



The Effectiveness of Demonstrative Learning Methods in Improving Students' Learning Outcomes

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Abstract. This study aims to determine the effectiveness of the demonstration learning method on improving student learning outcomes. The method used in this research is the method of observation, interviews, documentation and questionnaires with data collection techniques using observation sheets, with the type of quantitative research. The population in this study were digital communication simulation teachers and students of class X TKR SMK S 8 Grakarsa Bengkulu. The sampling technique uses total sampling, namely the technique of determining the sample by taking the entire population. Based on this, the sample in this study amounted to 1 teacher and 11 students. Data analysis used descriptive quantitative by using t-test. The results of the t-test showed that the questionnaire instrument value for the demonstration method (post-test) had an average value (mean) of 33.27 and a standard deviation value (Std Deviation) of 2.195. Multiple-choice questions show that with the demonstration method (post-test) the average value (mean) is 7.73 and the standard deviation value (Std. Deviation). This shows that the effectiveness of the demonstration method on the learning outcomes of class X students at SMK S 8 Grakarsa Bengkulu.

Keywords: Demonstrative Learning · Digital Communication Simulation · Improving Learning Outcomes

1 Introduction

According to [1] interpreting the learning method as the method used by the teacher in establishing relationships with students during teaching. This is in line with [2] who says that the learning method is a systematic way of working to facilitate the implementation of various learning activities to achieve the desired or determined goals. Meanwhile, according to [3] the learning method can be interpreted as a method used to implement plans that have been prepared in the form of real activities. Based on the opinion above, it can be concluded that the notion of a learning method is a teacher's way or strategy in conveying learning to students to achieve predetermined learning objectives [4]. A teacher needs to use appropriate learning methods and media to achieve maximum

learning objectives [5]. The learning method itself is a way or tactic of delivering certain lesson materials from a subject that aims so that students can understand, know, use and master the subject matter [6]. [7] also states that “learning media can clarify the presentation of messages and information so that they can facilitate and improve learning processes and outcomes”. Humans have five senses in general so that humans who receive stimuli in the form of information then the information will be entered into human memory [8]. If people do not feel interested in an information then the information will be ignored [9]. The importance of using media in learning so that it contains information becomes interesting so that it is not ignored by the recipient of the message or students [10]. One of the learning media is PowerPoint media which is a multimedia presentation consisting of video, audio, image and graphic features. According to [11] “PowerPoint is one of the software specifically designed to be able to display multimedia programs in an attractive manner, easy to manufacture, easy to use, and relatively inexpensive, because it does not require raw materials other than tools for data storage”.

The effectiveness of learning according to [12] is a learning that allows students to be able to learn easily, fun, and can achieve learning objectives in accordance with the expectations of a teacher. Ideal learning is only possible if it is supported by an ideal teacher. According to [13] that a teacher must have for ideal learning, namely the teacher has an enthusiastic nature and encourages students to progress, is able to provide assurance that the material he conveys covers all discussion units, is able to explain various information clearly and clearly and is able to applying various teaching methods, able to give hope to students and able to make students accountable, willing and able to accept various inputs and always provide support to students and have techniques in controlling the class [14]. Meanwhile, according to [15] is the result achieved by someone after doing learning activities. This learning outcome is an assessment achieved by a student to determine the extent to which the subject matter or the material being taught can be understood by students [16].

But in reality, students pay less attention to the teacher when delivering the subject matter, many students are busy alone and noisy when the teacher delivers the subject matter. This is because the learning strategies used are less precise and effective when learning. Therefore, in this study, a study of the learning method was carried out by observing and systematically seeing the teacher deliver learning materials to students at SMK S 8 Grakarsa Bengkulu. One of the efforts made by the author when conducting research is by displaying a PowerPoint menu that describes the subject matter especially in the subjects of simulation and digital communication, so that students are more interested in seeing, listening, and understanding the explanation of the material being taught.

Digital Communication Simulation subjects are subjects that equip students to be able to communicate ideas or concepts through digital media [17]. In the learning process, students can communicate ideas or concepts put forward by others and make them happen through digital media [18]. In digital simulation learning taught in class X TKR SMK S 8 Grakarsa Bengkulu, there are 2 main materials taught, namely word operation material (making papers and letters) and operating power point material (making power point slides). Of the 2 materials being taught, the digital simulation teacher said that the students lacked understanding of the mastery of the material being taught, especially

on the power point operation material [19]. It was mentioned that the students' lack of understanding about the menu functions in the Microsoft Power Point work window [20].

2 Methods

The research method carried out in the field uses descriptive quantitative research methods with limitations on the cognitive domain. Researchers directly examined the effectiveness of the demonstration learning method on improving student learning outcomes for class X TKR SMK S 8 Grakarsa Bengkulu in Digital Communication Simulation subjects by conducting observations, interviews, questionnaires and documentation to obtain actual data. According to [21] research variables are everything in any form determined by the researcher to be studied so that information is obtained about it, then drawn the conclusion. The population according to [22] is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions. In this study, the population taken was class X TKR with a total of 12. The sample is part of the number and characteristics possessed by the population. [23] says if the number of subjects is less than 100, it is better to take all of them. However, if the research subjects reach more than 100 people, approximately 25–30% of the total number of subjects can be taken. The research instrument according to [24] is a measuring instrument used to measure the observed research variables. Instruments are needed so that the work done is easier and the results are better, in the sense of being more accurate, complete, and systematic so that the data is easier to process. The instrument used is an observation sheet. According to [25], observation is a data collection method in which researchers record information as witnessed during the study. Witness to these events can be by seeing, listening, feeling which is then recorded as subjectively as possible.

3 Results and Discussion

Based on research data to determine the effectiveness of the demonstration method on improving student learning outcomes that have been carried out by students of class X TKR, it shows that the test results using a questionnaire instrument in the pretest get a score of 222 or 50.45% with an average value of 20, 18 and the posttest got a score of 372 or 84.54% with an average value of 33.27 while the data obtained using the multiple-choice instrument in the pretest got a score of 28 or 25.45% with an average value i.e. 2.55 and the posttest got a score of 85 or 77.21% with an average value of 7.73 (Table 1).

Based on the table above, it can be concluded that student learning outcomes in digital simulation subjects using a questionnaire instrument in the pre-test, all 11 students were in the medium category with a percentage of 42.5–57.5%, in the post-test the results were 3 students got enough category with a percentage of 75–77.5%, 8 students got a high category with a percentage of 80–92.5% (Table 2).

As for the data obtained by using multiple choice questions on the pretest, 2 students got a very low category with a percentage of 0–10%, there were 7 students got a low

Table 1. Percentage of Student Learning Outcomes

Questionnaire Instrument				
No	Information	Number	Percentage	Category
1	<i>pre test</i>	11	42,5–57,5%	Currently
2	<i>post test</i>	3	75–77,5%	Enough
		8	80–92,5%	high

Table 2. Percentage of Student Learning Outcomes

Multiple Choice Questions				
No	Information	Number	Percentage	Category
1	<i>pre test</i>	2	0–10%	Very low
		7	20–30%	Low
		2	40–50%	Enough
2	<i>post test</i>	4	60–70%	Enough
		7	80–90%	High

category with a percentage of 20–30%, there were 2 students got a sufficient category with the percentage is 40–50% and in the post test there are 4 students who get a sufficient category with a percentage of 60–70% and there are 7 students who get a high category with a percentage of 80–90% (Table 3).

The table above describes the results of the normality test for student learning outcomes taught by the lecture method (pre-test) and student learning outcomes taught by the demonstration method (post-test) using the Kolmogorov Smirnov test. From the table it is known that the p-value (Sig.) of the observation questionnaire for student learning outcomes taught by the lecture method (pre-test) is 0.200, while the p-value (Sig.) of multiple-choice questions for student learning outcomes taught by the method lecture (pre-test) of 0.014.

Table 3. Tests of Normality

Information	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
<i>Pretest</i> questionnaire	.172	11	.200*	.925	11	.358
<i>Posttest</i> questionnaire	.122	11	.200*	.970	11	.891
<i>Pretest</i> multiple choice	.282	11	.014	.882	11	.110
<i>Posttest</i> multiple choice	.234	11	.094	.878	11	.097

Table 4. Tests of Homogeneity of Variances

Test Score Results	<i>Levene Statistic</i>	df1	df2	Sig.
<i>Based on Mean</i>	.018	1	20	.895
<i>Based on Median</i>	.030	1	20	.865
<i>Based on Median and with adjusted df</i>	.030	1	19.943	.865
<i>Based on trimmed mean</i>	.014	1	20	.907

While the p-value (Sig.) of the observation questionnaire for student learning outcomes taught by the demonstration method (post-test) is 0.200, while the p-value (Sig.) of multiple-choice questions for student learning outcomes taught by the demonstration method (post-test). Test) of 0.094. Because all p values > 0.05, the data (pre-test and post-test) can be said to be normally distributed (Table 4).

The table above describes the output of the homogeneity test of the data obtained from the questionnaire on student learning outcomes using the lecture method (pre-test) and the data on student learning outcomes taught by the demonstration method (post-test) and processed using the Levene test (F test) with the acquisition of p value of 0.895. Because the p value is more than > 0.05, the data can be said to be homogeneously distributed.

In the use of the lecture method (pre-test) students are both given a questionnaire instrument and multiple-choice questions where basically students answer the questionnaire instrument and multiple-choice questions by guessing and to their knowledge only. Likewise with the use of the demonstration method (posttest) students were again given a questionnaire instrument and multiple-choice questions with the results showing greater than the previous use of the lecture method (pretest). This can happen because the use of the demonstration method students can directly see and be involved in the learning process.

4 Conclusion

Based on the results of the research and the existing data, the researcher can conclude that the application of interactive media in face-to-face learning is limited to the learning outcomes of class X TBSM SMK S 8 Grakarsa Bengkulu students. This can be proven from the results of the hypothesis testing that has been carried out, the pretest-posttest value shows that sig (2-tailed) is $0.000 < 0.05$, it can be concluded that H_0 is rejected and H_1 is accepted, and comparing the t-count value with the t-table, the t-value is obtained. Count $7,745 > t$ table $2,201$ it can be concluded that H_0 is rejected and H_1 is accepted, which means that the application of interactive media in face-to-face learning is limited effective on student learning outcomes. In addition, the results of the analysis of student responses to the application of interactive media in limited face-to-face learning according to class X TBSM SMK S 8 Grakarsa Bengkulu indicate that this interactive media is in the good category with an average of 3.98 in line with Thorn's theory in assessing interactive multimedia and the percentage of student responses was

79.5% in the agree category. So that this interactive media is effectively used to support limited face-to-face learning for class X TBSM SMK S 8 Grakarsa Bengkulu.

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