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The Effectiveness of Video Tutorials on Improving Learning Outcomes in Online Learning for Men's Clothing Courses

St. Aisyah[1,*], Syarifah Suryana[1], Fitriana[2]

[1]*Home Economics Program, Faculty of Engineering, Universitas Negeri Makasar, Indonesia*
[2]*Home Economics Study Program, Faculty of Teacher Training and Education, Syiah Kuala University*

*Corresponding author: st.aisyah@unm.ac.id

Abstract. Video as a tutorial medium is an effective alternative to complement practical learning tools in online learning. This study aims to determine the effectiveness of video tutorials and increase student learning outcomes in online learning in men's clothing courses. This study used a pre-experimental and one-group pretest-posttest design. The research sample is 40 students who program men's clothing courses. Data collection was carried out using a learning achievement test. The result of the data analysis showed that the result of student achievement in learning men's clothing before using the video tutorial could have been more optimal. It shows that some students still need to be more optimal in achieving learning outcomes. Then, the result shows a significant improvement in learning outcomes after implementing video tutorials. The result of inferential analysis, namely the paired t-test, showed differences before and after the application of video tutorials to the reasoning process, especially in the men's clothing courses in fashion design, Home Economics Program, Universitas Negeri Makassar.

Keywords: Video tutorials, learning outcomes, online learning, men's clothing course.

INTRODUCTION

Online learning using the e-learning application system is an alternative used in educational institutions, ranging from theoretical learning to practice or using laboratories. A Learning Management System (LMS) is a software system that virtualizes conventional teaching and learning processes, and it is a media for learning that is used in the current learning process due to the COVID-19 pandemic and forcing all educational institutions to use the application system (Surameery & Shakor, 2021).

Online learning is an educational innovation to answer the challenge of the availability of varied learning resources. The success of a model or learning media depends on the characteristics of students. In online learning, students can complete learning at any time according to a predetermined schedule (You, 2016; Dewi, 2020; Krismadinata et al., 2020). Learning can take the form of readings, animations, simulations, educational games, tests, quizzes, and assignments (Sanina et al., 2020; Yuliani et al., 2020).

The Men's Clothing Course is one of the courses in the Home Economics Program, Faculty of Engineering, Universitas Negeri Makassar, specializing in Fashion Education. This course is a compulsory subject that all students must follow in the field of Fashion Design. Several things that underline the need for supporting media in the online learning process are: this course is a practical course that requires a particular room or laboratory because it requires tools and materials in the learning process; this course produces products from result project in the form of shirts and trouser; students need guidance from the teacher to help them work on the project; limited time or learning hours.

Practical learning in Men's Clothing Courses using a laboratory will differ from theoretical learning if done online. Therefore, there is a need for creativity from the teacher to convey learning so that students can maximally absorb competence or learning outcomes. The needs and expectations of students for good quality educational services are the main triggering factors for innovation in the learning process to make learning effective. Learning as a process of interaction between students and teachers and other learning resources must be supported by appropriate media. Therefore, a teacher must be able to identify the various types of available and suitable media to support certain learning activities, especially for practical learning.

Learning activities are said to be effective if learning that allows students to learn specific skills, knowledge, and attitudes also makes students learn interactively (Akib et al., 2020). Effective learning fosters participants to learn something useful, such as facts, skills, concept values, and how to live in harmony with others or something the desired learning outcomes are.

Video as a medium for learning tutorials at the moment can be categorized as effectively used to complement learning tools as material for discussion practice and can improve students' abilities and be used as a means to complement learning reference material (Riyanto & Yunani, 2020). The benefit of learning with video is that it can complement the learning process in class. Learning videos can be controlled easily by students because they can play back parts they do not understand or go through learning more quickly according to their needs (Harrison, 2020). The use of interactive video media in the learning process is an alternative that can assist teachers in increasing students' interest in participating in learning because interactive multimedia will be more interesting, so it is fun in the learning process (Aisyah et al., 2019).

According to Batubara & Batubara (2020), there are some reasons for using video tutorials in learning: 1) an unstable internet network often disrupts the use of video conferencing technology, 2) some students are confused in practicing the tutorials in the learning media module book 3) the use of e-learning technologies such as Moodle and Google Classroom requires subject matter that can be studied independently 4) some students show good interest video tutorials. The same thing was expressed by Baharuddin (2014) that video tutorial media can replace educators when students want to repeat material that has been studied in class, and can be a tool that stores every important thing conveyed by the teacher to students and can repeated at any time by student.

METHODS

This research is a pre-experimental study that is not given a control or comparison group; namely, an experimental group is given a stimulus, and then the dependent variable is measured with a post-test (Sugiyono, 2013). The experimental group in this study were students who were programming the Men's Clothing Courses, where they would be given video tutorials on the material in the Men's Clothing Courses. The research design used was a one-group pre-test-posttest design using data collection techniques in the form of learning achievement tests given to respondents during the pre-test and post-test.

The data obtained in the study will be processed by descriptive analysis, including the average, value, standard deviation, maximum value, minimum value, and inferential analysis, namely the paired t-test. Descriptive data will be categorized based on predetermined assessment standards, as seen in **TABLE 1**.

TABLE 1. Categories of learning outcomes.

Grade of Learning Outcome	Categories
90 - 100	Very high
80 – 89	High
65 – 79	Medium
55 - 64	Low
< 55	Very low

N-Gain is used to determine the effectiveness of video tutorials in learning, which compares the gain score obtained by students with the highest possible gain score that students can get [8]. The formula used is adapted from Melzer's formula as follows:

$$N\ Gain = \frac{Postttest\ score - Pretest\ score}{Ideal\ score - Pretes\ score}$$

As a reference for the assessment criteria for the N-Gain score can be seen in **TABLE 2**.

TABLE 2. Criteria of gain.

Gain Index	Interpretation
g > 0.70	High
0.30 <g ≤ 0.70	Medium
g ≤ 0.30 low	Low

After knowing the analysis results with N-Gain, the next step is to do a data normality test to determine whether the data is distributed. If the data is categorized as expected, then it is followed by a paired samples test to determine whether there is a significant difference between the pre-test and post-test in the use of video tutorial media in online learning for Men's Clothing Courses. To find out the differences in learning outcomes before and after being given video tutorials in online learning, the following hypothesis formulation was made in the study:

Ho: There are no differences in learning outcomes before and after being given video tutorials in online learning for Men's Clothing Courses.

Ha: There are differences in learning outcomes before and after being given video tutorials in online learning for the Men's Clothing Courses.

In this study, to measure t arithmetic paired samples (pared sample test) between the pre-test and post-test used data analysis assisted by IBM SPSS software, based on the Significance grade (Sig.) namely:

If Sig.< 0.05, then Ho is rejected

If Sig. > 0.05, then Ha is accepted

RESULTS AND DISCUSSION

Result of the Research

A descriptive analysis of student learning outcomes by applying video tutorials to online learning for Men's Clothing Courses can be seen in **TABLE 3**.

TABLE 3. Frequency of learning outcomes before implementing video tutorials.

Grade	Categories	Frequency	Percentage
90 - 100	Very high	0	0
80 – 89	High	12	30%
65 – 79	Medium	22	55%
55 - 64	Low	6	15%
< 55	Very low	0	0

Based on the descriptive analysis data obtained, the data in **TABLE 4** shows the frequency of learning outcomes before being given video tutorials on learning, showing that 15% of students are still in the "low" category. At the same time, there is no "very high" category.

TABLE 4. Frequency of learning outcomes after the application of video tutorials.

Grade	Category	Frequency	Percentage
90 - 100	Very high	15	37.5%
80 – 89	High	20	50%
65 – 79	Medium	5	12.5%
55 - 64	Low	0	0

< 55	Very low	0	0

Based on the data in **TABLE 4**, it can be seen that students who get "high" scores are 50% and no students get "low" scores, which means that descriptively, there is an increase in student scores after being given treatment.

The N-Gain Test is carried out to determine whether providing video tutorials in learning Men's Clothing Courses is effectively implemented. The N-Gain test results can be seen in **TABLE 5**.

TABLE 5. Learning effectiveness N-Gain test.

	N	Minimum	Maximum	Mean	Std. Deviation
N-Gain score	40	.22	1.00	.5302	.20698
Valid N (listwise)	40				

The data in **TABLE 5** shows an average N-Gain result of 0.5302, concerning the criteria for the N-Gain index being at ($0.30 < g \leq 0.70$) or "medium" criteria, which means that the application of video tutorials to learning of Men's Clothing Courses that are used to online learning are practical.

TABLE 6. Data normality test.

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Before	.129	40	.093	.920	40	.008
After	.158	40	.013	.952	40	.087

The data normality test is used to determine whether the data in the research is normally distributed. Based on **TABLE 6**, by calculating the normality in the Kolmogorov-Smirnov column, data 0.93 and 0.13 are obtained, and in the Shapiro-Wik column, data 0.08 and 0.87 are obtained, which are more significant than 0.05. It means that the data in this research is normally distributed. Thus, the requirements or assumption of normality in using the paired samples t-test have been met.

TABLE 7. Descriptive analysis pair test samples test.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	73.0000	40	7.99038	1.26339
	Post-test	85.5750	40	6.93149	1.09596

Based on the data in **TABLE 7**, it can be seen that the average pre-test score73.00 and the post-test average is 85.57, which means that descriptively, there is a difference in the average learning outcome between the pre-test and the post-test learning outcomes in online learning of Men's Clothing Courses class.

Furthermore, to find out whether there is a correlation or relationship between the two data, namely the pre-test and post-test, it can be seen in **TABLE 8**.

TABLE 8. Correlation analysis of pre-test and post-test data.

		N	Correlation	Sig.
Pair 1	Pre-test & Post-test	40	.820	.000

The data in **TABLE 8** shows the correlation test results between the pre-test and post-test data. Based on the calculation results, it can be seen that the correlation coefficient is 0.820 with a significance score (Sig.) of 0.000. Because the score of Sig. 0.000 < probability of 0.05, there is a relationship between the pre-test and post-test variables.

To prove whether the difference is significant or not can be seen from the calculation results of the paired samples test in **TABLE 9**.

TABLE 9. Paired samples test results.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test – Post-test	-12.57500	4.59033	.72580	-14.04306	-11.10694	-17.326	39	.000

According to Santoso (2014), the decision-making guidelines in the paired t-test based on the significance score (Sig.) of the SPSS output results are as follows: if the score of Sig. (2. tailed) < 0,05, then Ho is rejected, Ha is accepted, and vice versa, if the Sig. (2-tailed) > 0.05, then Ho is accepted, and Ha is rejected. Based on the calculations in TABLE 9, it is known that the value of Sig. (2-tailed) is 0.000 < 0.05. It can be assumed that Ho is rejected and Ha is accepted, so it can be concluded that there is a significant average difference between the pre-test and post-test learning outcomes, which means that the application of video tutorials to Men's Clothing Courses can influence improving learning outcomes.

Discussion

Learning skills using online is a challenge for teachers to be more creative. This research reveals that using video tutorials to learn Men's Clothing Courses online is quite effective based on the result of the N-Gain test, which is equal to 0.5302. This is in line with research which revealed that "Learning by video is the most effective learning because students can control learning according to conditions, which means students can play back or stop certain parts to understand content in the material in the video so that they can choose topics according to their needs (Brecht, 2012). This is in line with other research that shows that video as a tutorial learning medium is in the practical category used to complement learning tools as material for discussion and exercises that can improve students' abilities. This can be seen after giving video tutorials on learning, as seen from the increased activity of teachers and students participating in learning, and this learning medium is very effectively used in online learning (Riyanto & Yunani, 2020).

Utilizing video tutorials in online learning, especially Men's Clothing Courses, provides benefits to improve learning outcomes. As obtained in this research through descriptive data analysis, it can be seen that there is an increase in the average score and frequency of students who get the maximum score after being given a video tutorial. This proves that learning using video tutorials can complement the learning process even though it is done online. This is supported by research results, which reveal that "The use of video tutorials during the coronavirus pandemic can complement online learning tools. Therefore, teachers can use video tutorials for discussion and practical material to increase students' understanding of the material presented through online meetings (Batubara & Batubara, 2020). In line with the results of other research that video tutorials provide benefits to students even though learning is not carried out in class or students are not present in class, where a shift in the learning paradigm reveals that learning can be done anytime and anywhere (Wells et al., 2012).

CONCLUSION

Based on the research results, it can be concluded as follows:

1) The result of the descriptive analysis obtained that the average learning outcome in the pre-test was 73.00, and the learning outcomes in the post-test averaged 85.57, which means that descriptively, there is a difference in the average learning outcomes between before and after being given the video tutorial treatment learning Men's Clothing courses online
2) The result of calculating the average N-Gain to see the effectiveness of learning obtained a score of 0.5302, concerning the criteria for the N-Gain index being at ($0.30 < g \leq 0.70$) or medium criteria, which means that the application of video tutorials to learning Men's Clothing Courses practical enough.
3) The result of the paired samples t-test obtained a score of Sig. (2-tailed) is 0.000 < 0.05, meaning Ho is rejected and Ha is accepted. So, there is a significant difference in the average increase in learning outcomes between the pre-test and post-test by applying video tutorials to online learning in Men's Clothing Courses.

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