face learning and resulting in decreased student learning outcomes. With the above problems, the researchers feel confident to use more innovative learning media, namely by using web and video-based learning media and looking for differences between the two. Therefore, the researcher formulated the title "The Differences in Student Learning Outcomes Using the Web with Learning Using Video in the Subjects of the Galang Development Private High School. Based on the description above, the formulation of the problem in this study is: "How are the differences in learning outcomes using the web with learning using videos in the subjects of Galang Development Private High School. In accordance with the formulation of the problem above, the objectives of this study are:

To determine the differences in student learning outcomes using web learning media with video learning media at the Galang Development Private High School [1-4].

Nowadays, teachers required to carry out active learning so that students can participate actively so that the abilities that exist within students can be utilized optimally. However, not all teachers able to apply active learning in class. Some teachers still use approach that dominated by the teacher (teacher-centered). The teacher place students as objects and not as students. Low learning outcomes can be seen in the results of student exams in the odd semester of students. The learning model is a plan or pattern that can be used to form a curriculum (long-term learning plan), design learning materials and guide learning in class or others. Based on the explanation of experts above, the researcher can conclude that cooperative learning is a form of learning by learning and working in small groups collaboratively whose members consist of 3-5 people with heterogeneous structures and can stimulate students [5]. Further Academic performance measures the extent to which a student has performed in specific goals that are his/her focus of activities in school. It has been stated that the social and economic development of a country is directly linked with students' academic performance. The latter plays an important role in producing the quality graduates who will be responsible for the country's economic and social development. Factors affecting students' academic performance have received considerable attention. They noted that from the early nineteenth century, craniometry has been used as one of the most important means of investigating human variety. It is not only for delimiting racial groups but also in predicting the levels of intellectual attainment achieved by different people. It was argued that the dimensions of the skull reflected the contours of the brain [6]. It is further defined as a relationship between people or organizations that depend on each other equally. The concept of symbiotic learning in academics has been pointed out by researchers, though more active research is still expected in that regard. A recent study established that progressive institutions of learning strive to maintain a symbiotic collaboration between the school and the parents of the students. According to the researchers, there is strong evidence that such a relationship leads to improved students' performance as well as the growth of the institution itself [7]. In addition, the structural equation model developed allows to identify the main variables and factors that affect the appearance; communication, social behavior, stereotyped behavior and repetitive behavior.

The model identified a positive and direct relationship between the four constructs and the two latent variables considered (adaptive and clinical). It has also identified a strong correlation and direct relationship between two latent variables, wherein an increase or decrease in one of them, will produce the same effect on the other [8]. Education play very important role for continuity of human life. Through education, it is hoped that it can produce the quality of human resources and be answer the challenges of the era and eventually realizing the progress and prosperity of nation. The aim of national education is improving the quality of Indonesian who have faith and devoted to God Almighty, virtuous character, independent personality, advanced, resilient, intelligent, creative, productive, physically and mentally healthy. In accordance with the objectives of national education and demands of era, improving the quality of education must be improved. Many students have difficulty applying physics into real life situations. This makes physics difficult for students because physics learning is less meaningful. Students are not given the opportunity to rediscover and construct their own ideas of physics so they forget quickly. Based on issue above, teachers need to give encouragement to students in using their authority to build and to express their ideas. In addition, teachers also responsible for creating situations that encourage initiative [9].

## MATERIALS AND METHODS

This type of research is experimental research because in the study there are 2 experimental groups, namely experimental class I using video learning media and experimental class 2 using web learning media. The population in this study was at SMA Pembangunan Galang for the academic year 2020/2021 while the sample was total sampling or the entire population was sampled because of the same achievement between the two classes with 26 students in class applying video-based learning media and 26 class students applying learning media video based. The research design in this study is as follows [10-13].

Table 1: Media Learning

Class	Model	Treatment	T
Learning Media	$X_1$	$x_{1,1}$	$T_1$
Video		$x_{1,2}$	$T_2$
		$x_{1,3}$	$T_3$
Learning Media	$X_2$		$T_1$
Web		$x_{2,2}$	$T_2$
		$x_{2,3}$	$T_3$

**Description:**

- $X_{1,1}$  : The first treatment of video-based learning media
- $X_{1,2}$  : The treatment of both video-based learning media
- $X_{1,3}$  : The third treatment of video-based learning media
- $X_{2,1}$ : The first treatment of web-based learning media
- $X_{2,2}$ : Treatment of both web-based learning media
- $X_{2,3}$ : The third treatment of web-based learning media

- T1: First test
- T2: Second test
- T3: Third test

**Data Collection Techniques Carried out in this Study Are:**

- The learning outcomes test was carried out in one stage, namely by conducting tests on the subjects being taught through e-learning by the subject teachers. The learning outcome test instrument is an objective test in the form of multiple with 5 alternative answers. The scoring of this objective question uses the original dichotomous scoring, i.e. if the answer is correct it was get a score of 1 and if the answer is wrong it was get a score of zero.
- This study used observation sheets about students during the learning process that cannot be observed by researchers at the time of the study. The observations made are systematic observations. The data analysis technique in this research is [14-16]:

- Calculate average

$$\bar{X} = \frac{\sum X}{n}$$

$\bar{X}$  = Rata-rata nilaisiswa

$\sum X$  = Jumlah siswa

n = Jumlah siswa

- Calculate standard deviation =  $\frac{i^2 - (\sum Xi)^2}{i(n-)}$

- Calculate the combined variance

$$\frac{(n_1 - I)S_1^2 + (n_2 - I)S_2^2}{n_1 + n_2 - 2}$$

- Calculate t test

$$t = \frac{X_2}{1 + \frac{1}{n_2}}$$

**RESULTS**

**Data Description:** The results obtained in this study are learning outcomes after applying learning using web media and video media. Testing is done to get student learning outcomes

In this study, both classes were used as a sample class of 52 students who participated in the learning process from beginning to end using video and web media and had completed the tests that had been given.

**Test Results**

**Experiment Class I:** By giving a test at the end of the lesson using video media, the average value of the experimental class I is 85.73, the variance is 29.16 and the standard deviation is 5.4

**Experiment Class II:** By giving a test at the end of the lesson using web media, the average value of the experimental class II is 82.23, the variance is 32.58 and the standard deviation is 5.70.

**Hypothesis Test:** To test the hypothesis in this study used the similarity test of the two averages using the t statistic as follows:

$$\begin{aligned} &= \frac{X_1 - X_2}{S \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \\ &= \frac{85.73 - 82.23}{5.56 \sqrt{\frac{1}{26} + \frac{1}{26}}} \\ &= \frac{85.73 - 82.23}{5.56 \sqrt{0.038 + 0.038}} \\ &= \frac{3.5}{5.56 \sqrt{0.076}} \\ &= \frac{3.5}{5.56(0.275)} \\ &= \frac{3.5}{1.5} = 2.333 \end{aligned}$$

Based on the results of the calculation of the hypothesis test above, the results obtained at significance with  $\alpha = 0.05$  and  $dk = (n_1 + n_2 - 2) = (26 + 26 - 2) = 49$ , then the results obtained t arithmetic = 2.333 and t Table 1, 676 obtained from the distribution list t, with  $t_{hitung} > t_{table}$ . Thus the hypothesis formulated in this study is: "there is a difference in student learning outcomes between learning using video media and learning using the web at X SMA Swasta Pembangunan Galang" can be accepted because its existence  $t_{hitung} > t_{table}$ , which means

that the results of students who use video are higher than the learning outcomes of students who use the web in class X SMA Private Development for the 2020/2021 Academic Year.

## DISCUSSION AND CONCLUSION

Based on the results and discussion of the research above, it can be concluded that:

There is a difference in the learning outcomes of class X students at the Galang Development Private High School between students who use video learning media and students who use web learning media for the 2020/2021 academic year. This can be seen from the average score obtained by the experimental class I of 85.73 with a standard deviation of 5.4 and the average score obtained by the experimental class II of 82.23 with a standard deviation of 5.70. Based on the calculation of the combined variance, the result is 30.26 with a combined standard deviation of 5.50. The results of students who use video are higher than the learning outcomes of students who use the web in class X SMA Private Development for the 2020/2021 Academic Year.

The result is in consonance with findings from other researchers who revealed that implementation of using video in learning. By calling for students to watch the video and then produce an original work based on that video, this study was able to incorporate the active learning techniques discussed. These assignments pushed past measuring the student's ability to simply follow directions or complete the listed steps. They measured, through the final product, the class's ability to engage the content and apply it in a real world problem. The students using the video tutorials were better able to use the tools and complete the stated student learning outcomes. These students were also better able to apply the concepts and techniques of the class to an unguided project of their own choosing [17]. Studies have shown that the use of video in learning allows for more efficient in learning process. In addition, the use of videos in teaching and learning serves to not only benefit students, but also teachers, their affiliated institutions and the entire school system.

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