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THE EVALUATION OF IMPLEMENTATION ONLINE LEARNING ON ENGINEERING FACULTY UNIMED

Zulkifli Matondang[1], Sarwa[2], Liana Atika[3], and Sutrisno[4]

[1]**Engineering Faculty-Unimed, W. Iskandar Street, Medan Estate, Nort Sumatera, Indonesia, 20371, zulkiflimato@gmail.com**
[2] **Engineering Faculty-Unimed, W. Iskandar Street, Medan Estate, Nort Sumatera, Indonesia, 20371, sarwa@unimed.ac.id**
[3] **Engineering Faculty-Unimed, W. Iskandar Street, Medan Estate, Nort Sumatera, Indonesia, 20371, liana_atika@unimed.ac.id**
[4] **Engineering Faculty-Unimed, W. Iskandar Street, Medan Estate, Nort Sumatera, Indonesia, 20371, sutrisno_unimed@yahoo.com**

Abstract

In line with the development of information technology, UNIMED Faculty of Engineering lecturers have been conducting learning activities through blended in the last 3 semesters. Since 2020 alongside the spread of covid-19, learning at UNIMED Faculty of Engineering has been mandatory to be done by online learning. The research objective was to evaluate the online learning implementation activities at UNIMED Faculty of Engineering, namely to find out the various weaknesses and constraints in online classes. The research approach used is the evaluation of the CIPP (*Content, Input, Process*, and *Product*) model of Stufflebeam. The focus studied in this research is the content / material, facilities, processes and outputs of online learning. The sources of research data are UNIMED Faculty of Engineering students. Data obtained through online questionnaires. The results found that: 1) the availability of learning resources is still low, it is an aspect of content 2) network strength is still weak at the input aspect, 3) the helpdesk service is lacking at the process aspect, and 4) the online effectiveness low at the product aspect. At four components on average the lowest is online learning tools. The research found that learning facilities contributed to the effectiveness of online learning at UNIMED Faculty of Engineering.

Keywords

Evaluation, CIPP Model, Online Learning

Introduction

The development of information and communication technology (ICT) has resulted in the Engineering Faculty (EF) UNIMED lecturers starting to switch to learning activities from offline to online. In the implications of online learning, the UNIMED Faculty of Engineering lecturers are creative and innovative in planning and arranging learning activities through existing networks or *Online Learning Models* (OLM). At the beginning of 2020, the whole world contracted a contagious disease called covid-19, including Medan City. This resulted in all learning activities being carried out online. Based on the UNIMED Rector's Letter No. 000809/UN.33/SE/2020, it was determined that the implementation of lectures is as follows: Theory (Face-to-Face, Structured Tasks, and Independent Tasks) was carried out by *E-Learning, Vi-Leaning, Mailing List, WA Group, Line, Skype,* or similar methods. Practical lectures (Laboratory, Workshop, Studio, Studio, Microteaching) are carried out by giving other relevant assignments by the course achievements.

Eko Kurtanto (2017) based on the results of the study concluded that online learning is quite effective in improving student learning outcomes. The application of online learning models can create a more active, innovative, creative, effective, and less boring learning atmosphere, which in turn will increase student motivation and ultimately increase learning achievement. For online learning to run well, every element involved in learning must meet the requirements. A teacher (lecturer) in implementing online learners must first have the knowledge and skills in using these various online learning applications.

Implementation of online learning at UNIMED Faculty of Engineering, one of the applications used is SIPDA UNIMED. The application is designed for online learning needs in the UNIMED environment. Apart from the SIPDA application, several applications can be used for online learning, both paid and free. Another factor that supports the implementation of online learning is lecture material that can be shared through the network in the form of softcopy. Besides, it is a network-like facility that can serve to carry out online learning. From the element of the learner (student), they must also have knowledge and skills in online learning activities, and have facilities (computer or gadget) that are connected to the internet network so that they can learn through the network (online).

The results of observations of the online learning implementation at UNIMEDFaculty of Engineering are very varied. Each lecturer and each subject carry out online learning with the perceptions, conditions, and abilities of each lecturer. This resulted in online learning at the EF UNIMED not being well implemented and well measured. To find out the quality of online learning and to reveal the implications of online learning at UNIMED Faculty of Engineering, an in-depth study was conducted. One of the important components in planning a program is to state in advance the objectives, both the general goals and the desired specific goals (Sitompul, 2018). In program evaluation activities, several models can be used, one of which is the CIPP evaluation model. The CIPP model was applied to evaluate the implementation of online learning at EF UNIMED. The *CIPP* model was developed by Stufflebeam is an acronym for *Context, Input, Process,* and *Product*. The CIPP model includes four types of decisions, namely (1) *planning decisions*, which affect the choice of objectives, (2) *structuring decisions*, which determine the optimal strategy and procedural design for achieving the goals that have been determined from the planning phase, (3) *implementing decisions,* which include implementation and improvement of the design, method or strategy that has been selected, and (4) *recycling decisions*, which determine whether the online learning program at UNIMED is repeated, changed or discontinued.

The purpose of program evaluation is to obtain accurate and objective information from a program (Matondang, 2017). Thus the evaluation is intended to determine the effectiveness and level of achievement (progress/success rate) of an activity program, especially the online learning program conducted at EF UNIMED. The term evaluation is often equated with assessment, although several other terms such as scoring, and *judgment are* also often translated as assessment (Grounlund, 1990).

Methods

This research was conducted at the EF UNIMED, from May - November 2020. The type of research carried out included evaluative research using the CIPP model. The CIPP model evaluation activity according to Stufellbeam is an evaluation activity that includes content, input, process, and product (CIPP) from online learning program activities conducted at the EF UNIMED.

The data obtained in this study are qualitative and quantitative. Qualitative data is in the form of information about the process and implementation of online learning experienced by UNIMED Faculty of Engineering students, such as the preparation process, work on assignments, implementation of video conferences, and assessment systems in online learning. Quantitative data is in the form of descriptive information about the quality of online learning implementation, the achievement of student competencies according to the subjects, and the effectiveness of the implementation of online learning.

Sources of research data are the students and lecturers who are involved in the implementation of online learning at EF UNIMED. To obtain data, several techniques and data collection tools were used. Data collection methods are carried out such as surveys, observations, interviews, and online questionnaires. While the tools used are the assessment sheet, documentation check, and an online questionnaire.

The data analysis model of this study follows the concept of Lodico, Spaulding, & Voegtle (Putra, 2012). The research data analysis model uses the analysis stages, namely: 1) organizing the data and checking the data carefully, 2) re-checking the data, 3) carrying out further data processing. Researchers describe, summarize, and organize coding containing categories that are more specific and differentiated from other categories, 4) carry out the final analysis, make interpretations, and conclusions containing the results of the research findings.

Results

Respondents in this study were 882 UNIMED Faculty of Engineering students. The distribution of the proportion of students based on the existing majors at UNIMED Faculty of Engineering is presented as in the following figure

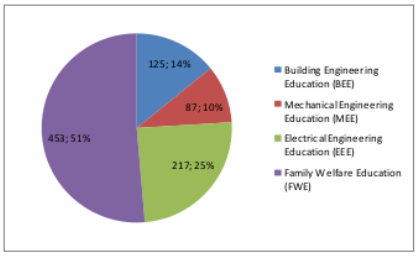

Figure 1. Proportion of Student Respondents based on Departments.

Figure 1. shows that respondents who provided data online were students majoring in FWE, namely 453 people (51%), and the least were students from MEE majors, namely as many as 87 people (10 %). The results of data analysis provided by UNIMED Faculty of Engineering students, for online planning documents made by lecturers at SIPDA obtained an average score of 2.94 with a standard deviation of 0.73. To compare the average score for each aspect of the online learning planning document is presented in the following table.

Table 1. The Average of Student Responses About Learning Planning.

No	Aspects	Average score	Deviation
1	Subject Identity	3.31	0.66
2	Clarity of competency formulation	3.02	0.76
3	Achievement of learning objectives	2.84	0.76
4	Outline of material description	3.09	0.71
5	Learning media used	2.94	0.73
6	Online learning activities	2.71	0.83
7	Clarity of content being worked on	2.80	0.76
8	Specific assessment that used	2.96	0.67
9	Completeness of assessment instruments	2.97	0.69
10	Availability of learning resources	2.74	0.75
	Average	2.94	0.73

This data shows that the quality of online learning planning made by lecturers at SIPDA is in good category with an average of 2.94. The smallest aspect of the 10 aspects assessed, it was found that the aspect of online learning activities and the availability of learning resources was the lowest with an average of 2.71 and 2.74, respectively. A good aspect is the identity and outline of the material description of the planning that the lecturer supports in SIPDA. These results indicate that online learning activities at UNIMED Faculty of Engineering need to be improved. Efforts can be made to improve competence both in terms of teachers and students.

The results of data analysis regarding the implementation of online learning at UNIMED Faculty of Engineering, when viewed in terms of the available facilities and facilities based on the conditions and feelings of students are presented in the following table.

Table 2. The Average of Student Responses About Online Learning Facilities.

No	Aspects	Average Score	Deviation
1	Availability of online devices	2.68	0.70
2	Online network strength	2.31	0.74
3	Student competence in online implementation	2.84	0.76
4	Completeness of uploaded material	2.82	0.70
5	Completeness of LMS features on SIPDA	2.78	0.73
6	Ease of aplicating SIPDA	2.69	0.81
7	Availability of SIPDA guidelines	2.72	0.80
	Average	2.69	0, 75

Based on the data in Table 2, it shows that the weakest aspect of online learning facilities at UNIMED Faculty of Engineering is the network strength aspect with a mean of 2.31 and the availability of devices with a mean of 2.68. The main requirement for online learning is the existence of a good and stable internet. Increasing the quality of online learning can be done through the provision of networks and devices. In the aspect of student competence, the feature aspects of SIPDA and its application are in the good category. This shows that generally students are able to adapt and participate in online learning which is carried out at UNIMED Faculty of Engineering .

The results of a survey about the online implementation process at EF UNIMED, obtained data as shown below.

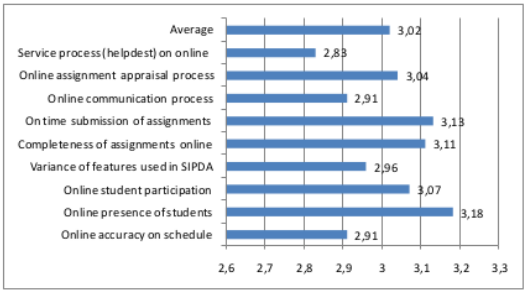

Figure 2. The Average of Student Responses to the Online Learning Process.

Figure 2 shows the aspects of the service process (helpdesk) of online learning at UNIMED Faculty of Engineering obtained an average of 2.83 and aspects of the communication process carried out in online learning with an average of 2, 91. The research data obtained indicate that the online learning process needs to be improved, especially the service process (helpdesk) and the process of the communication carried out in online learning. Another thing that needs to be improved is the accuracy of online learning according to the specified schedule.

The results of data analysis about the results (output) of online learning at UNIMED Faculty of Engineering are presented in the following table.

Table 3. The Average of Student Responses About Learning Planning.

No	Aspects	Average Score	Deviation
1	Achievement of learning targets	2.86	0.64
2	Adequacy of time according to material	2.84	0.68
3	Number of tasks in online learning	2.77	0.75
4	Responses to online learning	2.77	0.76
5	Achievement of online competences	2.66	0.73
6	Effectiveness of learning through online	2.53	0.76
	Average	2.74	0.72

Table 3 shows that the effectiveness of learning online get an average of 2.53, and competency outcomes online with an average score of 2.66. These results indicate that the effectiveness of learning and competency outcomes through online learning at the UNIMED Faculty of Engineering is in a low category. Thus for the UNIMED Faculty of Engineering lecturers to be able to make improvements to online learning for the better, to increase the effectiveness and achievement of competencies through online learning to achieve the goals outlined.

Based on the results of data analysis obtained from the respondents, it shows that the product of online learning activities at the UNIMED Faculty of Engineering has an average of 2.74 with a deviation of 0.72. In terms of the four components evaluated include content, input, processes, and products from online learning activities at UNIMED Faculty of Engineering, the results are presented in the following figure.

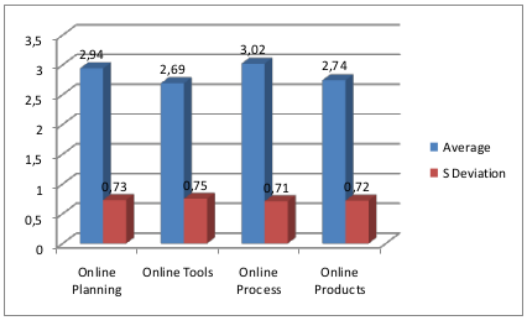

Figure 3. The Average of Student Responses to Online Learning Components.

Based on Figure 3, shows that the average score of the facilities components in UNIMED Faculty of Engineering online learning has the lowest score of 2.69. The second-lowest component is the product component of online learning with an average score of 2.74. These results indicate that the implementation of online learning at the UNIMED Faculty of Engineering needs to be improved, especially in structuring and improving online learning facilities. Online learning tools are the main tools and conditions that must be implemented and improved to achieve better online learning.

Discussion

The results of evaluation research on the implementation of online learning at EF UNIMED obtained that the competence of learning planning (content), in the aspects of online learning planning activities and learning resources, was the lowest compared to other aspects. These results indicate that a lecturer must be able to compile an online learning plan that can be implemented properly. Another thing that needs to be improved and added is learning resources that can be used in online learning. So in increasing the quality of online learning planning at EF UNIMED, it is necessary to have a common perception of the implementation of online learning and learning resources that can be used so that learning objectives can be achieved according to planning. This is in line with the opinion of Eko Kurtanto (2017) which states that the success of online learning can be done by increasing teacher competence, one of which is in making good lesson planning.

Evaluation activities on the input component, in terms of facilities from the online learning program at EF UNIMED. The evaluation results show that the aspects of network strength and the availability of online learning tools are of low quality. In the implementation of online learning, the strength of the internet network and the availability of devices are very important for the success of online learning. In improving the quality of online learning at EF UNIMED, it is necessary to increase the strength and breadth of the internet network, as well as to fulfill online learning tools.

Evaluation in terms of process components, in terms of various aspects related to the online learning process, carried out at EF UNIMED. The evaluation results show that the aspects of the service process (helpdesk) and the online communication process are of the lowest quality. The implementation of online learning at EF UNIMED is still relatively new, so that students, staff, and lecturers still need guidance and training so that online learning can run well. To improve the online learning process at EF UNIMED, employees, or online learning service officers (helpdesk) need to be improved. Technically, the helpdesk should always be willing to assist students or lecturers so that online learning can run well. Likewise with lecturers, so that the process and quality of communication that occur in online learning is better. The communication process is very important in learning both orally and in writing.

Evaluation activities on product components are reviewed from online learning outputs at EF UNIMED. The results of the evaluation on the product components showed that the effectiveness of online learning and the achievement of student competencies showed low quality. The results of this evaluation indicate that a method or strategy is needed so that online learning activities can be implemented more effectively both in terms of implementation time and the achievement of learning objectives. Based on the results of this evaluation, it is necessary to carry out a strategy or learning method that is more appropriate through online learning at EF UNIMED.

Overall, online learning activities at EF UNIMED are components of learning facilities that are of lower quality. Through the results of this evaluation, it is necessary to review the implementation of online learning at EF UNIMED. This is by the opinion of Sitompul (2018) that the implication of implementing the CIPP model evaluation is that one of them can affect the implementation of decisions, namely making improvements to designs, methods, or strategies that can be done in EF UNIMED online learning.

Conclusions

Based on the results and analysis of the research data, the following conclusions can be drawn: 1) For the content component evaluated in online learning, the aspect of availability of learning resources is still low and the smallest with a mean score of 2.74. 2) At the input component, the lowest aspect is the power of the online network, with a mean score of 2.64; 3) At the process component, the helpdesk service aspect for online learning is still lacking with an average score of 2.83; and 4) Product components that are considered lacking are the effectiveness aspects of online learning UNIMED Faculty of Engineering with an average score of 2.53. From the four components of the online learning evaluation in the UNIMED Faculty of Engineering, on average, the lowest in

online learning tools. To be able to improve the quality of online learning at UNIMED Faculty of Engineering, it is necessary to make various improvements, namely: 1) additional learning resources provided by lecturers in online learning, 2) additional facilities and strong networks to support online learning, 3) improving the quality of services provided by helpdesk for learning online, and 4) increasing the effectiveness and achievement of student competencies in online learning at UNIMED Faculty of Engineering.

Author contributions

Competing interests

This article is the result of an evaluation study using the CIPP model on the online learning program at EF UNIMED. The results of the evaluation provide recommendations that it is necessary to improve the quality of facilities, lecturer knowledge, learning methods/strategies, and help test services to increase the effectiveness of online learning at EF UNIMED.

Grant information

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