Analysis of Learning Media Needs in the Implementation of Online Lectures during the Covid-19 Pandemic

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ABSTRACT

This study aims to describe the needs of learning media that are needed by students when carrying out lecture activities through online learning during the COVID-19 pandemic. The method used in this study is a quantitative study with data collection methods through questionnaires distributed to 144 students and then analyzed by quantitative descriptive analysis. The conclusion of this article is the effectiveness of the online lecture process during the pandemic. Students' learning media needed during online lectures are mobile-based media with video, multimedia, and other graphic media that are dynamic images. It is necessary to develop learning media and learning resources that are a commodity for students to improve distance learning services.

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1. INTRODUCTION

The COVID-19 pandemic is a catastrophe that has impacted every facet of human life. One aspect of this pandemic that has been impacted is the aspect of lecture activities. In Indonesia, numerous public and private universities have been forced to implement policies to phase out face-to-face lectures in favour of online lecture activities. The implementation transfer occurred in order to decrease community gathering activities and thus prevent the spread of the COVID-19 virus. Transferring online lecture activities is not considered fully ready for implementation. According to some facts in the field, students face networking difficulties when taking online lectures. Additionally, students who find it difficult and unclear to comprehend the lecturer's material solely through PPT (PowerPoint) media or through voice and network connection problems were identified.

Students' and lecturers' use of learning media and their own networks are frequently mentioned in news stories. Researchers at a private university in Indonesia made the initial findings. According to

the distribution of questionnaires regarding online lectures, lecturers did not take any specific adaptation actions in the implementation of online lectures. Face-to-face lecture plans, such as lectures, discussions, and in-depth studies of great literature, are best taught using media and methods that are specifically designed for them. There's no doubt that this significantly reduces the optimal form of synergistic and systematic learning.

While learning can happen anywhere and when people interact, it is more systematic and synergistic in an educational setting. According to Gronlund (1990: 203), learning in practice can be interpreted from three points of view, namely as a system, a communication process, and a purposeful activity. This is in line with his assertions. According to Darmawan (2013:4), Leod in Darmawan (2013:4) defines a system as a means of attaining an objective through integrating various components and elements. A system, according to Aparicio (2016: 298), is a collection of information organized in documents to serve human goals in the form of concepts, human characteristics, and technological innovations. Smith (2005:4) defines learning in a system as a reflective process of translating principles of learning, and instruction into plans for instructional materials, activities, information resources, and evaluation" (p.4). According to Gagne in Sanjaya (2015:27), instruction is a set of events that affect learners in such a way that learning is facilitated; this is in line with the definition of learning. For example, according to Corey and Sagala in Darmawan (2013:7), which states that a learning process can be defined as a form of engineering individual capacity by developers through development activities, changes and directing their response.

Individuals' capacity to think and solve problems may be improved by using the education component, according to some of these viewpoints. Effective learning, according to Ghufron (2010:17), is any activity in which the teacher tries to help form and develop the character of the learner. According to Gagne & Briggs in Superman (2014: 9), learning is a set of events that affect learners in a way that facilitates their ability to acquire new knowledge. Students are more motivated to learn when teachers focus on their individual needs rather than the needs of the class as a whole, according to White (2007:113-134)'s findings in his journal article.

In light of this definition, it is clear that student learning activities must emphasize learning. Because of this, students' devices and learning plans must be adapted to their specific needs. A process of conditioning the environment to give students meaningful learning activities and make them think about what they can do during learning activities, as stated by Haryanto (2015:12). As a result, it is essential to have a basic reference point that can be used to design and implement learning. When determining how to best direct learning practices, Posner (1994:94) states that the first step is to analyze students' learning characteristics. According to Gijbels (2008: 431), a needs analysis is required to integrate cognitive goals and create an in-depth approach environment for students to complete an achievement (2008: 431). Analyzing students' learning needs is critical in determining how to proceed and what to expect from the program's implementation.

Many people have different ideas about what students should be like when they first arrive. According to Moskal (2008:270), the evaluation of empirical evidence regarding student knowledge, skills, and the superiority of student conditions to learning stakeholders will facilitate a more systematic analysis of learner characteristics. As a result, Ayres (1983:517) claims that the learning process will be more effective if the characteristics of learners are identified. Because of what was explained, it can be concluded that students' characteristics directly impact their classroom and outside-the-classroom experiences.

Students, as human beings, can't avoid the development of technology. Students' first characteristic is their reliance on technology, which becomes critical in the learning process. According to Spiro's assertion in Nelson (2009:309), "the new order of human life patterns is created by pressure from technology that is very strong and persuasive.' The use of technology is also an important part of teachers' efforts to improve learning. Technology can help teachers adapt and innovate. Teachers have an obligation to adapt and innovate through technology. For more information on the obligations teachers have under the law, see Law 14 of 2005 Article 60 (C). For lecturers to fulfil their professional responsibilities, the point states that they must "continually improve and develop their academic

qualifications and competencies by the advancement of science, technology, and art." As a result, teachers must continue to adapt to new technologies. Analyzing students' learning characteristics is necessary if the innovation is to follow the plan and be effective for students.

According to Ninghardjanti et al. (2021), in a study on the need for mobile learning-based interactive learning media in vocational high schools, interactive multimedia mobile learning is needed because it facilitates the learning process at anytime and anywhere and encourages students to become interested in education. Another study conducted on the learning multimedia needs for network infrastructure architecture by Lempas and Soenarto (2020) found that the results of achieving their target from an investigation into multimedia learning were classified as necessary and necessary to facilitate classroom learning respectively. After Nisa et al. (2021) investigated the need for social studies learning media based on the local advantages of Semarang city, it was determined that the results of the needs analysis required the development of learning media based on local advantages Semarang city. According to a study conducted by Salsabila and Khairudin in 2022, the development of IoT-based innovative building installation systems teaching media in vocational schools is necessary to improve student learning abilities in the field. In addition, Tijan et al. (2019) found that Civics teachers require flash-based interactive learning media in their study of the needs for development of flash-based learning media in junior high schools.

Using the equations of previous studies, this research shows that learning media is necessary to improve student outcomes. This study differs from others because it used a different research topic and the analysis was conducted at academic institutions. Students who are participating in online lectures during the covid-19 pandemic will find this research useful in identifying their preferred forms of educational media. The researcher examined students' needs for learning media as a technology use during the covid-19 pandemic in light of this background information, as was their learning culture.

2.   METHODS

Quantitative methods are used to examine student responses to the given instrument in relation to lecturing during the covid-19 pandemic to determine the index of learning media needs that can help students' learning activities be maximized. When conducting interviews with lecturers about the implementation of lecture activities during COVID-19, this research also uses a qualitative approach to analyze semester learning plans used by lecturers to carry out lecture activities.

The subjects in this study were students of the Universitas Suryakancana, class of the academic year 2021/2022. The research sample in this study was 143 respondents taken from 5 faculties at Universitas Suryakancana. The sampling technique used in this study is random. This is to see student responses comprehensively regarding lecture activities during the COVID-19 pandemic. The types of data collected in this study are qualitative data and quantitative data. Qualitative data was collected through interviews with teachers related to the implementation of lectures which were then correlated with the semester learning plans prepared. Then quantitative data was collected through student responses regarding the performance of online courses during the pandemic. Quantitative data were collected through questionnaires with a Likert scale of 3; this was done so that the data collected did not cause response bias.

The data that has been obtained will be analyzed descriptively and quantitatively. The responses received by students will be collected, compared, and analyzed regarding the learning satisfaction they feel during the lecture. The data will be analyzed digitally through the Google Form application to see the percentage of students' learning media needs.

3.   FINDINGS AND DISCUSSION

Problem analysis in a learning process is systematic and must refer to measurable goals. Aspects analyzed in learning activities need to be based and focused. What are the things that need to focus on analyzing learning conditions, especially online learning? According to Suparman (2014:39), "the learning system consists of components of students, instructional processes, expected competencies, teachers, curriculum and instructional materials." In line with what was stated by Jung, Wong, Li,

Baigaltugs, and Belawati (2011:79), who argued that "The quality of an online learning can be measured based on the description of policies, methods, and instruments."

Based on these opinions, the focus and discussion in this research are divided into three parts: 1) implementation of online lecture activities during the pandemic; 2) Utilization of learning media during the pandemic; 3) Media and learning resources needed by students during online lectures. The focus of the research will be further described as follows:

Implementation of Online Lecture Activities during the Covid-19 Pandemic

Online lectures are one of the national policies in lecture activities during the COVID-19 pandemic. This policy is an emergency measure considered medically appropriate to stop the spread of the COVID-19 virus in the community. Therefore, this online lecture process should be a solution so that the learning process continues optimally, not just aborting obligations.

They are based on interviews with lecturers and analyzing the design of semester lectures in Indonesian language courses. The researcher found that lecture activities were carried out through the google classroom platform and google meet. The method and implementation of the lectures are still ongoing following the semester learning plans that have been planned during the face-to-face learning process.
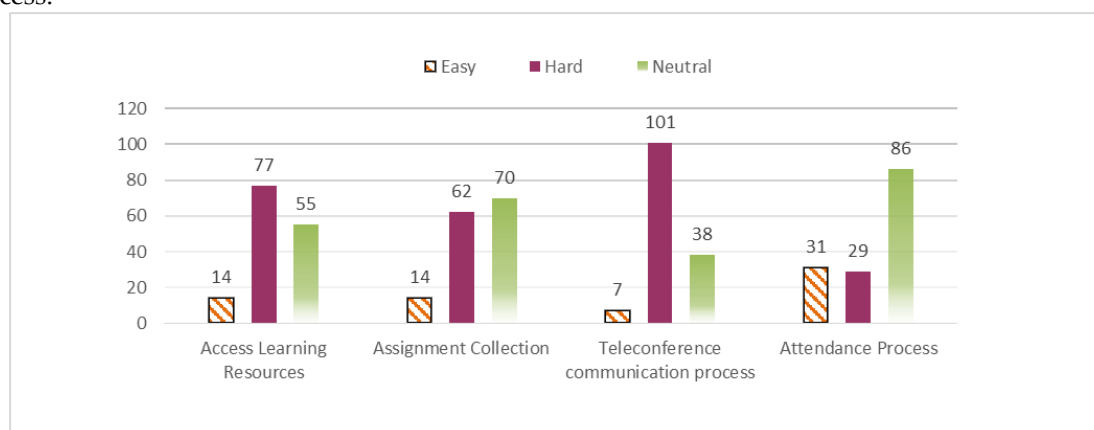

Figure 1 Graph of student responses regarding the implementation of online lectures

Several facts support this: teaching methods, learning strategies, and learning resources are still using the lecture method, discussion group strategies, and printed teaching resources. This fact is supported based on student responses regarding the implementation of online lectures, and the following is an overview of student responses related to online lessons.

Based on these findings, several problems emerged during the implementation of online lectures. Many students have difficulty accessing learning resources, the distribution process of collecting assignments, and the teleconference communication process. The online lecture process should be easier for students to learn wherever and whenever. This problem is thought to arise due to the limited IT capacity used during online lectures.

According to Keegan in Spector (2009:157) suggests that "There are several dimensions in distance learning, namely, distance, educational institution policies, media use, communication provisions, self-directed learning, and orientation of new forms of learning." Furthermore, Gaitanaru (2013:416) explains that "The online learning process requires a new communication paradigm by taking into account the factors of technological resource capacity, information flow, and feedback processes." Based on the explanation, it can be understood that in implementing online learning or distance learning, there are at least some considerations and diffusion processes regarding communication rules that must be agreed upon before implementing the online learning process.

Online learning can solve the problems of implementing learning during the pandemic. According to Eastmond (2000:110) states that "Budget costs, appropriate media, communication systems, learning designs, integration of face-to-face strategies, trials, and adjustment of needs are aspects that must be

considered when carrying out online learning." In line with what was stated by Wang and Xing (2018: 195), which said that "Socio-economic conditions, communication ethics, and access security are the main factors in determining the effectiveness of students' digital activities."

Referring to the discussion above, it can be understood that the online learning process is an alternative in solving problems and optimizing the learning process, which is identical to the use of technology. However, to implement the strategy, it is necessary to carefully consider the technological resources that students can use, learning designs that implement new communication channels, and a robust network system for the material distribution process. Online learning is independent learning that can have a very positive impact. Still, as an online learning innovation requires rules to facilitate adopting a new learning culture for students and teachers.

Utilization of learning media during the pandemic

This second focus discusses the initial characteristics of students regarding the use of learning media during the pandemic. They looked at previous student difficulties regarding access to learning resources and the teleconference process. Researchers try to find out about the diversity and use of learning media that students use. The variables sought in this focus are the media's dominance and the time's tendency to access the media or tools. This is done to take a deeper look at the access problems experienced by students during the implementation of online lectures. The following is an illustration of the distribution of media that students tend to use in carrying out online courses during the pandemic:
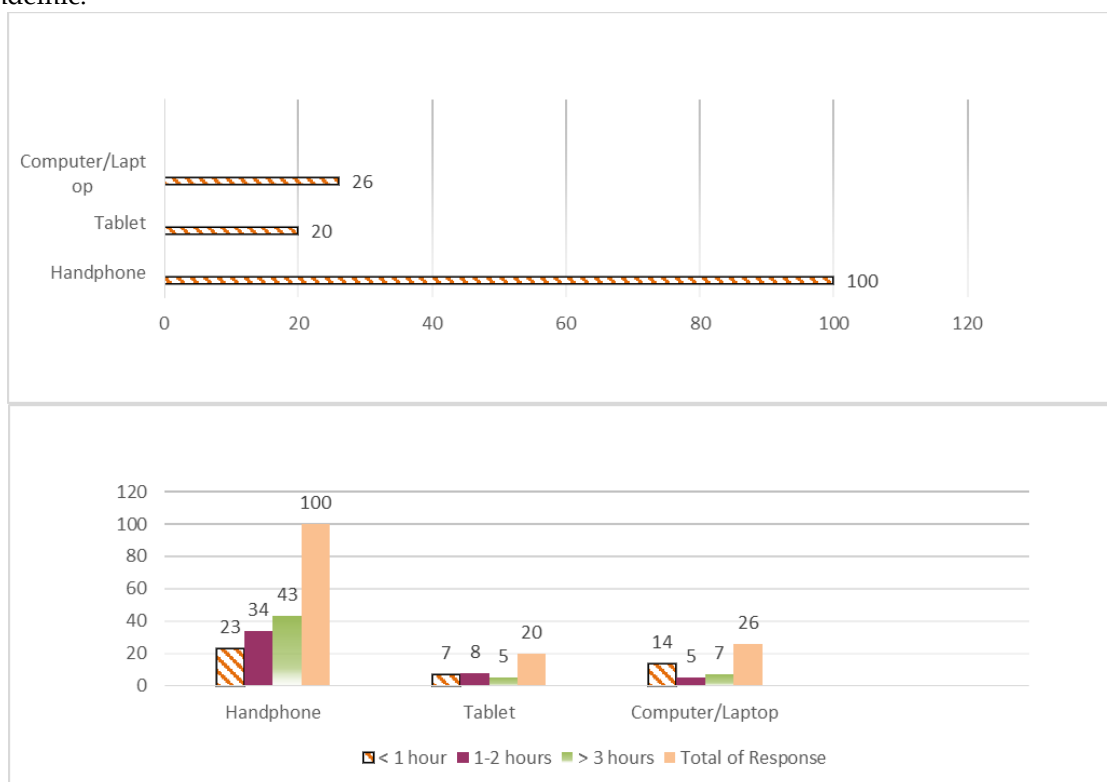

Figure 2 Graph of the average time used by students when accessing gadgets

Based on the graph in Figure 2, it was found that students tend to use cell phones when carrying out online lectures compared to tablets and computers or laptops. Interestingly in Figure 3, the number of respondents who answered regarding the time allocation used when accessing the media is the same as the number of trends in media use. Then the time that students allocate in accessing the media varies. Regardless of the problem with the number of respondents, the comparison of the time to use cellphones/smartphones for activities remains longer compared to other media.

Based on this comparison, it can be concluded that the most capable and dominant tool used by Suryakancana University students is the smartphone. So it is not surprising that many complaints regarding access to learning resources, collection of assignments, and video teleconferencing activities are the dominant problems experienced by students. In addition, mobile phone media remains a medium that tends to be used longer than other media. This raises the assumption that mobile-based online lectures or mobile learning activities will have more impact on students than other media.

This fact is supported by several opinions and research that have been done previously. Based on this comparison, it can be concluded that the most capable and dominant tool used by students at the Suryakancana University in Cianjur is the smartphone. So it is not surprising that many complaints regarding access to learning resources, collection of assignments, and video teleconferencing activities are the dominant problems experienced by students. In addition, mobile phone media remains a medium that tends to be used longer than other media. This raises the assumption that mobile-based online lectures or mobile learning activities will have more impact on students than other media.

According to Davies (2012:11), "through mobile learning, the learning process for the student level shows a positive response and learning will be more meaningful if the media used is based on newer technology. Furthermore, Kingsley (2016: 508) states that "through mobile learning products, study groups with adult compositions can improve their language skills because they can learn wherever and whenever they are." Another opinion also mentions the positive impact of using mobile learning in learning. According to Konig (2014:118) states that "through the use of mobile learning, the learning process can be carried out with a constructivist approach. This is done by applying problem-based learning strategies. As a result, students will participate more and understand historical discussions through cognitive processes, remembering, and debating. Churchill (2016:4) further states, "Through affordable mobile technology, learning will be more effectively integrated in terms of resources and independent activities." Curum (2020:132) also explained that "Through mobile learning applications, students can interpret information and logical understanding instantly and easily."

Based on some of these explanations, it can be concluded that it is not surprising why mobile use has become very dominant when carrying out lectures during the pandemic. This dominance is based on several points of view. First, mobile learning is an affordable and suitable application for students; many conveniences are provided through mobile applications, so, naturally, students tend to be more capable and want to use their mobile devices when carrying out lectures. In addition to easy access and processing, mobile devices also provide flexibility and ease of access. Students don't have to bother opening their laptops and turning on their devices to find information and materials on a subject.

Media and learning resources needed by students during online lectures

The final focus of this research is to find out the types of learning resources that students tend to need more during the pandemic. This is done to see the gaps in developing the learning process that teachers can do in optimizing the online learning process. Not only during pandemic conditions, but also can be used in the future to develop an independent learning process for students, both in carrying out formal and informal learning according to the characteristics of the development of students.

According to Hurlock (1968:253) explains that "The characteristics of interest in early adulthood tend to be more analogical thinking processes, think creatively and want to be considered more mature or independent." Therefore, there is a need for a particular analysis of the characteristics of learning resources students need during the online learning process. According to Clark (2012:222) explains that "Self-learning will be more optimal if there is a discussion from students about the correlation between study habits, and the strategies needed when studying." Based on this explanation, the researchers tried to find data regarding the need for learning resources that can help students learn during the pandemic. The following is a graph of the various learning resources needed by students during the pandemic:
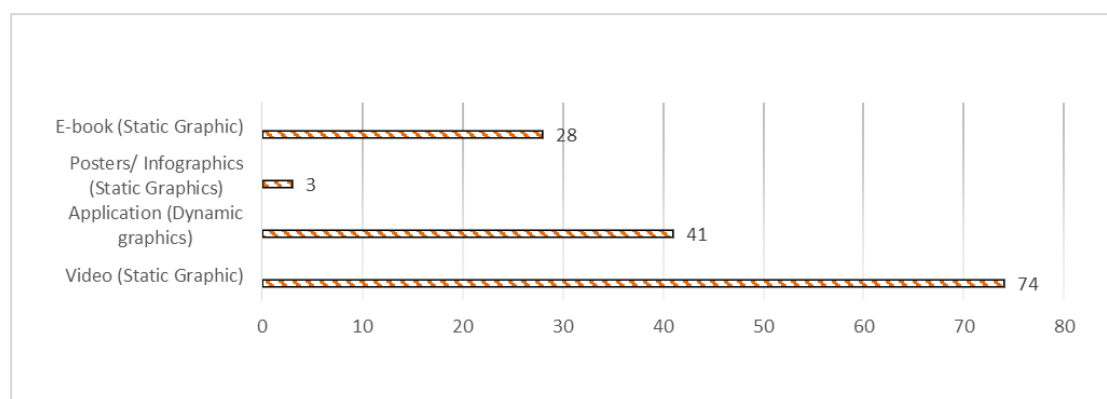
Figure 3 Graph of student learning resource needs during the pandemic

Based on the graph, it was found that most students tend to need more learning resources: motion pictures. This tendency is one of the initial characteristics that teachers must consider in implementing lesson plans. The findings also indicate that video-based learning resources are a much-needed learning resource for students. But whether these sources will have an impact in optimizing students' learning.

According to Struck (2010:209), "Implementation of learning resources that are motion pictures can improve the ability of students to describe a meaning." Furthermore, Sancho (2010:437) states that "through video simulations and tutorials it can effectively improve the maintenance process for students' kinesthetic abilities, even for the condition of students with special needs." Based on some of these explanations, it can be concluded that students can independently hone and maintain their abilities regarding a material through video media.

Is it with the video that the role of the teacher disappears completely? This is very inappropriate. Although learning through specific sources can provide an independent learning environment for students. The role of the teacher in directing and conditioning students' learning achievement is something that cannot be replaced. The role of the teacher can indirectly keep the learning process running systematically because the teacher is a liaison component between the plan and the implementation of learning.

This opinion follows what was stated by Holly (2021:117), which says that "There are differences in motivation that arise when students access mobile learning resources, this is a mutual benefit between students and teachers, but still the role of strengthening the teacher is the role of the teacher. Key to cultivating that motivation" In line with what was stated by Bush (2015:38) who argued, "The fundamental question in developing how good a video is, is when it will be more useful to use. There needs to be a special schedule when the teacher becomes a one-way talent and answers questions in two directions."

Based on some of the explanations above, it can be understood that videos can indeed increase students' motivation and achievement when carrying out independent learning activities. However, the role of the teacher is still essential in determining when the video will be used and implemented during the learning process. The role of the teacher as a facilitator must continue to foster and direct students to be able to develop according to the speed of their respective developments.

CONCLUSION

Based on the findings and previous discussions, it can be concluded that the needs of student learning media at Universitas Suryakancana Cianjur are mapped based on several aspects. The first aspect is the need for adaptive learning design and design. Implementing planned teaching methods and strategies that are less adaptable to online lecture conditions causes students to access and carry out lecture activities. The second aspect is providing an online lecture system based on the media capabilities of students. Lectures through the Google Classroom and Google Meet platforms have indeed proven effective in several countries. Still, teachers need to consider the effectiveness and trends of the media used by students so that the implementation of technology in lecture activities can be well

diffused. The last aspect is the student's need for learning resources that are dynamic images. The condition of online lectures requires students to learn dynamically and get the appropriate intake of learning resources. Student responses regarding these learning needs must be facilitated to create an influential learning culture, whether teachers produce these resources independently or direct students to access and search for these learning resources. All of these activities must be carried out systematically and following the learning outcomes that the teacher arranges so that students can provide feedback on the correlation between learning outcomes and the strategies students apply. Future recommendations for education implementers and actors are to analyze the needs and learning characteristics of students first. This is indispensable in all forms of learning strategies and methods. Moreover, the technology-based learning process requires a fundamental analysis of the technology that students can use, the sophistication of the technology applied, student learning needs, and different learning designs in implementing these learning activities.

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