Evaluation of E-learning at the Faculty of Engineering, Universitas Negeri Padang

Fahmi Rizal[1*], Unung Verawardina[2] and Ambiyar[2]

[1] Department of Civil Engineering, Faculty of Engineering, Universitas Negeri Padang, **INDONESIA**
[2] Department of Mechanical Engineering, Faculty of Engineering, Universitas Negeri Padang, **INDONESIA**

[*]Corresponding author: fahmi@ft.unp.ac.id

Abstract—Online learning can use an e-learning platform, e-learning content must be ideal and in accordance with the evaluation of the use of e-learning content. However, the gap that occurs is that e-learning content has never been started in Universitas Negeri Padang (UNP). The problems experienced by lecturers are not using content optimally, only using uploaded material, while content related to how to present material, learning methods in the use of e-learning and other content is not used. The purpose of this research is to make improvements to the implementation of e-learning in the UNP environment. The method used is a mixed method with quantitative and qualitative research, CIPP evaluation model, data collection using questionnaires. Based on the keywords from the CIPP evaluation results; 1) Context such as Principles, Goals, Environment, Needs. 2). Inputs such as e-learning delivery format, human resources (HR), User-friendly E-learning interface and service quality. 3) product category, namely Lecturer Competence. 4). Category of Lecturer Interaction Process, Teaching Method. The results of the survey obtained in Contexts have an average of 77.23, for input the average is 93.99, then the average process is 69.73, and the product is 68.25. So that it can provide recommendations for evaluating the implementation of e-learning by considering the process in the interaction section, on the product aspect of learning outcomes, on the input aspect the value is very good, then the component dimensions need to be improved.

Keywords: *E-learning, Vocational, Evaluation, e-learning content, ERI 4.0*

I. INTRODUCTION

The rapid and instantaneous development of technology now affects all areas of life; various technologies are the result or production of vocational education in industrialised countries. The development of information and communication technology is creating a global culture, colour, language and age that can no longer be categorised and grouped. Social media has the potential to improve student learning, facilitate teacher-student encounters, student and teacher time and skill development and satisfaction with new mobile learning engagements.

The era of disruption that is ushering in the Industrial Revolution 4.0 in education is changing. The emergence of innovations in information and communication technology is changing the way learning takes place. Technology plays an important role in building skills to adapt teaching to the needs. Zubaidah (2016), Verawadina, U (2020). Therefore, vocational learning needs to respond to this era of disruption. Sudira, P (2018). The emergence of the Covid-19 pandemic has forced higher education institutions to shift from face-to-face to online learning. Sobaih, (2020). According to Nasir, M. (2018) the learning solution 4.0 is using e-learning. Online learning is supported by the use of technology.

The gap that occurs in the UNP environment on e-learning content has never been evaluated whether it is suitable for students and lecturers. In addition, lecturers have not used the content optimally, only limited to using the content of uploading matari only, while content related to how to present material, learning methods in using e-learning and other content is not used. Gap from the research findings on the evaluation of online learning shows that the condition of learners also requires learning methods. Means (2010). The most important thing that teachers need to do when using e-learning content is to use different strategies. Yulia, H. (2020). Findings of Coman, (2020) prove the lack of technical teaching skills and teaching styles of educators that are not adapted to the online environment. Weaknesses in the use of e-learning content such as mathematical symbols, management systems and multimedia software that have not been maximised. Irfan (2020). The main problem with e-learning content is that it is more theoretical and does not allow learners to practice and learn effectively. Dhawan, S. (2020). So there is a need for evaluation of e-learning content.

Evaluation is the systematic examination of the value of an innovation, initiative, policy or programme. Therefore, the issue of evaluation of e-learning needs to be raised to address the main problem of e-learning use, which is related to the evaluation of the quality and delivery of electronic content (Krpan, 2009); Ozkan, 2009; Drlik, 2011).

Solutions from previous research on the evaluation of e-learning content. Al-Alwani (2014) still has limitations, namely on the variables that affect the quality of e-learning content, and in the content of the teaching method section using e-learning has not evaluated teaching skills. The solution offered by adding to the e-learning content to be evaluated, in the form of online teaching skills indicators such as opening classes, teaching variations to close learning. The advantages of the solution offered are the ability to cover the content in integrating clear online teaching methods and covering ideal teaching aspects designed to be relevant. Other e-learning content evaluation indicators will also be evaluated.

The research aims to evaluate the implementation of e-learning in order to measure the achievement of e-learning usage. So that it can provide recommendations for improving the use of e-

learning content. And can provide the benefits of content needs in learning. The importance of research is to overcome the gaps that occur while using e-learning, especially the occurrence of full online learning today occurs suddenly, therefore it is necessary to have a relevant learning concept in e-learning content.

II. METHODS

This research uses mixed methods, namely researching with the concept of combining qualitative and qualitative methods Leech (2009), Lopez (2009). This mixed method can enrich and improve understanding of the phenomenon under study and foster ideas to provide answers to questions that are difficult to answer using one method. Tashakkori (1998). The mixed method used is sequential explanatory design. Creswell (2013).
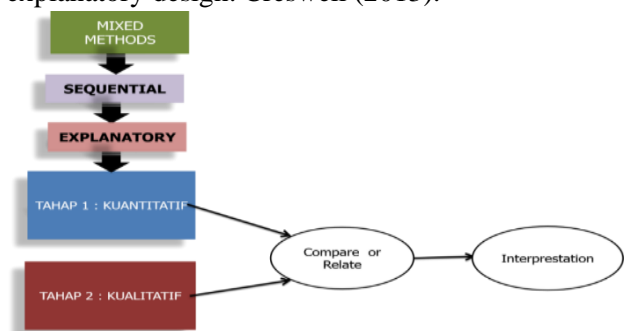

Figure 1. Mixed method with sequential explanatory design stages

While the evaluation model used is CIPP (Context, Input, Process, Product), the research approach is qualitative (Figure 2).
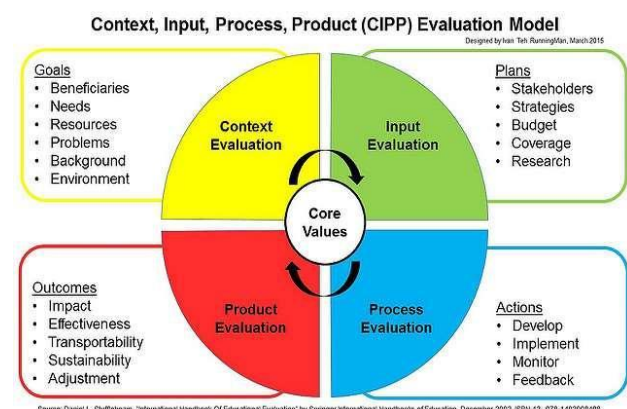

Figure 2.CIPP assessment model

In Figures 1 and 2, this research uses a mixed method, namely a sequential explanatory design. There are two stages, first the quantitative stage by conducting a survey. Then the CIPP model consisting of context, input, process and product is applied. After that the second stage is qualitative, then the data is compared and interpreted. The quantitative research tool is a questionnaire.

The population in this study were students of the Faculty of Engineering UNP majoring in Electrical Engineering, Electrical Engineering, Mechanical Engineering, Civil Engineering and Mining Engineering. In this study, the sample was determined based on the type of non-probability sampling where this type of sample was not randomly selected. The data collection tool uses a questionnaire distributed through Google. Descriptive techniques were used for data analysis.

III.   RESULTS AND DISCUSSION

The results of the e-learning implementation evaluation questionnaire at the Faculty of Engineering are presented in Table 1.

Table 1. CIPP results

Project	Percentage
Contexs	77.23
Input	93.99
Process	69.73
Product	68,25

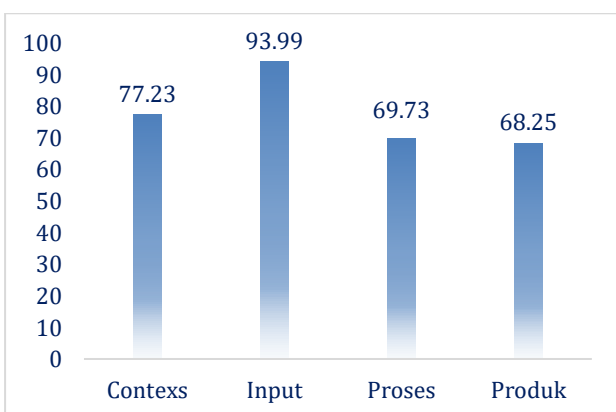The CIPP results can also be seen in the graph shown in Figure 3.

Figure 3. CIPP results

Based on Figure 3, it can be seen that from the Contexts, Input, Process, Product (CIPP) variables, the results obtained in Contexts have an average of 77.23, for Input the average is 93.99, then in Process the average is 69.73 and in Product 68.25. In this study, researchers conducted an e-learning evaluation at the Faculty of Engineering UNP. Aims to evaluate the implementation of e-learning to measure the achievement of e-learning usage. So that it can provide recommendations for improving the use of e-learning content. The population in this study consisted of 6 departments and 20 Proodi in the Faculty of Engineering UNP. The research sample used purposive sampling technique by taking 2 study programmes in each of the existing departments, the selected sample was 516 people.
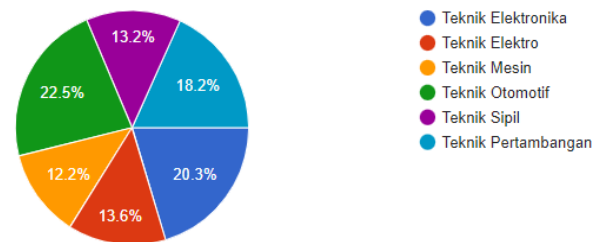

Figure 4. Distribution of samples that completed the questionnaire

The CIPP model consists of Context, Input, Process and Product. CIPP mapping that includes 1) Context such as principles, goals, environment, needs. 2). Input such as e-learning delivery format, human resources (HR), user-friendly e-learning interface and service quality. 3). The product category is instructor competence. 4). The process category is lecturer interaction, teaching methods. From the results of the evaluation that has been carried out, it can be seen that there are several indicators whose results have been good in the input section and there are still less than optimal results, especially in the process and product sections. Therefore, it is necessary to make a joint evaluation of these results and the researchers give recommendations for the improvement of the process and product indicators.

IV. CONCLUSION

Based on the findings, it is concluded that the evaluation results include the variables Context, Input, Process, Product (CIPP). 1) What is included in the context such as principles, objectives, environment, needs. 2). The inputs such as e-learning delivery format, human resources (HR), user-friendly e-learning interface and service quality. 3). which is the product category, namely instructor competence. 4). The process category, lecturer interaction, teaching methods. The results of the survey obtained in Contexts have an average of 77.23, for input the average is 93.99, then in the process the average is 69.73 and the product is 68.25. So that it can provide recommendations for improving the implementation of online learning and ideal e-learning content.

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