Optimization of the Use of Video Conference as an Effort to Improve Critical Thinking Students of FKIP University of Lampung

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Abstract. The development of the world of information communication and technology (ICT) which is so rapid at this time cannot be separated from the world of education. As technology continues to advance, so does the world of education that follows. The number of learning media based on digital devices such as smartphones and laptops, of course, must be harmonized with their good and correct use in order to improve their critical thinking. The use of digital media in various universities certainly requires students to adapt, especially teacher students who are prospective educators in the future. One of the uses of learning media that is often used is through video conferencing. The purpose of this study was to optimize and determine the effectiveness of using video conferencing to improve students' critical thinking. The research method used is quantitative research with experimental research design. The samples used in conducting this experiment were FKIP students at the University of Lampung.

Keywords: Learning · Video Conference · Critical Thinking

1 Preliminary

The rapid progress of science and technology has indeed affected all human activities, and all human needs seem inseparable from science and technology. According to Cholik (2017) [1], rapid technological development is affecting not only the economic, health and social sectors, but also the educational sector. In the world of education, educational resources require facilities and infrastructure aimed at facilitating and making the teaching and learning delivery process more effective. Of course, it takes a lot of effort to take advantage of technological advancements and be able to develop each student's skills. Of course, as Syamsuar (2019) [2] noted, ICT literacy requires an understanding that ICT advances must be actively used, one of which is to improve learning outcomes. That's it.

According to Nurdyasnyah (2015) [3], technological advances in education as a medium of inquiry certainly play a role in achieving national education goals. Presenting information in different nuances about learning can naturally transform learning.

Normally, students just listen, watch, and imitate what the educator says from the text-book, but with the presence of technology, the flow of information that students receive becomes much wider. Through various other interactive media. Ultimately, students will be able to build a social understanding of knowledge, but the learning will be more meaningful.

One of the technological advances in the digital field, supporting media in learning can be applied and used effectively, for example by using video conferencing which can provide knowledge about training videos, learning videos, etc. According to Hadi (2017) [4] video is included in audio-visual media which can be interpreted as learning media that can be seen and heard using the senses of sight and hearing. The use of audio-visual media which is a technology that can be used in the delivery of material both presented in the form of sound and images in the learning process is certainly very interesting. By being presented with moving pictures, experimental processes, seeing various natural phenomena, or students can easily understand when observations can be made repeatedly.

In addition, the benefits of using video conferencing in learning can increase the critical nature of students, especially students can express the contents of the material that has been seen through videos related to Fahmi, S. (2021) [5]. With the video conference, educators are also more helped by the existence of these learning media, but the task of educators is also how to improve the critical thinking nature of each student.

Ultimately, advances in information and communication technology are essential. Its very rapid development requires everyone, including students, to adapt well, adapt quickly and always want to learn. Developing critical thinking skills, or critical thinking, to discern various information from the internet world through websites and videos is a must for all students. There is a need to use increasingly simple and comprehensive sources and methods to obtain specific information. On the other hand, collaboration among students also aims to promote understanding during learning through various media, so technological advances have wide-ranging benefits and impacts on student achievement. The feeling is clear.

2   Research Methods

The research has the aim of developing critical thinking abilities on the use of video conferencing is a quantitative research with an experimental research design. Experimental research is research that is intended to determine whether there is a consequence of something imposed on the subject under investigation (there is a causal relationship) [6]. This study uses a quasi-experimental design (pretest-posttest non-equivalent control group design), which is a comparative analysis between groups of students who have been given learning media about video conferencing. The research design design can be seen in Fig. 1.

Information:

R = taking sample by random;

O1 = _ class pretest experiment;

O2 = _ experimental class posttest;

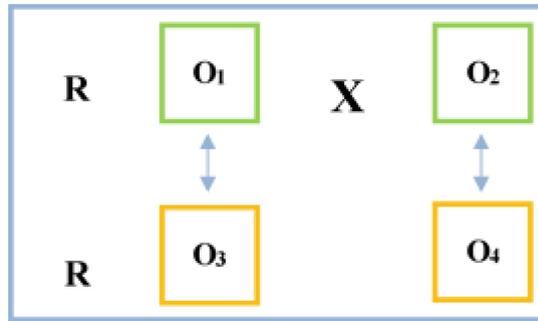O3 = _ control class pretest;

O4 = _ posttest control class.

Fig. 1. Pretest-Posttest Control Group Design

3   Results and Discussion

Video conferencing is one of the learning methods that can be used in today's technological advances. Video conferencing is one of the modern learning media today. Media are various types of components in the student environment in the form of humans, modules or events that build conditions or make students able to gain knowledge, skills or good behavior change [7]. While learning media is something (humans or goods in the nearest area) that can be used as equipment to deliver or distribute messages in education so that it can trigger the attention, interests, thoughts and feelings of students in learning activities to achieve learning goals [7].

Applications that are often used by students in using video conferencing are Zoom, Google Meet, Microsoft Teams, and Skype. Communication in this video conference is two-way between two or more groups in separate positions via audio, video, or with a computer system. Lectures using video conferencing link students with teachers and students with students in simultaneous interaction, but not necessarily in the same place or location [8]. Throughout the lecture period, students and lecturers talk through the audio/video system interactively. Students and educators can see and hear each other practically using monitors or computer screens or student gadgets.

The purpose of using video conferencing is the same as the purpose of face-to-face communication in the classroom, namely the existence of communication links between students and educators, exchanging data, being heard and understood. Increasing a sense of family in online classes will make the student learning experience more meaningful and it can help them stay connected throughout the knowledge transfer process [9].

Based on the learning process that has been going on, for the author, the advantages of using video conferencing media are the provision of tools in applications that have many very useful features in virtual classes, on the other hand, the weakness of using video conferencing media is that educators face difficulties in observing students because there are times when participants students who turn off the screen video. For this reason, the use of video conferencing must be optimized in improving students' critical thinking. Educators have many options in optimizing the use of existing video conferencing, for example by using learning methods and strategies that are appropriate to the circumstances of students.

The use of video conferencing has an impact on increasing student skills in the use of technology, by following the times. The skills that must be possessed by students today are critical thinking (critical thinking), collaboration (collaboration), cooperation (cooperative) and creativity (creativity) [10]. In this study, the use of video conferencing was able to improve students' critical thinking skills. This is also supported by research conducted by Haji (2020) [11] which states that the use of video conferencing can improve students' critical thinking in the fairly high category.

Research conducted by Samung (2021) [12] states that the use of video conferencing has differences in students' critical thinking skills compared to conventional learning types. By learning to do this virtual class, of course, makes students become literate with the information available. Even students can use this information as material for problem-solving studies on exercise assignments given by educators. Learning using video conferencing provides students with opportunities to design assignments and take the data obtained to be implemented in everyday life so that the learning atmosphere becomes fun for students or educators [13].

Optimizing the use of video conferencing carried out in this study helped students to gain various experiences and academic skills, increasing students' critical thinking by using video conferencing. Not only being more critical, students also become more efficient and active in the learning process, so that the course is achieved [14]. In research conducted by Seran (2020) [15] stated that the use of video conferencing can improve student skills. This happens because there is a recording factor in the results of the video conference which can be played back so that students can observe and look back.

With the use of video conferencing, educators have the hope that students can solve a problem and improve critical thinking patterns both in daily life and when doing academic activities. This is also supported by educators who have provided existing facilities and can be used optimally. This is in accordance with Sofyan's (2021) [16] research, according to him the learning media that is considered appropriate to provide experience to students is by using video conferencing, because it is not too much different from the experience and situation with conventional classes.

4   Conclusion

The conclusion of this study is the use of video conferencing can improve students' critical thinking. The facilities provided by the application that provides video conferencing help students in carrying out learning activities optimally, so that the objectives of learning can be conveyed properly.

The use of video conferencing that follows the development of the current era makes it easier for students to communicate and obtain information as a source of data in learning. So that students are also able to be invited to be skilled both in the use of technology and able to improve students' thinking patterns that are more critical both in everyday life and in learning.

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