Evaluation of the implementation of interactive video-based online learning in practical courses using the CIPP model

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ABSTRACT

This study aims to examine the evaluation of the implementation of interactive video-based online learning for the 2020/2021 academic year at Raharja University, Tangerang City, Banten. The research design uses a quantitative approach. Techniques Data collection is done through questionnaires, interviews, and documentation studies. The item instrument validation was carried out using the validity and reliability test of the data with consistent results (0.880>0.60). The study involved 103 participants employing a descriptive data analysis technique using the CIPP evaluation model. The findings show that the average score for all aspects is 80.55%, in the very good category. First, the implementation of learning is in accordance with the Central and Regional Government Regulations and the Learning from Home Guide for the Even Semester of the 2020/2021 Academic Year. Second, input in the implementation of online learning based on video learning in accordance with the planning criteria in the implementation of practical courses. Third, the Learning Implementation Process is an alternative method used by lecturers to overcome online learning obstacles. Fourth, the Learning Products have met the policy standards of educational institutions. It is hoped that the implementation of interactive video-based online learning on educational sites can be continuously improved by evaluating the implementation of learning to achieve much better learning performance and a higher level of student satisfaction than those who do not use it.

INTRODUCTION

The spread of the Coronavirus disease 2019 (Covid-19) has had a significant impact on society globally. Studies reveal that the impact is on the socio-economic and educational aspects (S. Black et al., 2020). Although it has negative consequences for life, Covid-19 can be an opportunity to encourage sustainable development for education (Sá & Serpa, 2020b). The establishment of large-scale social distancing policies has led to changes in the learning implementation in all existing educational fields. Studies reveal that online learning is allegedly a panacea in the current crisis. EdTech startups and e-learning modes are growing rapidly during the pandemic (Dhawan, 2020).

Universities in Indonesia have been conducting online learning for a year. On the one hand, it is as a form of promoting digital competence in education, on the other hand, it is also a form of compliance with government policies (Adedoyin & Soykan, 2020; Sá & Serpa, 2020a). Students and lecturers carry out the teaching and learning process remotely (without face to face) by utilizing existing information technology. This means that learning is done from home. Through the Ministry of Education and Culture and Regional Government Decrees related to the Implementation of Learning in the Covid 19 Period, this is one solution

to suppress the impact of the pandemic that has occurred so far. Besides, many impacts have been caused during the learning evaluation carried out.

Recent research on postgraduate students found that online learning has not been fully able to provide the desired results. The reasons are technical and financial problems, low face-to-face interaction, and inadequate infrastructure (Adnan, 2020; Aguilera-Hermida, 2020; Laili & Nashir, 2021). Other studies explain that limitations involve inefficiencies and difficulties in maintaining academic integrity (Allo, 2020). Other research points to the positive impact of online learning and recommends it to practice the development of more innovative learning, reduced cognitive load, and increased interactivity (Mukhtar et al., 2020). The CIPP model is recommended as an evaluation of TEFL in schools after the Covid 19 Pandemic (Irawan & Prasetyo, 2020; Mustangin & Riswanto, 2020). Meanwhile, this study evaluates the implementation of online learning based on an interactive video in practical courses using the CIPP model in private universities. The literature explains that academic institutions currently face various challenges related to online learning (Dhawan, 2020). Therefore, it is very important to conduct a study that investigates this problem more deeply, especially regarding the evaluation of the interactive video-based learning model.

RESEARCH METHOD

This study uses quantitative research methods. This study aims to evaluate the implementation of online learning based on interactive video for the 2020/2021 academic year located at Raharja University, Tangerang City, Banten. The research location was chosen because online lectures at Raharja University are more flexible, making it easier for the data collection stage. And video-based online learning methods for practical courses in the undergraduate program of the faculty of economics and business and the faculty of science and technology during the Covid 19 pandemic. This is in accordance with the purpose of this study to evaluate the practice. The type of data used is primary data sourced from interviews with participants. Besides, secondary data is sourced from primary law and literature studies relevant to the research problem.

Table 1. Data of Reliability Test Results

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.880	.665	15

Source: process data SPSS 19.0, 2021

Table 2. Instrument

Topic	Indicator	Interview Focus
Online Learning	1. Vission and mission of online learning 2. Purpose 3. Relevance 4. Benefit	1. Participants express the desired expectations from online learning, learning objectives, and challenges faced 2. Participants state the vision, mission, goals, and benefits of learning
Interactive video	Assessment of the use of interactive video	Participants tell about the implementation of the online teaching and learning process using interactive videos
CIPP Model	1. Context 2. Input 3. Process 4. Product	1. Participants tell about context evaluation in the implementation of online learning using interactive videos 2. Participants tell the plans and strategies to achieve the goals and how the procedures are 3. Participants tell how to control and manage the learning 4. Participants explain the continuity of learning that has been carried out and its benefits

The preparation of the instrument is based on indicators from previous research. Validation was carried out using the validity and reliability test of the data with the help of SPSS 19.0. The results of data analysis are used as instruments to collect data. Table 1 contains the results of the instrument's reliability test.

The instrument items' validity was assessed at a significance level of 5% and N = 20 participants compared to the r-table value. It was concluded that the instrument was valid. The reliability test of the measurement results in the Cronbach Alpha calculation is 880 > 60. It can be concluded that the instrument items are consistent. Table 2 shows a grid of instrument data.

Data collection was carried out by focusing on two themes, namely (1) video-based online learning and (2) practical courses at Raharja University. The study involved 103 participants consisting of 100 students and three lecturers of practical courses. Using the purposive sampling technique, the criteria for the participants (students) are students who have been used. The data analysis technique used is the CIPP evaluation model (Context, Input, Process, and Product Evaluation) proposed by Daniel (1967).

These four abbreviations are components of evaluating the video-based online learning system in practical courses at Raharja University. There are four basic CIPP models in this study, namely: (1) what should be done, including the collection and analysis of needs assessment data to determine learning objectives, priorities, and objectives; (2) how it is implemented both in terms of goals and objectives as well as other possibilities including program identification, program identification, and learning materials for gathering the required information; (3) whether it is carried out according to plan, it provides decision makers with information about how well the online learning program based on video learning has been implemented; and (4) whether it is successful, by measuring the outcome and comparing it to the expected results as per current academic standards.

FINDINGS AND DISCUSSION

The findings reveal that the average value of the four aspects is at a score of 4.03 with a TPR of 80.55 in the very good category. Two aspects of the evaluation component fall into the very good category, namely the input aspect of 80.2% and the process aspect of 80%. The remaining two aspects are in a good category, namely context aspect 85% and product aspect 79%. The average value of the four aspects can be seen in Table 3.

Table 3. CIPP Model Evaluation Results

Aspect	Mean Score	Ideal Maximum Score	TPR	Category
Context	4.16	5	83	Very good
Input	4.03	5	80.2	Very good
Process	4	5	80	Very good
Product	39.2	5	79	Good
Average score	4.03	5	80.55	Very good

Source: Data processed, 2021

First, aspects of the implementation of online learning using interactive videos with an average value of the context aspect obtained a score of 4.16 with a TPR of 83%. The collection and analysis of needs assessment data in determining the goals, priorities, and learning objectives of practical courses must refer to the central and local government regulations related to Education Policy in the emergency period of the Coronavirus (Covid 19). In the context of the implementation of online learning based on interactive video in practical courses, it is in accordance with government regulations regarding the implementation of learning during the Covid 19 pandemic. The regulations in question are the (1) Circular Letter of the Minister of

Education and Culture Number 4 of 2020 concerning the Implementation of Educational Policies in an emergency period of spreading Coronavirus (Covid-19); (2) Circular Letter of the Governor of Banten Number 420/2451-Huk/2020 concerning Postponement of Face-to-Face Teaching and Learning Activities; (3) Serang Regent Decree Number 420/3808-Disdikbud.2020 concerning Implementation of Learning in the Covid-19 Period in the 2020-2021 Academic Year; and (4) Learning from Home Guide of the Even Semester 2020/2021 Academic Year in Educational Units in Serang Regency. The most important point contained in the four regulations is that the implementation of education in an emergency period of the spread of the Covid-19 is carried out online or remotely, and it is temporarily not allowed to be conducted through face-to-face.

The results of interview conducted with participants, or about 81% (81 students), stated that the context of online learning based on video learning in practical courses had been adjusted to the regulations in force in the territory of Indonesia, especially Tangerang City. Besides, the remaining 19% said it was inappropriate because a small number of participants still find it difficult to understand the online learning system, especially because they do not understand the interactive video given by practical course lecturers. They think that practical courses will be better if they are done directly, especially practical science and technology courses. This is done to comply with central and local government regulations. In addition, the learning was carried out to support the government in reducing the turmoil in cases of the Covid-19 pandemic.

The data that the researchers obtained showed that most students who took part in Online Learning Based on interactive video in practical courses were domiciled outside the city of Tangerang. Students (participants) admitted that they chose to study at Raharja University because the lectures were more flexible where the lecture schedule could be determined by themselves. The conversion of work activities using the Learning-Merdeka Learning Campus or *Kampus Merdeka Merdeka Belajar* principle is very interesting because it helps them get to know the world of work better. In addition, the choice of various learning methods such as blended learning, Saturday/Sunday, and evening). This helps students carry out the learning well because they can arrange a schedule for self-preparation. Moreover, learning videos can be saved in the form of files, making it easier for students to repeat learning practical courses.
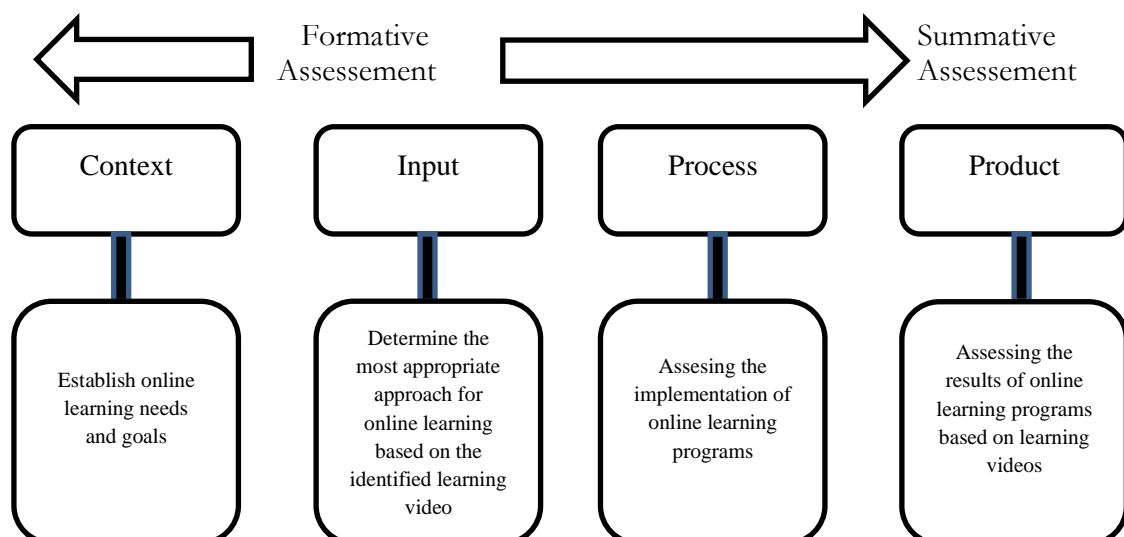

Figure 1. Video-based Online Learning CIPP Model Learning
Source: Data processed, 2021

Input on the evaluation of the implementation of online learning based on interactive video in the practical course includes basic planning and learning supporting facilities and infrastructure. Planning begins with developing a Standard Operating Procedure (SOP) and its implementation scheme. Several supporting applications are used, such as e-learning, Google Form, Google Meet, Youtube, and the teacher's room. The learning mechanism referred to based on the findings can be seen in Figure 1.

The online learning flow is carried out through several stages. First, the formative procedure starts from the concept, input, and process stages, where lecturers carry out formal and informal assessment procedures during the online learning process in improving student achievement. The way to do this is to modify the learning activities of practical courses by using learning videos and filling in student online absences that the lecturer has prepared. During the learning process, the lecturer monitors the progress of student learning through discussion. The purpose of this formative assessment is to improve the learning process that has been carried out (Potabuga & Yusuf, 2020). Thus, it is not only to determine students' ability but also to provide feedback to improve learning programs that have been carried out (Seckman, 2018). This can reduce errors that require early repair to minimize the negative impact afterward (Zakaria et al., 2018). Contextually, the information obtained is used to improve learning so that it is more effective and can increase student competence. Some formative assessment results are then used to estimate the summative assessment. What is clear in the formative assessment process involves the interpretation of the evidence used by students and lecturers to decide the position of students in online learning with assessment strategies, observation, and online class discussions.

The theory of formative assessment in a broad spectrum of learning outcomes in various subjects was first introduced by Sadler (1989). Previous findings state that feedback criteria are the main elements in formative assessment, namely: (1) helping to confirm good learning performance; (2) facilitating the development of self-assessment in the teaching-learning process; (3) providing quality information to students about their learning outcomes; (4) encouraging lecturers to have interactive dialogues with students during online learning after the interactive video are shared; (5) motivating students in learning activities; (5) providing an opportunity to close the gap between current and desired performance of both; (6) motivating students in learning activities; and (7) providing valuable information to teachers to support the learning process (Bell & Cowie, 2001; P. Black & Wiliam, 2009; Ou et al., 2019). Another study explained that training faculty using online learning modalities is important in developing lesson plans with reduced cognitive load and increased interactivity (Mukhtar et al., 2020).

Second, aspects of the implementation of online learning using interactive video with an average value of the input aspect obtained a score of 4.03 with a TPR of 80.2%. The implementation of the learning program has achieved the objectives including (1) identification of video-based online learning systems that have been carried out and the materials available; (2) access e-learning or webinar media (Google Meet applications, Zoom, and others) through the links provided; (3) the lecturer does the presentation of the lecture material; (4) and provide learning videos. Suppose there are those who do not understand. In that case, students are given time for question sessions related to practical courses and videos that are being presented so that they better understand the material. Implementation of Video-Based Online Learning Learning is also inseparable from the infrastructure provided by the campus. Although the practical course lecturers themselves prepare the learning videos, the campus provides access to wifi, computers, laptops, and other supporting infrastructure to support online lectures. Online learning in higher education also requires online professional learning support towards a strong evaluation (Ahadi et al., 2021).

Third, aspects of the implementation of online learning using interactive video with the average value of the process aspect obtained a score of 4 with a TPR of 80%. The online learning based on interactive video has been in accordance with the initial plan. Several partici-

pants admitted that online learning conditions often experienced network disruptions, especially when bad weather or similar usage caused the server to go down. Students also often forget to fill in online absences or not on time according to the lecture schedule. Interviews conducted revealed that the conditions were much more severe when the area where they lived was in an area where the cellular network was very weak. The geographical location outside Tangerang City, Banten, cannot be confirmed to support online learning. This is a problem for students. Slightly better for practical lecturers (participants) who are aware of the weaknesses of online learning, so they decide to provide interactive video to overcome the network that often has problems when conducting live online learning.

The learning system is monitored continuously. From the results of the interviews, the lecturers admitted that they studied as well as possible the implementation of the learning carried out so it was in accordance with existing instructions and SOPs. The lecturer reasoned that this was done to find out the strengths and weaknesses of the material in the learning video and makeup afterward. The findings of Lehmann and Kumpan (2019) explain that using video in the online learning process is a common thing for teachers to do. Video streaming plays an essential role in delivering course material to online learners. This technology allows online learners to use their visual and auditory senses to learn complex concepts and difficult procedures. This is what makes learning videos more valuable in practical courses.

Fourth, aspects of the implementation of online learning using interactive videos with an average value of product aspects obtained a score of 39.2 with a TPR of 79%. The summative assessment through evaluation of the learning system. From the results of the evaluation of the system that has been carried out by participants, both students and lecturers of practical courses. The product produced in the implementation of interactive video-based online learning is in the form of practical course exam results. Previous findings stated that active students during online learning based on video learning showed higher learning achievements than passive students (Yoon et al., 2021). Practical course test results can be easily processed automatically through the provided application. Students admitted that they were helped by learning videos that could be studied and repeatedly practiced just by clicking on the link. This is easier than online learning, which is done live because it is often hampered by poor networks in their area, so that they are not optimal in receiving lecture material.

Conceptually, the CIPP model is an educational program evaluation model that is very useful for the program's sustainability (Mahmudi, 2011). The latest study states that evaluating the impact of distance learning programs through the CIPP model affects learning during the Covid 19 Pandemic (Syahrir et al., 2021). Several steps can be taken to improve the implementation system of online learning based on video learning in practical courses. First, all lecturers must maximize teaching using and creating interesting, creative, and innovative interactive videos. Second, from the government side through the Ministry of Education and Culture, they must conduct a training program for technology-literate educators so that lecturers are expected to be able to prepare better learning systems, syllabus, and digital learning methods. Third, adequate infrastructure and infrastructure. Lecturers need to be supported by facilities and infrastructure that can support online learning as long as central and local government regulations apply in Indonesia.

CONCLUSION

The conclusion explains that, overall, in the evaluation stage, the implementation of online learning based on video learning in practical courses using the CIPP model at Raharja University, Tangerang City Banten, is in the very good category because the average value of the category is 80.55%. The concepts, planning, processes, and evaluation of online learning systems using interactive videos can provide learning comfort and satisfaction for teachers and students. In context, the online learning system based on video learning at Raharja University

during the Covid 19 pandemic has carried out learning practices in accordance with central government regulations through the Ministry of Education and Culture as well as local governments through the decrees of the Governor of Banten Province and the Regent of Tangerang City. Thus, the learning system can be continued by correcting some of its short-comings, especially the material in the video, so that it is easy for students to understand. The expected implication is that the implementation of online learning based on interactive video can become an opportunity to transform education in higher education in the midst of the Covid-19 pandemic situation.

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