

# The Effect of Interactive Multimedia on Student Behavior Against Covid-19 in Vocational High Schools

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**Abstract**—The Corona Virus Disease 19 (Covid-19) pandemic has become a global problem. The best way to deal with covid-19 at this time is to take precautions and implement health protocols as proclaimed by WHO. But until now there are still many people, especially students who do not understand the dangers of covid-19 and how the health protocols are to avoid covid-19. Therefore, we need a way that can provide proper education to students about the dangers of covid-19 and the covid-19 health protocol. One of the right ways is to provide education about the dangers of covid-19 and the covid-19 health protocol through interactive multimedia. The purpose of this research is to provide knowledge about covid-19 so that there will be changes in behavior towards covid-19. This study uses a Quasy Experiment design with pretest-post-test with control group design. The data will be tested with a validity test to get a change in student behavior towards covid-19 when a stimulus has been given in the form of interactive multimedia. The results of the data analysis are changes in student behavior to continue to follow health protocols and students^ understanding of covid-19 is increasing.

**Keywords**—*interactive multimedia, Covid-19, student behavior*

## I. INTRODUCTION

In December 2019, Corona Virus Disease 2019 (COVID-19) was identified in Wuhan, Hubei province, China. The disease is related to the new coronavirus, which is the seventh corona virus known to infect humans [1]. By the end of June 2020, around 500,000 deaths worldwide had been attributed to COVID-19 [2], which is a global threat. Indonesia is one of the countries affected by the covid 19 pandemic. So, the government has also issued strict rules to suppress the spread of covid 19 in Indonesia. Schools are closed and the learning process is carried out online [3]. The dangers of covid 19 and the procedures for preventing covid 19 have been informed to the wider community but there are still many people who do not know clearly what the dangers of covid are due to the delivery of inappropriate information. Information that is not true is also increasingly circulating in the community. Media

constraints are also very influential on the delivery of this information [4].

One way to deliver the right information is to use interactive multimedia. Interactive multimedia provides a good stimulus to increase the attractiveness and understanding of the material presented in the interactive multimedia [5]. There are still many students in high school who do not have a good understanding of covid 19 so that there is no change in behavior related to covid 19 prevention procedures [6]. One effective way is to provide understanding by using interactive multimedia so that student behavior will change in dealing with covid 19. Based on this, the problem formulation can be stated as follows: "Is there any effect of interactive multimedia on the behavior of students of SMKN 4 Padangsidempuan City about Covid 19? "The specific objective is to assess the difference in behavior between students who gain understanding through interactive multimedia and students who do not gain understanding through interactive multimedia. The urgency of this research is different from previous research because this research uses an interactive multimedia approach that is different from the others that have been carried out so that this research is important to research.

With the global spread of COVID-19, all sectors have a negative impact. The situation during the covid 19 pandemic also has an impact on a lot of wrong information because there is not enough understanding of covid 19 [7]. Inappropriate information also has a bad impact on the community such as violating the covid 19 prevention procedures. The emergence of covid 19 has been declared a pandemic by WHO. One of the transmissions of covid 19 through the air is spread through direct ejection of droplets through sneezing and coughing [8]. Submission of inappropriate information will have a major impact on the spread of covid 19. Because the covid 19 prevention procedures will be violated and there will be an assumption that covid 19 is a common disease and can be cured immediately.

### A. Interactive Multimedia as a Media for Conveying Information

Multimedia is one of the learning media that combines several media elements that are presented in computer media. Interactive multimedia is a solution in making it easier for students to learn the material compared to monotonous textbooks/e-books [9]. The use of creative media can facilitate and increase efficiency in the delivery of information or learning so that the desired goals will be achieved. Interactive multimedia is one of the important aspects in learning or delivering information. Interactive multimedia is a messenger technology that can be used for learning purposes [10].

Interactive multimedia can include text, audio, animation, video, and graphics. The combination of some of these elements so that it can become an interesting medium in conveying information, it can be called interactive multimedia [11].

### B. Behavior of SMKN 4 Padangsidempuan Students about Covid 19

Humans can express their feelings with real actions. When you are sad, you will shed tears, when you are happy you will laugh and smile. Humans also don't need to tell others that they are happy or sad because other people can catch what is going on with them. A person knows the condition of a person by paying attention to the behavior or behavior of the person [12]. Behavior is a pattern of views or feelings accompanied by a desire to act according to the attitude of each stimulus that arises. Behavior is also a human response to a stimulus that arises in the environment where the actions that arise due to the stimulus are determined by the understanding possessed by the human being [13].

Human behavior towards covid 19 is also determined by the understanding of covid 19. The environment is also influential but the response to action will be determined by the understanding of covid 19 [14]. Likewise, student behavior about covid 19 will be determined by students' understanding of covid 19. The less knowledge students have, the less incentive to act in accordance with covid 19 prevention procedures. So, assistance is needed to provide an understanding of covid 19.

This research was conducted by providing information through interactive multimedia about covid 19. Interactive multimedia about covid 19 is expected to provide information about the dangers of covid 19 and covid 19 prevention procedures. Student participation will be divided into 2 groups, namely the group that is given intervention treatment and the group control. After the intervention was given, the student's behavior was monitored regarding covid 19 and the covid 19 prevention procedures.

## II. METHODS

This study uses a "Quasy Experiment" design, namely pre-test and post-test with control group design. The description of the pre-test and post-test control group design is as follows:

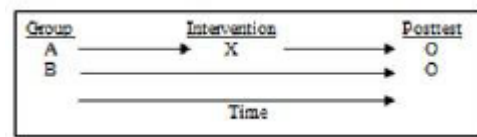


Fig. 1. Method design.

Information:

A: The treatment group before the intervention was given

B: The control group before the intervention was given

X: Intervention using interactive multimedia

O: Evaluation results

The research was conducted in 2 classes with the number of students in each class is 25 students (figure 2).

Class	Experiment	Control
Student	25	25

Fig. 2. Research sample.

The research was conducted at SMKN 4 Padangsidempuan City. Research intervention for 2 months by providing interactive multimedia. Every month there will be visits or monitoring of student behavior using a questionnaire. The instruments used in this study are as follows: Measurement of students' level of understanding about covid 19. Measurement of student behavior about covid 19 before and after the intervention. The sampling technique used was purposive sampling. The data will be tested for validity to see if there is a change in behavior when the intervention is given.

## Research Framework

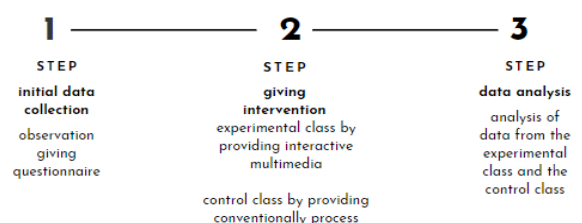


Fig. 3. Research framework.

This research uses 3 steps to be able to collect data as in figure 3.

## III. RESULTS

At the beginning of the study, initial data collection was carried out with the following table 1:

TABLE I. PRETEST IN THE EXPERIMENTAL CLASS AND THE CONTROL CLASS

Intervention	Using Masks	Washing Hands	Social Distancing
Experimental Class	3	1	4
Control Class	2	2	3

After providing intervention for 2 months in the experimental class and control class, the result is as in table 2:

TABLE II. POSTTEST IN THE EXPERIMENTAL CLASS AND THE CONTROL CLASS

Intervention	Using Masks	Washing Hands	Social Distancing
Experimental Class	22	18	15
Control Class	13	9	11

The results of the data for 2 months in the experimental class and control class (figure 4-9).

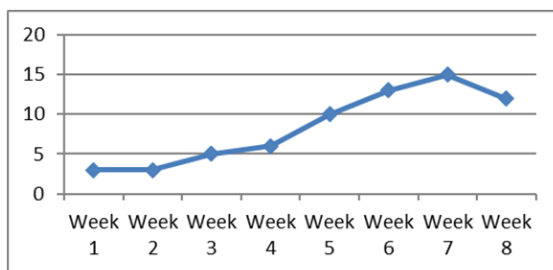


Fig. 4. Students using masks in the experimental class.

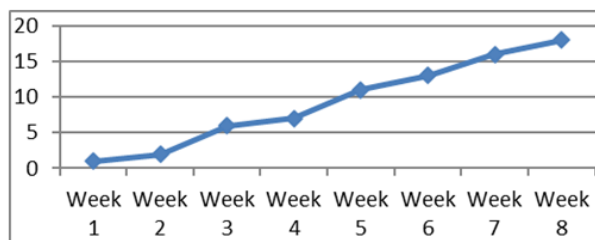


Fig. 5. Students washing hands in the experimental class.

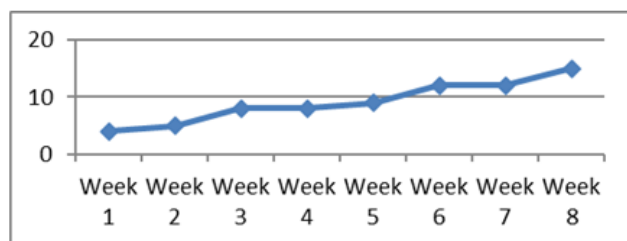


Fig. 6. Students who keep social distancing in the experimental class.

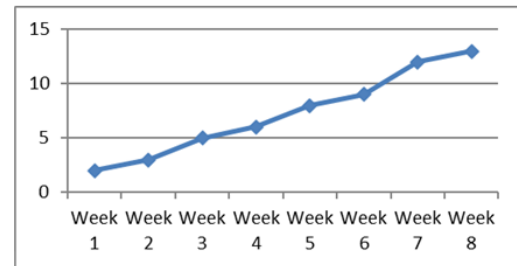


Fig. 7. Students using masks in the control class

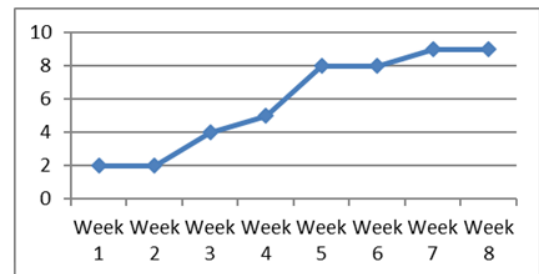


Fig. 8. Students washing hands in the control class.

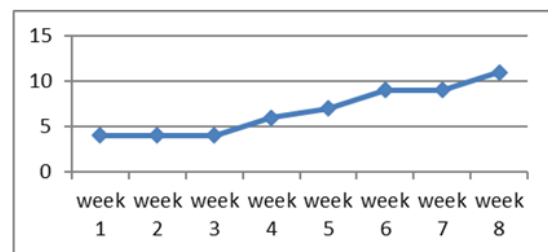


Fig. 9. Students who keep social distancing in the control class.

#### IV. FINDING AND CONCLUSION

At the beginning of the research, it was found that students did not want to vaccinate against covid 19. After being given an intervention in the experimental class and control class, it was found that students were willing to vaccinate against covid 19.

At the beginning of the study, it was found that many students did not believe in the dangers of covid 19. After being given intervention in the experimental class and control class, it was found that students already understood the dangers of covid 19 and began to follow the applicable health protocol.

After analyzing the data, it can be concluded that interactive multimedia can improve students' understanding of covid 19 and can change student behavior about covid 19 compared to using conventional methods.

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