



VANOS
JOURNAL OF MECHANICAL ENGINEERING EDUCATION

<http://jurnal.untirta.ac.id/index.php/vanos>
ISSN 2528-2611, e-ISSN 2528-2700
Volume 5, Number 2, November 2020, Pages 99-108



**Online Thesis Exam Evaluation Using Zoom Cloud Meeting
During the Covid-19 Pandemic**

Nurcholish Arifin Handoyono¹, Suparmin¹

¹Mechanical Engineering Vocational Education, Universitas Sarjanawiyata Tamansiswa,
Indonesia
Batikan Street UH-III/1043, Yogyakarta

Corresponding author: arifin@ustjogja.ac.id

Received: 14 August 2020. Accepted: 6 October 2020. Published: 30 November 2020

ABSTRACT

The research aims to obtain a description of: (1) supporting factors; and (2) Inhibiting factors for the online thesis exam using the zoom cloud meeting during the COVID-19 pandemic. This type of research is an evaluation using the CIPP model (Context, Input, Process, and Product). The research subjects were students of the study program of PVTM FKIP UST who had conducted an online thesis examination consisting of 28 students. Data collection techniques used questionnaires, interviews, and documentation. The data analysis technique used an average analysis which was assessed based on the assessment category. The results showed that: (1) The supporting factors for the online thesis examination using Zoom Cloud Meeting were: (a) The context aspect of 3.22 was categorized as high; (b) the input aspect of 3.16 is categorized as high; (c) the process aspect of 3.04 is categorized as high; and (d) the product aspect is 3.42 which is categorized as very high; and (2) factors inhibiting the online thesis exam using Zoom Cloud Meeting, namely: (a) Weak internet connection; (b) There are obstacles during the examination process; and (c) Inefficient examination time.

Keywords: Evaluation, Thesis, Zoom Cloud Meeting

INTRODUCTION

Education is a measure of welfare for a country. The main problem facing Indonesian education today is the low quality of education. This is evidenced by Indonesia's education ranking at 64 out of 120 countries [1]. Then the education budget in Indonesia has reached around 20% or Rp 44 trillion of the total APBN expenditure [2]. With this problem, it means that the government's efforts to improve the quality of education in Indonesia still need to be improved.

Efforts that can be made by the government to improve the quality of education in Indonesia are through teachers. Teachers have an important role in improving the quality of education in Indonesia. Teachers' skills in teaching are influenced by their previous education level [3]. Indirectly, the Educational and Education Personnel Institution is important in providing quality teacher resources in Indonesia.

As one of the Educational and Education Personnel Institutions in Yogyakarta, Universitas Sarjanawiyata Tamansiswa Yogyakarta through the Teacher Training and Education Faculty, Mechanical Engineering Vocational Education Study Program aims to produce bachelors of education with 2 specialization options, namely production and automotive. To be able to produce competent graduates, the FKIP PTM Study Program strives to provide the best possible education. In 2018 until now the Mechanical

Engineering Vocational Education Study Program received accreditation A from BAN-PT.

As a graduate in education, the competencies that must be possessed are pedagogic, personality, social, and professional [4]. As an illustration, the pedagogical competencies of the final year students of Mechanical Engineering Vocational Education Study Program UST are categorized as good [5]. Then the social competence of the final year Mechanical Engineering Vocational Education Study Program UST students are categorized as good [6]. These results indicate that there is no problem with the teacher competence possessed by students of the Mechanical Engineering Vocational Education Study Program.

For Mechanical Engineering Vocational Education Study Program students to complete their studies, according to the national standards of the Higher Education general skills students are required to complete their Thesis [7]. The thesis is part of the Final Project as a compulsory pass with a weight of 6 credits. A thesis can be said to be the peak of the accumulated mastery of the material by students while in a field of science which is shown by the ability to design, compose, present, conclude, and defend their ideas. Students maintain that the ideas in a thesis are manifested in the form of a thesis examination or pend Awareness. The awareness-raising is done face-to-face

between the students and the thesis examiner team.

At the end of December 2019, the coronavirus appeared at the end of December 2019 which originated from the city of Wuhan, China, then the disease was called Coronavirus Disease 19 (COVID-19) which caused 90,308 people to be infected as of March 2, 2020 [8]. COVID-19 causes symptoms that vary considerably from some people who may experience few symptoms or no symptoms, but some cause severe illness. COVID-19 is a large-scale global health problem that has caused state governments to immediately take efforts to prevent the transmission of this disease [9].

The Government of Indonesia has also made efforts to prevent the transmission of COVID-19 by implementing large-scale social restrictions [10]. This regulation requires that school and workplace holidays include the UST Yogyakarta environment. In response to this, the Chancellor of UST issued a circular which stated that the implementation of chess can be done from home or better known as work from home [11]. Then the Vice-Rector I of UST Yogyakarta issued a circular regarding the completion of final assignments during the COVID-19 epidemic [11]. The circular letter is in the context of the UST Leadership to respond to COVID-19 recommended by the government.

To respond to this, the Mechanical Engineering Vocational Education Study

Program did a follow-up by carrying out chess dharma which was carried out in a work from home including conducting an online thesis examination. This is done because face-to-face thesis examinations are not allowed. Organizing online thesis exams by utilizing developments in Information and Communication Technology (ICT). ICT is a means of developing learning and is an assessment and quality of learning in the Mechanical Engineering Vocational Education Study Program.

An application that can be used as a means of online thesis examination in the Mechanical Engineering Vocational Education Study Program is the Zoom Cloud Meeting. This application is an alternative used by many people in communicating virtually which can be done by up to 100 participants in a single meeting [12]. This application can be run on various devices, either via a computer or smartphone. This application was chosen by the Mechanical Engineering Vocational Education Study Program because it is easy to use by lecturers and students so that it is expected to facilitate the thesis examination process.

In its implementation, it turns out that there are still several obstacles, for example, student skills in operating the Zoom Cloud Meeting, weak signals, unclear video or audio, and so on. To serve as an evaluation material related to the implementation of the online thesis exam using the Zoom Cloud Meeting, further study is necessary. Bearing in mind

that students of the Mechanical Engineering Vocational Education Study Program are scattered in various regions of Indonesia, of course, many problems are unique to these students. With this evaluation, it is hoped that the Mechanical Engineering Vocational Education Study Program can consider it as material for improving the online thesis exam in the future during the COVID-19 period.

Thesis

The thesis is one part of the Final Project in the form of scientific papers that must be compiled by students as a requirement for graduating in a university [13]. The thesis is an embodiment of the general skills of the Higher Education national standards that students must master [7]. The characteristics of the thesis are: (1) In research, a scientific method is needed; (2) The results of the study are reviewed based on community phenomena and have relevance to previous research; (3) Aims for problem-solving; (4) The problems raised are evident based on the results of field observations; and (5) Written in the standard language [14].

Thesis as a compulsory pass weighs 6 (six) credits for all students of the Mechanical Engineering Vocational Education Study Program. The thesis preparation in the Mechanical Engineering Vocational Education Study Program consists of several types of research, namely: (1) non-experimental quantitative; (2) Quantitative experiments; (3) Qualitative; (4) classroom action research; (5) Development; and (6)

Evaluation. Students are given the freedom to choose the type of research according to the characteristics of the field problems they have found.

Students compiling a thesis are the peak of their accumulated mastery of the material during their lectures. Student mastery of a field of science is shown by the ability to design, compose, present, conclude, and defend their ideas. Students maintain that the ideas in a thesis are manifested in the form of a thesis examination or pend Awareness. The awareness-raising is done face-to-face between the students and the thesis examiner team.

Zoom Cloud Meeting

Video conferencing is a set of interactive communication tools that can be carried out by two or more people in different locations by sending audio and video simultaneously [15]. The components needed in video conferencing are video input and output, audio input and output, and data transfer. Video conferencing is used for meetings as an effective communication medium with the advantage of saving costs and time without reducing productivity.

Along with technological developments, video conferencing can be accessed via several gadgets such as PCs, laptops, and smartphones. Many vendors provide applications that can be accessed through these gadgets easily, one of which is the Zoom Cloud Meeting. Following the government's appeal to work from home (WFH), the

Mechanical Engineering Vocational Education Study Program uses this application as a medium for holding thesis exams. This application was chosen because it is easy to use and can be accessed through various gadgets.

The Zoom Cloud Meeting application was created by Eric Yuan which was released in January 2013, until March 26 there were 257,853 users [16]. This application can conduct meetings with 100 participants, so it is quite qualified if it is only used as an online thesis examination which consists of 5 participants. With this application, students can display their presentations with a share screen setting. The weakness that this application has is the limited time to use, which is only 40 minutes but can be overcome by repeating it when the time is up.

RESEARCH METHODS

This type of research is an evaluation using the CIPP model (Context, Input, Process, and Product) [17]. The research was carried out in the Mechanical Engineering Vocational Education Study Program with the time the research was carried out from April to August 2020. The research subjects were

students of the UST FKIP PTM Study Program who had carried out an online thesis examination consisting of 28 students.

Data collection techniques consisted of questionnaires, interviews, and documentation. Questionnaires are used as the main data collection method in research by providing a list of statements to respondents. Interviews are used to support data searches by having conversations with students who have carried out online thesis exams using Zoom Cloud Meeting. Documentation is used to find references about the implementation of online thesis exams using the Zoom Cloud Meeting, namely student data and thesis examination results.

The data analysis technique used an average analysis which was assessed based on the assessment category. Then the category average result is determined by referring to table 1. Evaluation components and sub-components are said to be supporting factors if the category results are high and very high, whereas if the category is very low, low, and Enough, it is said to be an inhibiting factor.

Table 1. Assessment Categories [18]

No.	Formula	Average Score	Category
1.	$X \geq Mi + 1,5 Sdi$	$X \geq 3,25$	Very high
2.	$Mi + 0,5 Sdi \leq X < Mi + 1,5 Sdi$	$2,75 \leq X < 3,25$	High
3.	$Mi - 0,5 Sdi \leq X < Mi + 0,5 Sdi$	$2,25 \leq X < 2,75$	Enough
4.	$Mi - 1,5 Sdi \leq X < Mi - 0,5 Sdi$	$1,75 \leq X < 2,25$	Low
5.	$X < Mi - 1,5 Sdi$	$X < 1,75$	Very low

Information:

X = Respondent score

Mi = Ideal Mean

$$\text{(Formula: } \frac{\text{maximum score} + \text{minimum score}}{2} \text{)}$$

Sdi = Ideal standard deviation

$$\text{(Formula: } \frac{\text{maximum score} + \text{minimum score}}{6} \text{)}$$

RESULTS AND DISCUSSION

Evaluation of the Online Thesis Exam

Using Zoom Cloud Meeting includes four aspects, namely context, input, process, and products with the following results:

Table 2. Description of Online Thesis Exam Evaluation Using Zoom Cloud Meeting

Evaluation Aspects	Evaluation Component	Evaluation Sub Component	Average Sub Comp.	Average Value Per Comp.	Aspect Average
Context	Zoom Cloud Meeting Usability Ability	Ability to access Zoom Cloud Meeting	3,29	3,27	3,22
		Ability to operate Zoom Cloud Meeting	3,25		
	Zoom Cloud Meeting facilities	Computer	3,21	3,12	
		Smartphone	3,50		
		Internet connection	2,64		
	Zoom Cloud Meeting Graphic / Display	Color Display	3,29	3,30	
		Menu Display	3,25		
		Layout Display	3,36		
	Zoom Cloud Meeting Content	Presentation	3,21	3,18	
		Audio	3,07		
Video		3,25			
Input	Improved Ability to Use Zoom Cloud Meeting	Improved Access to Zoom Cloud Meeting	3,07	3,14	3,16
		Zoom Cloud Meeting Operations Improvement	3,21		
	Provision of Zoom Cloud Meeting facilities	Computer	3,04	3,14	
		Smartphone	3,29		
		Internet connection	3,11		
Zoom Cloud Meeting Content Usability Improvement	Presentation	3,07	3,20		
	Audio	3,11			
	Video	3,43			
process	Use of Zoom Cloud Meeting facilities	Use of Computer Facilities	3,21	3,29	3,04
		Use of Smartphone Facilities	3,43		
		Use of Internet Connection	3,21		
	Zoom Cloud Meeting Content Utilization	Zoom Cloud Meeting Operation	3,36	3,21	
		Presentation Feature Operations	3,00		
		Audio Feature Operations	3,18		
		Video Feature Operations	3,29		
Implementation Barriers	Obstacles to the online thesis exam process	2,64	2,64		
Product	Quality of Assessment	Quality of Assessment	3,70	3,70	3,42
		The efficiency of Test Time	2,71		
	Benefits of Assessment	Test Effectiveness	3,21	3,13	
		Practical Use of Zoom Cloud Meeting	3,25		
		Experience	3,36		
Evaluation of Mean Category					3,21 High

Table 2 shows that the context evaluation on the component of the ability to use the Zoom Cloud Meeting obtained an average of 3,27 which is categorized as very high. In the components of the operating

facilities, the Zoom Cloud Meeting, an average of 3,12 is categorized as high. In the graphic/display component, Zoom Cloud Meeting gets an average of 3,30 which is categorized as very high. In the content component, Zoom Cloud Meeting gets an

average of 3,18 which is categorized as high. Overall, in the context evaluation, the mean score was 3,22 which was categorized as high.

Table 2 shows that the input evaluation on the ability to increase components using Zoom Cloud Meeting obtained an average of 3,14 categorized as high. In the component of the provision of facilities, Zoom Cloud Meeting, an average of 3,14 is categorized as high. In the component of increasing the ability to use content, Zoom Cloud Meeting gets an average of 3,20 which is categorized as high. Overall, in the input evaluation, the average score is 3,16 which is categorized as high.

Table 2 shows that the process evaluation on the component of using the Zoom Cloud Meeting facility obtained an average of 3,29 which is categorized as very high. In the content utilization component, Zoom Cloud Meeting gets an average of 3.21 categorized as high. In the obstacle component of the implementation of the thesis exam using the Zoom Cloud Meeting, the average score of 2,64 is categorized as Enough. Overall, in the evaluation process, the mean score of 3,04 is categorized as high.

Table 2 shows that the product evaluation on the quality assessment component obtained a mean of 3,70 which was categorized as very high. In the benefit component of the assessment, a mean of 3.13 is categorized as high. Overall, the product

evaluation obtained a mean of 3,42 which was categorized as very high.

The results of the evaluation of the implementation of the online thesis exam using the Zoom Cloud Meeting obtained 3.21 categorized as high. These results indicate that the implementation of the online thesis exam is good if you use the zoom cloud meeting. With Zoom Cloud Meeting, the thesis exam during the pandemic period in the Mechanical Engineering Education Study Program can be carried out even without face to face. This is following the appeal from various parties to prevent the transmission of COVID-19 by avoiding meeting someone directly [19].

Based on the research results, it can be concluded that there are several supporting factors for implementing the online thesis examination using the zoom cloud meeting, namely: 1) the context aspect is categorized as high; 2) The input aspect is categorized as high; 3) The process aspect is categorized as high; 4) and the product aspect is categorized as high. Mechanical Engineering Education Study Program students have good skills in operating the Zoom Cloud Meeting. This is shown when the student thesis exam does not experience problems in the online thesis examination. Students have adequate facilities and infrastructure to support the operation of the Zoom Cloud Meeting. Zoom Cloud Meeting already has a good appearance so that students become motivated to take the online thesis exam.

Before the online thesis exam was held, the majority of students practiced learning using Zoom Cloud Meeting. This triggers students to study independently which is a positive value due to the impact of COVID-19 [20]. When the online exam is implemented, the factors that become obstacles are 1) internet connection; 2) use of zoom cloud meeting; and 3) time efficiency. Online thesis exams require a smooth internet connection, making it a challenge for students who live in areas with weak signals and high internet quota costs.

Students who live in weak signal areas will need a longer preparation time, making the time used ineffective. This result can be input for various parties. From the campus, it is necessary to provide an internet quota for students who will take the online thesis exam. This assistance is one of the supports from the campus that with the COVID-19 epidemic, students can still carry out their academic activities [21].

Indonesia currently has slower internet speeds than other Asian countries [22]. These sources state that the average Indonesian cellular download speed is 14,9 Mbps and the average upload is 10,9 Mbps. This lags far behind the internet speed in Asian countries, namely 30,9 Mbps for download and 12,9 Mbps for upload. This needs to be a concern for the Indonesian government to immediately improve the quality of the internet so that academic activities during the

COVID-19 pandemic can continue to run optimally.

CONCLUSION

In the online thesis exam using The Zoom Cloud Meeting, there are several supporting and inhibiting factors. Supporting factors include: (1) the context aspect of 3,22 is categorized as high; (2) the input aspect of 3,16 is categorized as high; (3) the process aspect of 3,04 is categorized as high; and (4) the product aspect is 3,13 which is categorized as high. While the inhibiting factors include: (1) Weak internet connection; (2) There were obstacles during the examination process; and (3) inefficient examination time.

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