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THE INFLUENCE OF THE *PROBLEM-BASED INSTRUCTION MODEL BASED* ON VIDEO MEDIA AND EDUCATIONAL GAMES ON THE SELF-EFFICACY

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Abstract
This study discusses the differences in self-efficacy of class X students at SMK N 17 Jakarta from applying the PBI learning model with the help of two different learning media. The media used in this research are learning videos applied to the experimental class and educational games (quizizz) in the control class. The study aimed to find evidence of whether there was a difference in student self-efficacy after implementing the PBI learning model with the help of two different media. Based on the data hypothesis test conducted by comparing the scores of the self-efficacy between the experimental class and control classes, it was concluded that there was a significant difference between the students' self-efficacy in both classes. The average score of self-efficacy in the experimental class is higher than the control class, so that in the future, the use of learning video media can be one of the best alternatives when implementing the PBI learning model to support student self-efficacy.
Keywords: *Self Efficacy, Problem Based Instruction Model, Learning Video, Educational Game*

INTRODUCTION

Education is one of the primary keys in encouraging the progress of a nation—changes in a country that lead to progress need to be supported by the progress of its education. In improving people's living standards, education is needed to change mindset. This growing mindset will help a country to be ready for variousglobal challenges in the future. The quality of its education also determines the high or low quality of a nation's human resources. This shows that the quality of good education is an essential element that shows a nation's civilisation pattern, which can be seen from its human resources. (Utomo &; Ratnawati, 2018)

The emergence of the Covid-19 outbreak has resulted in obstacles in all aspects of life, especially for human health. The tremendous impact is also felt in the world of education, especially for teachers as teachers, students and parents and all school devices. In addition, universities in various parts of the world are also closed to prevent transmission of this virus. (Fredy, Prihandoko, &; Anggawirya, 2020)

Another effort made to cut off the spread of Covid-19 is that thousands of schools in various countries including Indonesia are closed and do not hold direct learning. UNESCO approves the implementation of learning using online media. This is so students and teachers can carry out teaching and learning activities wherever they are. Changes in this learning system make teachers crucial because they have to control the learning process. Implementing online learning shows that the industrial revolution 4.0 with the use of digital media can help realize the implementation of online learning. (Satrianingrum &; Prasetyo, 2020)

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Distance learning can be done using special techniques in designing learning materials such as utilizing various computer media, the internet, videos, and so on that focus on independent learning. Distance learning is designed so that the learning process can be carried out outside the teaching place where educators and students do not meet face to face. (Abidin, Hudaya, &; Anjani, 2020)

Another problem in education arising from Covid-19 is that with the implementation of online learning, the process of finding information is slow due to difficult signal access. This results in students falling behind information which then makes students late in collecting assignments that should be collected. On the other hand, the problem experienced by teachers is that the storage space of learning devices becomes limited when checking student assignments in large quantities. This makes teachersthink about determining alternative learning models that are effective to use during this online learning process. (Siahaan, 2020)

Distance learning is an alternative learning system to ensure that teaching and learning activities are carried out even though teachers and students do not meet in person. The main element in online learning is content and interaction between users of online learning media. Teaching materials used during distance learning must provide texts and presentations and involve interaction so that the process of absorbing information can be more easily conveyed. (Argaheni, 2020)

METHOD

This research is included in experimental research when viewed from the method. Experimental research is used to look for the effect of specific treatments on others under controlled conditions. (Sugiyono, 2017). The selection of this experimental method is based on the desire of researchers to compare the effect of the application of *problem-based instruction* learning models based on learning video media and educational games on self-efficacy in the two research target groups sampled in this study.

Theresearch design used used the design "*Posttest Only Control Group Design".* This model is based on the assumption that the experimental and control groups are compared and analyzed for hypothesis testing material after treatment. (Sugiyono, 2008)

Table 3.1 *Post-test Design Only Control Group Design*

Group	Treatment	Post-test
Experiment	X1	O1
Control	X2	O2

Information:

Experimental group: Treatment with *problem-based instruction model based* on learning video media

Control group: Treatment with *problem-based instruction* method based on educational game media

This research design was used to determine and compare the effect of applying the *problem-based instruction* learning model on groups applying the PBI learning model based on video learning media with groups applying the PBI learning model based on educational game media. The implementation of research is an experimental group and the control group is sought to have the same level of classes, learning materials and teachers involved in the research.

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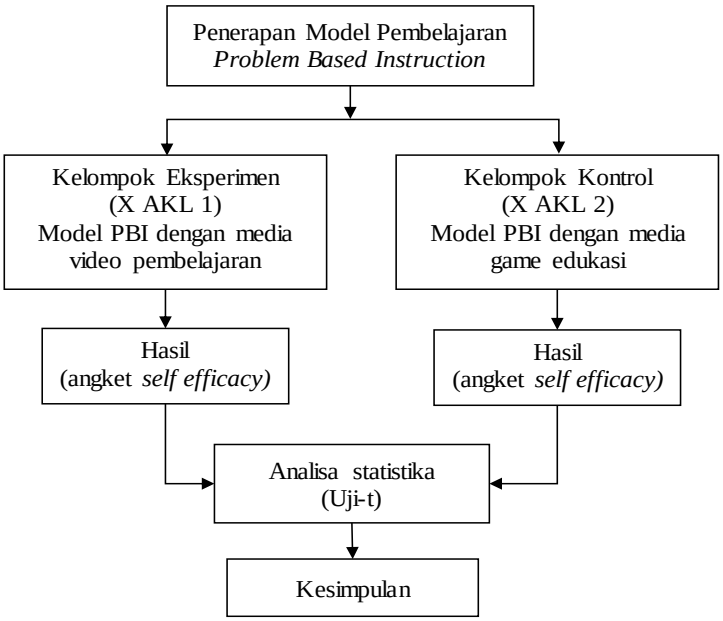

Figure 2.1
Conceptual Framework

Based on figure 2.1 above, hypothesis testing will be carried out between self-efficacy indicators in the experimental class (X1) and self-efficacy indicators in the control class (X2)

RESULTS AND DISCUSSION

Hypothesis testing is carried out with the T test (*Independent Sample T Test)* to determine whether there is an average difference between two unpaired samples. This study can be seen from the score scores of the experimental class questionnaire and the control class. Based on calculations using the help of SPSS, it is obtained

Category					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Keep	4	11,1	11,1	11,1
	Tall	32	88,9	88,9	100,0
	Total	36	100,0	100,0	

aspresented in table 4.10 as follows:

Table 4.10
Hypothesis Test Results

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From the results of the *Independent sample Test in* table 4.10, in the sig section. 2 tailed results of 0.000 < 0.05, which means that there is a difference between the *self-efficacy* questionnaire scores between practical classes that apply PBI learning models based on learning video media and control classes that apply PBI learning models based on educational game media.

Scale categorization: Research instruments in questionnaires to measure differences in student self-efficacy from practical classes and control classes are needed to determine the frequencies of students who fall into high, medium, and low *self-efficacy* categories . By classifying students into these three self-efficacy score categories, it can be known which class has a superior self-efficacy score between practical classes that apply the *Problem Based Instruction* learning model with the help of learning video media or control class classes that apply the PBI model with the help of educational game media. The frequency distribution of students at the level of *self-efficay* score categories in experimental and control classes can be seen in the following table:

Table 4.11 *Output* of **Student Frequency Distribution at the Category Level of *Experimental Class Self Efficacy* Score**

Based on the *output* of student frequency distribution at the level of *the experimental class self-efficacy* score category in table 4.11, the frequency of students with a high self-efficacy score category was obtained as many as 34 students and 4 students with a moderate *self-efficacy* score category . This shows that more students have a high level of self-efficacy compared to students with a moderate (average) level in practical classes that apply problem-based instruction learning models *based* on video learning media.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference
Skor_Self_Efficacy_Siswa	Equal variances assumed	1,975	,164	9,618	71	,000	12,597
	Equal variances not assumed			9,582	63,479	,000	12,597

Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Keep	29	82,9	82,9	82,9
	Tall	6	17,1	17,1	100,0
	Total	35	100,0	100,0	

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Table 4.12 Output of Student Frequency Distribution at the Control Class *Self Efficacy Score* Category Level

Based on the *output* of student frequency distribution at the control class self-efficacy score category level in table 4.12, the frequency of students with the high self-efficacy score category was obtained as many as 6 students and 29 students with the medium *self-efficacy* score category . This shows that more students have a moderate (average) level of self-efficacy compared to students with a high level of self-efficacy in control classes that apply a problem-based instruction learning model *based* on educational game media.

CONCLUSION

Based on the data processing results and its discussion, it can be concluded that the results of the hypothesis test with the t test (*independent sample t test*) showed a significant difference from the results of the self-efficacy questionnaire in the experimental and control classes. In the output table of the distribution of student frequency at the level of the experimental class and control class *self-efficacy* categories , it can be concluded that the frequency of students in practical classes who fall into the high *self-efficacy* score category has more numbers when compared to the frequency of control class students who fall into the high *self-efficacy*y score category.

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