

The Effectiveness of Online Learning at SIPEJAR Using Video-Based Learning Media

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ABSTRACT

This study aims to determine the effectiveness of online learning at SIPEJAR through video-based learning media. Media selection is an important aspect to support the achievement of learning objectives. Video is a learning medium that can be used in online learning. This research method uses the experimental method (quasi-experiment research). The sample in this study were two classes consisting of the experimental class totaling 29 samples and the control class totaling 30 samples. The results showed that there was an increase in the score in the experimental class which was carried out by comparing the pre-test scores before using the instructional videos on SIPEJAR and the post-test after using the instructional videos on SIPEJAR. The increase in student scores shows that the use of effective instructional videos is used in online learning.

Keywords: effectiveness, online learning, video learning, SIPEJAR

1. INTRODUCTION

The development of information and communication technology influences the learning process in educational institutions. The use of digital-based media in the learning process has now been carried out by many lecturers. When the Covid-19 pandemic affected the learning, process carried out remotely by utilizing digital media to support the learning process. Through online learning, lecturers will be very helpful because the learning process will be able to take place remotely. With online learning, lecturers can also improvise by utilizing various features that can be used as learning media by adding text messages, sounds, images, and videos.

Learning online will make it easier for both parties because the delivery of teaching materials is faster, easier, and more efficient than other methods. Online learning facilitates interaction between students and subject matter. Likewise, the interaction between students and educators/instructors as well as fellow students can share information or opinions on various matters relating to lessons and student self-development needs. The lecturer can place study materials and assignments that must be done by students in certain places on the website to be accessed by students. As needed,

The selection of appropriate learning strategies and methods according to student characteristics will greatly assist lecturers in carrying out the learning process online. Therefore, it requires innovative steps

from lecturers to continue to develop learning methods to create an effective learning process. The use of online-based learning media is a character of education today, where learning combines more online-based learning through face-to-face class learning.

The selection of learning media is an important factor in the success of achieving learning objectives. The ability of lecturers to choose and use learning media in class is very important to create an effective learning process. By the viewpoint interactional theory defines learning as a process of student interaction with educators and learning resources contained in the learning environment. The learning process is considered to have good quality if there is a multi-directional interaction process, namely between lecturers and students, students and students, students with a learning environment, and students with learning resources.

Digital technology has developed very rapidly in this decade and has had a variety of impacts, both positive and negative. Technology has the meaning of the ability to do something of high value [1]. The purpose of something of high value, namely, technology can help human tasks quickly and precisely. Community life has also changed due to the use of technology, for example, the use of searching for information, exchanging information, communicating, even learning online using the Learning Management System (LMS) WhatsApp application, google classroom, zoom, google meet, YouTube or using technology others to make it easier to obtain information during distance learning.

In online learning activities, the Universitas Negeri Malang has provided an LMS called the *Sistem Pengelolaan Pembelajaran* (SIPEJAR). SIPEJAR is an online learning platform service developed by the Universitas Negeri Malang to support the implementation of distance learning. Through SIPEJAR lecturers and students can carry out remote learning which can be designed for synchronous or asynchronous lectures.

Learning is an active process of students developing their potential. Students are involved in experiences facilitated by the lecturer so that lessons can flow into experiences involving thoughts, emotions, engaging in fun and challenging activities, and encouraging student initiative. In the learning process, students get inspiration from experiences that are challenging and motivated to be free to take initiative, be creative and independent because the experience itself is a learning process which is an activity to remember storing and producing information, ideas that enrich students' abilities and character.

Various studies have been conducted to measure the effectiveness of online learning. Research conducted by Cindi et al (2019) found that online learning has strengths and weaknesses. The advantages of online learning are the flexibility of lecture time, the ease of understanding the material, the ease of collecting assignments, while the weakness of online learning is the difficulty in understanding the material and interacting with lecturers [2]. Meanwhile, in another study on the effectiveness of online learning conducted by Prestiadi (2020) which examined online learning meta-analysis, it was found that the effectiveness of online learning was influenced by various factors such as lecturer competence in utilizing technological media and methods used by lecturers in the learning process, in addition to It is also student motivation in online learning that affects the effectiveness of online learning [3].

From the results of research on online learning, lecturers need to be able to create the effectiveness of online learning. One of the ways that can be done to create the effectiveness of online learning is by increasing the skills and competencies of lecturers in mastering technology and being able to choose and utilize various electronic media that can be used to support online learning. By utilizing the right learning media, online learning will be able to run optimally [4], [5].

One of the media that can be used by lecturers in increasing the effectiveness of online learning is by utilizing video lessons. Learning videos are digital-based media that can be used by lecturers to fill in content or material on the online learning platform or the LMS menu. The use of instructional videos can also be done at SIPEJAR which already provides various features to support lecturers in online learning. Lecturers can record in the form of a video presentation and the results can be used to fill in the material on the existing platform. Through this video, students will find it easy to study the material presented by the lecturer. Through this video,

students can easily see the lecturer's explanation and can be done repeatedly by students.

Based on this background, it is important to research efforts to increase the effectiveness of online learning by utilizing a variety of media that can be done to fill LMS content. This research is an attempt to determine the effectiveness of online learning conducted at SIPEJAR through video media.

2. METHOD

This study used a qualitative research method using a quasi-experimental research type. Quasi-experiment quasi-experimental research is research conducted based on a mock experiment in which the control group cannot fully control the external variables that affect the actual implementation of the experiment. Experiments were carried out by testing the presentation video as an online learning medium in SIPEJAR. The sample in this study were 29 students offering C7 in the teaching supervision course as an experimental class and offering A7 as many as 30 students as the control class. The data analysis used was using Microsoft Excel by tabulating the results of the instruments obtained from the pre-test and post-test results to students.

3. RESULT

In the initial stage, before the experimental class was tested on the use of video as an online learning medium in SIPEJAR, a pre-test was first carried out on all samples conducted in class C7 as an experimental class with 29 samples and A7 as the control for 30 samples. The initial test results can be seen in Table 1 and Figure 1 below.

Table 1 Pre-Test Score of Experimental Class

No.	Score	Frequency	Percent (%)
1	75	3	10
2	80	9	31
3	85	9	31
4	90	2	7
5	95	6	21
	Total	29	100

Table 2 Pre-Test Score of the Control Class

No.	Score	Frequency	Percent (%)
1	70	2	7
2	75	2	7
3	80	7	23
4	85	7	23
5	90	7	23
6	95	5	17
	Total	30	100

Table 3 Pre-Test Average Score

No.	Class	Number of students	average
1	A7 (Control)	30	85.00
2	C7 (Experiment)	29	84.83
Amount		59	169.83

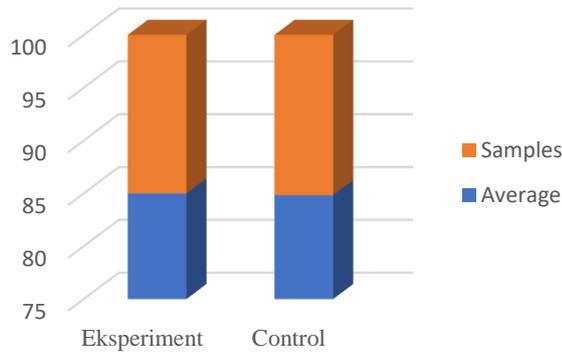


Figure 1 Average of pre-test score

From the results of the pre-test activities carried out on the experimental class and control class, it was obtained that the data from the calculation of the average pre-test score showed that the control class had a better average score of 85.00. Meanwhile, the pre-test average calculation result in the experimental class was not too different from the control class, which was 84.83. From the results of the pre-test activities, it can be concluded that there is not too much difference between the control class and the experimental class.

This can also be seen from the acquisition score between the lowest score and the highest score, in the experimental class, the lowest score was 3 people with a percentage of 10%, while in the control class the lowest score was 2 people with a percentage of 7%. Meanwhile, if seen from the highest score acquisition, it can be seen that the experimental class with the highest score was 6 people with a percentage of 21%, while in the control class the highest score was 95 with a percentage of 17%.

After the pre-test score calculation results were obtained, the experimental class was then treated using online learning at SIPEJAR using video-based teaching materials. The treatment of this experimental class was carried out for eight meetings conducted online by utilizing video media as a teaching material applied to teaching supervision courses.

The use of instructional video media in SIPEJAR is carried out by pasting learning videos on the SIPEJAR display. This video-based learning media is carried out to support the implementation of online learning asynchronously. The use of video-based media on SIPEJAR can be seen in Figure 1 below.



Figure 2 Use of instructional videos on SIPEJAR

From the results of this experiment, further measurements were carried out through post-test activities. The post-test results in the control and experimental classes are shown in Table 4 and Table 5 below.

Table 4 Post-Test Score of Experimental Class

No.	Score	Frequency	Percent (%)
1	75	0	0
2	80	1	3
3	85	13	45
4	90	5	17
5	95	10	34
Total		29	100

Table 5 Post-Test Score of the Control Class

No.	Score	Frequency	Percent (%)
1	70	3	10
2	75	0	0
3	80	6	20
4	85	9	30
5	90	9	30
6	95	3	10
Total		30	100

Table 6 Average Post-Test Score

No.	Class	Number of students	average
1	A7 (Control)	30	85.00
2	C7 (Experiment)	29	89.14
Amount		59	174.14

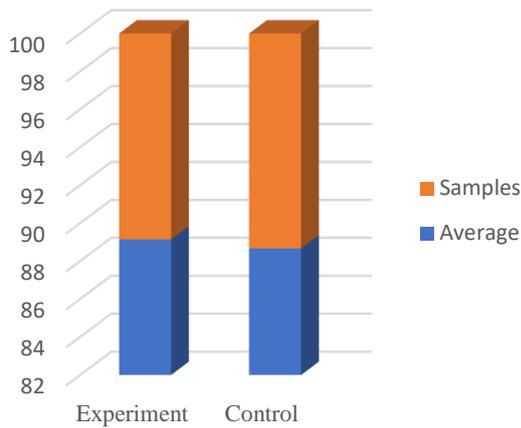


Figure 3 Average of Post-Test Score

Based on the results of the calculation of the post-test score acquisition on the experimental class and the control class which was carried out on 29 students presented in Table.4, there was an increase in student scores when compared to the pre-test activities. Meanwhile, if seen from the average post-test score in table 6, it is found that there is an increase in the average score of 89.14. When compared with the post score test in the control class that did not change.

4. DISCUSSION

The online learning platform has various kinds, for example; Google Classroom, Edmodo, Moodle, etc. The platform presents several main menus such as; discussion forums, online chatting, group assignments, automatic evaluation systems, interactive multimedia [6], [7], [8]. The use of learning media in the form of online learning multimedia has a very important role because currently multimedia is used as a tool to compete in this era of globalization. In this 21st-century multimedia will become a basic skill as important as reading skills [9][10].

Online learning facilities have been provided by the Universitas Negeri Malang by utilizing educational technology by creating a learning management system (LMS) known as SIPEJAR. Researchers use these facilities to carry out distance learning. The use of SIPEJAR in online learning is very helpful for lecturers in carrying out learning through various manuscripts available in SIPEJAR. One of the menus that lecturers can use is to use the upload file menu to add various media such as videos, Audio, power point files, and enter various kinds of links that can be used by lecturers to deliver learning material. The use of SIPEJAR also provides benefits for students because it makes it easier for them to access information in the form of lecture materials and in collecting assignments. The SIPEJAR menu display that lecturers can use can be seen in the Figure 4 below.

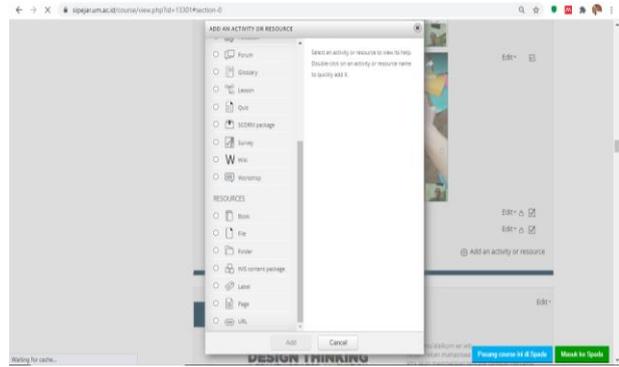


Figure 4 Display Menu SIPEJAR

Based on the results of the treatment in the experimental class using video-based learning, it resulted in differences in the average value. Class grades before using video-based learning media and grades after using learning media using video. The increase in the value of learning outcomes occurs due to the increased learning motivation of students using video media in online learning. This is in Sardiman opinion which states that learning motivation has a function, namely: (1) encouraging humans to do, which means that motivation is the driving force of every activity to be carried out, (2) determining the direction of action which means providing directions that must be done by the formulation of goals which has been determined, and (3) selecting actions [11].

The results of the experiment on the experimental class affected increasing student scores showing that the use of online video-based learning media was effective in increasing student understanding, this was evident from the results of the post-test where the frequency of students who got the highest score increased. This is by the results of a study conducted by Hanum (2013) which states that the use of online learning media can increase the effectiveness of learning [12], [13], [14]. This is also reinforced by the results of research on online learning which states that the effectiveness of online learning is influenced by lecturers in choosing appropriate learning media, as well as in choosing strategies and skills to utilize learning technology. The use of interactive and engaging learning media for students can increase the effectiveness of online learning [2], [15], [16], [17], [18].

The selection of online learning media as an experiment is an appropriate action to try to improve the quality of online learning by utilizing various learning media that can be used in SIPEJAR. According to Indrawan (2014), the use of media such as radio, television, video, multimedia, and other media has been used and can help improve the quality of education. Online learning can refer to all training activities that use electronic media or information technology as a medium for educational activities. Moreover, internet media which has an interactive nature can be mass media and interpersonal, warehouse sources of information from all over the world, it is very possible to become a media of education that is superior to the previous generation.[19].

The use of video as an online learning medium influences the effectiveness of online learning because it has an important role in providing easy access to student learning to be able to access material and view material repeatedly. The use of video media also has superior values when compared to other learning media. The advantages of video-based learning media have the advantage that it makes it easier for lecturers to provide the same material as other classes, besides that students can also watch learning videos at any time so that the learning process can occur anytime and anywhere. According to Rahayu et al (2017), the results of the study show that ease of use has a positive effect on perceived benefits and attitudes to use [20].

5. CONCLUSION

Based on the results of online learning experiments conducted on control classes and experiments on the use of video lessons in online learning, it is concluded that the use of instructional videos can increase the effectiveness of online learning. This is confirmed by the results of trials conducted on students in two classes by measuring the pre-test and post-test in the experimental class and the control class.

From the measurement results, it was found that there was an increase in student scores after the online learning treatment was carried out using learning videos. The use of instructional videos in addition to increasing effectiveness also has the advantage of making it easier for lecturers in the online learning process, and make it easy for students to understand learning material because students can access and study material on video repeatedly anywhere and anytime.

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