

Utilization of Information Technology for Online Learning Innovation During the Covid-19 Pandemic

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ABSTRACT

The current COVID-19 pandemic has had a significant impact on countless facets of human life, including health, economics, social and cultural aspects, as well as education.. Today's learning is carried out online (on a network); this requires universities to transform learning technology in a short time. The implementation of online learning requires the cooperation of some parties, most notably teachers, parents, and, most importantly, students, who are at the heart of all learning. Therefore, it is demanded that educational innovation be carried out by ensuring that teaching and learning activities can still run effectively even though they were carried out at home. The purpose of this article is to examine the level of utilization of online learning media platforms and project-based learning models as potential models for enhancing the teaching and learning process. This is a qualitative study in which data is gathered to determine the role of respondents, specifically lecturers and students, in utilizing platform media that can aid in the teaching and learning process, such as Whatsapp, google classroom, google meet, and zoom cloud meeting.

Additionally, collaborative, innovative, and experimental learning models are prevalent in contemporary education. One such model is project-based learning. Project-based learning is a type of learning in which students conduct an in-depth investigation of a topic. Learners constructively deepen their understanding through a research-based approach to significant, accurate, relevant problems and questions. Project-based learning management in the Covid Pandemic Period is: set time management, prepare the required technology, study seriously, and maintain communication with teachers and classmates.

Keywords: Learning Innovation, Learning Model, Information Technology

1. INTRODUCTION

The World Health Organization (WHO) has now declared the coronavirus, or COVID-19, a global pandemic after it spread to over 120 countries [1]. This is in line with the limitations issued by the Great Dictionary of Indonesian (KBBI) that pandemics are outbreaks that are contagious simultaneously everywhere or cover vast geography. Furthermore, the WHO emphasizes that pandemics occur when a large proportion of the world's population is at risk of infection and may become ill [2]. As previous disease outbreaks have afflicted communities in various parts of the world, the COVID-19 pandemic significantly affects various joints of human life, including health, economic, social, cultural aspects, and the education

sector. According to UNESCO data, at least 290.5 million students worldwide whose learning activities have been disrupted by school closures [3]. At the U.S. college level, the coronavirus outbreak also showed its intervention. The rhythm and culture of learning also changed. To maintain immunity and infection, the Indonesian government issued covid protocol rules that must be implemented, such as masks, maintaining distance, constantly washing hands with soap in running water, and avoiding crowding [4].

Indonesia ceased all educational activities, requiring the government and associated institutions to provide alternative educational processes for students and students unable to attend educational

institutions[5]. The government has appealed education, specifically for teaching and learning activities at all levels, to be conducted at the homes of their respective learners and for teachers and teachers to conduct teaching and learning activities via online media. The government has issued an appeal related to education, namely for teaching and learning activities of all levels carried out at the homes of their respective learners and teachers and teachers have been able to do the teaching and learning process through online media [4]. The appeal was welcomed with the enactment of learning at home at all levels of education and temporarily closed schools and colleges from teaching and learning activities. The learning climate that was originally predominantly classical became nonclassical or by distance learning [7].

Learning innovation was a solution that required lecturers to design and implement existing media such as online media [8]. Lecturers can conduct learning via e-learning, that is, through the use of information and communication technology. The educational system was implemented using a computer (PC) or laptop connected to an internet network. Lecturers could conduct learning simultaneously using groups on social media platforms such as Whatsapp (WA), Zoom, or another social media platform, ensuring that students continue to learn concurrently even if they are not in class but at home or elsewhere. Educators can implement numerous additional innovations to ensure that learning continues and students acquire knowledge following the government-developed curriculum. Additionally, leaders must innovate in their supervision and coaching of teachers to ensure that educators and learners carry out educational and learning activities despite using remote methods (online) [5].

Then, as a result of this distance learning, various obstacles arise. Lecturers in higher education must ensure that teaching and learning activities continue while students are away from campus. Students are expected to study on their own. Students are "compelled" to study at home because face-to-face instruction is prohibited to prevent the spread of covid-19 [12]. This outbreak can accelerate the process of changing the learning climate, including in universities, and all parties are forced to adapt quickly, including the methods and ways of lectures and practicums. Nevertheless, it turns out that pandemic conditions accelerate all parties to get to

know the online lecture system that was previously entirely foreign to all parties to be faster. [13].

Project-based learning is one of the learning models that can be used as a form of learning innovation Today because it places a greater emphasis on students being more active and creative in their learning and aligns with the use of online media as a support for each learning process [14].

2. RESEARCH METHOD

In general, a research method or scientific method is a procedure or step in obtaining scientific knowledge or science. Qualitative research was used to conduct this scientific work. The sample for this study is lecturers and students in the environment of Indragiri Islamic university, which has 15 study programs. Representatives from lecturers and students in each study program were chosen for this study.

The following figure 1 depicts the steps necessary to complete this study :

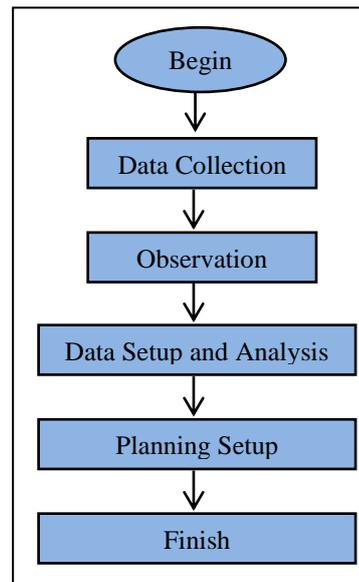


Figure 1. Research Stage

Figure 1 is a stage of research in which data is collected through observation and questionnaires to ascertain firsthand how lecturers and students use information technology in the teaching and learning process to analyze and analyze data on the processes that run to ascertain the problems encountered. Then, the preparation stage of planning is done to determine the scope and object of this research.

3. RESULTS AND DISCUSSIONS

3.1 Learning Innovation

This research was focused on three main processes, namely: 1. Lecturers and Students become objects in the collection of research data, 2. The research object selects the media type based on their access habits, namely Whatsapp, Google Classroom, Google Meet, and Zoom Cloud Meeting. The learning model chosen as a collaboration on the use of online learning media is Project-Based Learning.

This study examined fifteen study programs at the Islamic University of Indragiri. The following table illustrates how the fifteen study programs are divided into respondents, namely lecturers and students.:

Table 1. Number of Lecturers and Students Per-Courses

No	Courses	Lecturer	Student
1	Information Systems	10	10
2	Civil Engineering	6	10
3	Industrial Engineering	6	10
4	Agrotechnology	6	10
5	Agribusiness	6	10
6	Aquaculture	6	10
7	Food Technology	6	10
8	Sharia economy	8	10
9	MPI	6	10
10	IAT	6	10
11	Penjaskesrek	6	10
12	PBI	8	10
13	Legal Science	10	10
14	Management	10	10
15	Accountancy	7	10
Total		107	150
Number		257	

Table 1 summarizes the characteristics of respondents sampled for this study. Initially, the teaching and learning process was carried out directly in the Islamic University of Indragiri environment, where lecturers and students could interact directly in the classroom or laboratory. However, following the pandemic covid-19, which continues to spread to this day, universities must inevitably or unwillingly use information technology as a solution to ensure that

the teaching and learning process can continue. The spread of questioner is carried out to obtain results from the university. Numerous applications of learning media can be used, but which were the most frequently used as a form of innovation in online learning? Here is a table outlining the most frequently used applications of learning media.:

Table 2. Types of Media

No	App Name
1	Whatsapp
2	Google Class Room
3	Google Meet
4	Zoom Cloud Meeting

From the 259 respondents who were used as a sample who are currently undergoing online learning (in-network) in the environment of Indragiri Islamic university with 15 average study programs beginning among lecturers and even relative students using the Whatsapp media and also accompanied by the use of Zoom Cloud Meeting as a means of meeting face to face online. The following are the responses of lecturers and students regarding their use of flatform learning media.:

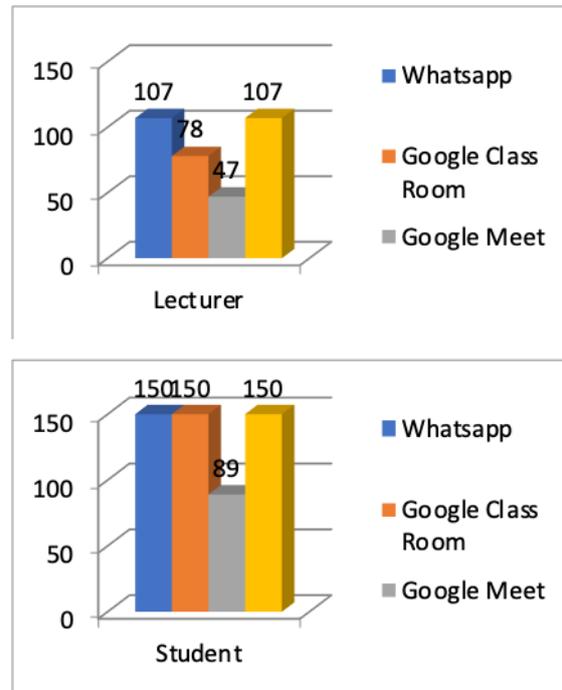


Figure 2. Technology Media Utilization Graph
Figure 2 above depicts the percentage of students and lecturers who use learning media to facilitate online teaching and learn in the Islamic University of Indragiri environment.

Naturally, the use of this learning media application cannot be divorced from the name of the deficiency and other applications that can aid in teaching and learning activities during the current covid-19 outbreak. The use of this application is expected to facilitate and continue to support the government's message regarding the desire to break the chain of covid-19 spread and continue to innovate in learning and be effective and efficient in all teaching and learning processes. Along with the use of information technology and the media within it to facilitate the online learning process, innovation in learning models has become critical. Today, numerous learning models range from problem-based learning to the fusion of online and offline learning to work-based learning or projects. The research examined innovations in the selection of learning models, with a particular emphasis on project-based learning.

3.2. Project-Based Learning Model Innovation

In the current pandemic, collaborative, innovative and experimental learning models are needed. Project-based learning is one of the learning models used in independent learning. Grant (2002) Project-based learning is defined as a type of learning in which students investigate a topic in-depth. Learners constructively deepen their understanding through a research-based approach to big, natural, relevant problems and questions. While Made Wena (in Lestari, 2015: 14) states that the project-based learning model is a way for educators to manage classroom learning through project work. Project work entails complex tasks based on challenging questions and problems that require learners to design, solve problems, make decisions, conduct investigative activities, and provide opportunities for independent work. [15]

There are several management of project-based learning in the Covid Pandemic Period:

a. **Set Time Management**

Time management determines the success of students in doing their tasks. Tasks given to students must be measured in their completion, and there are time limits both in the assignment process and when completing the task.

b. **Develop the necessary technology**

Students must be aware of the equipment required for distance learning. Because not all schools offer adequate online learning services,

some online learning platforms may be a viable alternative. Similarly, technological tools such as computers, smart devices, or laptops become critical, as does a strong internet connection.

c. **Take your studies seriously.**

Students frequently made errors due to their lack of focus while participating in remote learning. Many things happen spontaneously while learning on the internet. As a result, students must maintain focus and consistency throughout the allotted study time.

d. **Communicate effectively with teachers and classmates**

For those unfamiliar with remote learning, he must adjust to maintain visibility and responsive communication with teachers or other classmates. It may also be necessary to convene a particular group to discuss the teacher's assigned tasks. While communication does not have to be face-to-face, it must be established well in advance to avoid misunderstandings.

4. CONCLUSION

According to analysts who conducted this study with respondents from lecturers and students, Whatsapp, Google Classroom, Google Meet, and Zoom Cloud Meeting are the most likely media to be used. The index of selection and usefulness of these media is more likely to be Whatsapp and Video Conference Zoom Cloud Meeting. One hundred seven respondents evidence this from the lecturer element, all utilizing WhatsApp and zoom cloud meeting as a means of teaching and learning. Colluding with the elements of lecturer respondents taken from among students also get the same results were out of a total of 150 student respondents, all choose to use WhatsApp media and zoom cloud meetings to interact with lecturers in every lecture or teaching process.

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