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E-Learning Management to Improve Student Learning Independence in The Covid-19 Pandemic Era

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Abstract. The spread of Covid-19 in Indonesian territory is increasing. In preventing covid-19 transmission in the campus environment, learning methods in universities in all zones must be implemented the e-learning for theoretical and practical subjects. However, when it comes to graduation and student competencies that cannot be implemented in e-learning, these activities can be held while maintaining the health and safety of students and lecturers. On the other hand, not all students and lecturers are accustomed to doing e-learning. Therefore, problems will arise about how e-learning management can improve student learning independence in the Economic Education Study Program of Ronggolawe University. This research was descriptive using the survey method. The research subjects were the head of the study program, lecturers, students and support *technicians data* collection techniques through questionnaires and documentation of e-learning implementation reports. The research data analysis was carried out descriptively by calculating the percentage and through the average score, interval, and categorization. Based on the data analysis, it was obtained: 1) e-learning management was 3.49 (quite effective); 2) Students responded positively to online learning during the Covid-19 pandemic, 3) independent learning in e-learning shows that 7.69% of students have low learning independence, 21.61% are less independent, 40.07% are quite independent and 27.63% have high independence. It could be prepared that e-learning management was quite effective in increasing student learning independence. However, there were still some aspects that need to be improved. It can be concluded that the management of e-learning was quite effective in increasing student learning independence. However, there were still some aspects that needed to be improved. These aspects included: 1) Optimizing the planning and implementation of e-learning, 2) preparing a repository of digital materials that are easily accessible to students, 3) the readiness of students to participate in e-learning.

Keywords: Management, E-Learning, Learning Independence

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INTRODUCTION

The digital era and the 5.0 industrial revolution demands continuous changes in the teaching and learning process, especially in the current state of the Covid-19 pandemic, which is increasingly spreading in several regions of Indonesia. In order to prevent covid-19 transmission in the campus environment, online learning methods in tertiary institutions in all zones are mandatory for theoretical and practical

courses. One of them is through a circular letter from the Ministry of Education and Culture (Kemendikbud) of the Directorate of Higher Education No. 1 of 2020 concerning preventing Corona Virus Disease (Covid-19) in universities. Through this circular, the Ministry of Education and Culture provides instructions for universities to conduct distance learning and advises students to study from their homes by e-learning.

The need for e-learning in tertiary institutions, especially in the Economic Education Study Program of Ronggolawe University, is very urgent because, in the conditions of the Covid pandemic, the minister of education and culture obliges universities to hold online lectures. This decision certainly surprised many people, both students, faculty and parents. The impact is felt in terms of learning effectiveness, economy, and other activities. Various preparations, of course, must be prepared by lecturers and students to carry out online learning. Various facilities and infrastructure must be well prepared, especially the internet network. The results of previous research conducted by (Hu & Yu, 2021), (Rahayu & Haq, 2020), and (Wiwi Noviati, 2020) concluded that e-learning uses the internet-based application. Therefore readiness of internet infrastructure facilities and the need to carry out the learning process teaching through learning media.

E-learning refers to internet technology to deliver a series of solutions that can enhance knowledge and skills (Sanderson, 2002); the use of the internet in education is the essence of e-learning (Cucus & Aprilinda, 2016; Tsang et al., 2007). E-leaning supports learning efforts through internet technology (Dumiyati et al., 2017; Pavel et al., 2015). According to Brown (Nguyen, 2015), online learning is a learning activity that uses and utilizes the internet, LAN, WAN as a medium of connection and delivery, communication and facilitation and is assisted by several other media.

The opinions above show the importance of the internet and computers or mobile phones in e-learning. Both can facilitate browsing and search for information, communication, transferring information (between computers), and processing information. As for examples, the main communication media such as e-mail, chat groups, newsgroups (collaboration), screen sharing, and teleconferencing. Of course, online learning must have the facilities of cellphones or computers, internet networks. (Windhiyana, 2020). Mobile phones or computers and internet networks are needed in e-learning because they are a medium for accessing digital learning materials and learning interactions

On the other hand, there are still many obstacles faced by lecturers and students in implementing e-learning. Some students have difficulty understanding the lesson because of the limitations of digital modules and other digital materials provided by the lecturer. Other students are not familiar with online learning. There are also limitations of the internet network and e-learning support devices (Handayani, 2020; Jamaluddin et al., 2020). Therefore, e-learning management is needed so that online learning is more effective.

Managing e-learning, it includes planning, implementing and evaluating the implementation of online learning activities. Several studies on online learning management have been carried out by (Jamaluddin et al., 2020), that one of the weaknesses of LMS is that not all places have internet facilities (related to electricity, computers or laptops). Huda et al. (2019) and Herowati (2016) said that the application of online learning based on Edmodo and mobile learning

could increase learning independence, while Reimers et al. (2020) and International Baccalaureate (2020). Online learning begins with developing online modules through the preparation of print modules, digital module conversion, LMS assembly, content review, facilitator preparation and implementation. Therefore, it is necessary to survey the planning, implementation and evaluation of e-learning that has been carried out by lecturers so that solutions can be given to the problems of online learning during the Covid-19 pandemic

Based on this background, the purpose of this study is to describe 1) e-learning planning, 2) e-learning implementation, 3) evaluate e-learning implementation and student learning outcomes, 4) the contribution of e-learning management to increase student learning independence of Economic Education Program of Ronggolawe University.

RESEARCH METHOD

This research is descriptive research. Research respondents were permanent lecturers, head of the Study Program, IT technicians and students at the Unirow Economic Education Study Program. Data collection techniques using questionnaires, interviews and documentation. The questionnaire method was used to collect data about e-learning management and student learning independence. Questionnaires were distributed to 11 permanent lecturers to overview e-learning management carried out during the Covid-19 pandemic. E-learning management refers to planning and implementing e-learning, assessing and evaluating learning outcomes. Questionnaires were also distributed to 65 students through the Google Form and Whattapps applications to find out student responses to e-learning management that had been implemented and student learning independence in e-learning. The questionnaire about e-learning management consisted of 20 question items covering questions about planning, implementing, assessing and evaluating e-learning. Meanwhile, the learning independence questionnaire contains statements about learning initiatives, diagnosing learning needs, determining learning objectives and targets, solving learning difficulties by finding solutions, utilizing digital materials to complete assignments, evaluating learning processes and learning outcomes independently. The questionnaire uses a Likert scale of 1-5. Score 1-not satisfied; 2-just so-so; 3-reasonably satisfied; 4-satisfied; 5-very satisfied. The interview with the Head of the Economic Study Program and IT technicians technique is used to complete the data about e-learning management.

The research data analysis was carried out descriptively by calculating the percentage and through the average score, interval, and categorization.

RESULTS AND DISCUSSION

The e-Learning management that has been carried out includes e-learning planning, e-learning implementation, e-learning assessment and evaluation of learning outcomes as follows:

E-Learning Planning

E-learning planning is designing learning experiences, the composition of independent and guided learning, learning strategies, e-learning implementation instructions, digital resources and materials. The results of the survey on e-learning planning are presented in Figure 1.

Figure 1 shows that 36.3% of lecturers can design a learning experience that is quite detailed and clear enough. The lecturers should design learning experiences that are very detailed, complete and very clear. The activity of determining the composition

of independent and guided learning was proportionally carried out by 36.4% of the lecturers, while the lecturers who had designed the overall learning strategy for one semester were 36.4% of the lecturers. 45.5% of lecturers have compiled e-learning implementation guidelines. An E-learning implementation guide is uploaded on the web.

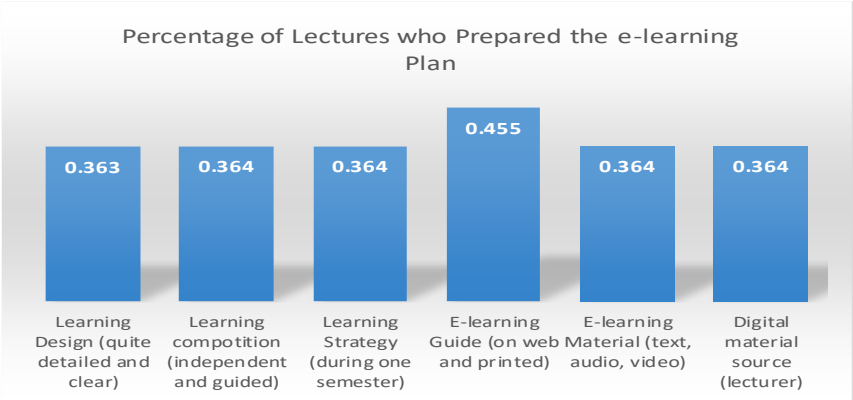

Figure 1 Percentage of Lectures that Prepared the E-Learning Planning

Lecturers make digital e-learning material by themselves as much as 36.4%. It is necessary to develop the material digital team and digital material production unit reviewed by the lecturer who teaches the course. In general, the lecturers' ability in planning e-learning is in a fairly good category.

Furthermore, lecturers' data on e-learning planning feedback based on student perceptions is presented in Table 1.

Table 1 Student Feedback on The E-Learning Planing

Question: Are you satisfied with the e-learning planning? Student Feedback (%)						
Items	**Learning Experience Design**	**Study Composition Design**	**Learning Strategy Design**	**E-Learning Guide**	**Variation Of E-Learning Material**	**Digital Source Material**
Not satisfied	3,08%	3,08%	0,00%	4,62%	4,62%	3.08%
Just so-so	23,08%	15,38%	9.23%	10,77%	6,15%	27,69%
reasonably	43,08%	18,46%	15,38%	41,54%	12,31%	46,15%
Satisfied	23,08%	27.69%	35,38%	43,08%	35,38%	23,08%
Very Satisfied	7,69%	35,38%	40,00%	0,00%	41,54%	0,00%

Based on Table 1, it shows that as many as 43.08% of students are quite satisfied with the learning experience design made by the lecturer, so that the lecturer needs to improve e-learning planning by making a learning experience design that is very detailed, complete and clear; 35.38% feel very satisfied with the proportional composition of independent and guided learning, it is good and needs to be maintained; 40% of students are very satisfied with the learning strategy design that has been prepared by the lecturer before the implementation of e-learning; 43.08% of students were satisfied with the instructions for implementing e-learning which were

uploaded on the web and in printed form; 41.45% were very satisfied with the digital material prepared in the form of text, audio, video link and conference files; 46.15% feel quite satisfied with the making of digital learning materials, but it must be improved by making digital materials in teams and special media production units in order to produce digital materials that are easier to understand, engaging, creative and innovative.

According to research conducted by Nugraheni (2017), the e-learning module reduces learning difficulties, and students can control their learning activities. E-learning also allows students to reflect on new material, discuss their understanding with others, actively seek new information, develop skills in communication and collaboration, and build conceptual connections based on previously owned knowledge.

Therefore, the learning module in the form of digital material must be well prepared in planning e-learning. According to Daniswara (Hanum, 2013), content is an object of learning which is one of the parameters for the success of e-learning through the type, content and weight of content. The e-learning system must be able to: 1. Provide teacher-centred content, namely instructional content that is procedural, declarative and well-defined and clear; 2—providing learner-centred content, namely content that provides instructional outcomes that are focused on developing creativity and maximizing independence; 3. Provide work examples on content materials to make it easier to understand and provide opportunities to practice; 4 in adding the content in the form of educational games as a medium for practising question-making tools. The materials are presented in PowerPoint, which is equipped with pictures, videos and animations. Lecturers also provide exercises as material for evaluating student progress.

Implementation of E-Learning

The implementation of e-learning based on student perceptions is presented in Table 2.

Table 2 Student Feedback on The Implementation of e-Learning

Question: Are you satisfied with the implementation of e-learning? Student feedback (%)							
Items	**Facilitate E-Learning Process**	**Digital Learning Material**	**E-Learning Media**	**Learning Interaction**	**Frequency Of E-Learning**	**Discussion Forum**	**Fitur Chatt**
Not satisfied	9,23%	0.00%	0,00%	0,00%	0,00%	0,00%	1,54%
Just so-so	38,46%	35,38%	36,92%	7,69%	0,00%	0,00%	7,69%
reasonably	15,38%	29,23%	38,46%	15,38%	6,15%	9,23%	46,15%
Satisfied	16,92%	18,46%	15,38%	23,98%	38,46%	36,92%	44,62%
Very Satisfied	20,00%	19,92%	9,23%	53,85%	55,38%	53,85%	0,00%

Based on Table 2, the facilities for guidance from lecturers during e-learning are still lacking. 38.46% of students said that most of the lecturers only upload materials and assignments. Lecturers need to improve communication and assistance through various online media.

Likewise, with the use of teaching materials, 35.38% of students stated that most lecturers made digital teaching materials, but they were not optimal. It was necessary to increase digital teaching materials, other teaching materials in various forms, formats and learning resource media. 38.46% of

students feel quite satisfied with ICT-Based learning media, including google classroom, WA, TG, Zoom and social media. Various media can also be used to support the implementation of online learning. The implementation of virtual classes uses the Google Classroom, Schoology, Edmodo services (Enriquez, 2014; Sicat, 2015; Shampa, 2016) and the WhatsApp application (Kumar & Nanda, 2019). Online learning can also be done through social media such as Facebook and Instagram (Krull & Duart, 2017). Anwarining asserts that e-learning requires mobile devices such as smartphones, tablets, and laptops to access information anywhere (Anwariningsih & Ernawati, 2013). The use of mobile technology has a major contribution to education, including achieving distance learning goals (Kundi et al., 2010). In this case, most students have mobile devices but are constrained by difficulties in getting a cellular signal, but they are so weak that it is difficult to follow online learning and are late in getting lecture information and collecting coursework.

Assessment and Evaluation of E-Learning

The e-learning implementation assessment and evaluation of learning outcomes that have been carried out include task form, feedback, evaluation of learning outcomes, e-learning repository, assessment guidelines, e-learning implementation report shown in Figure 2.

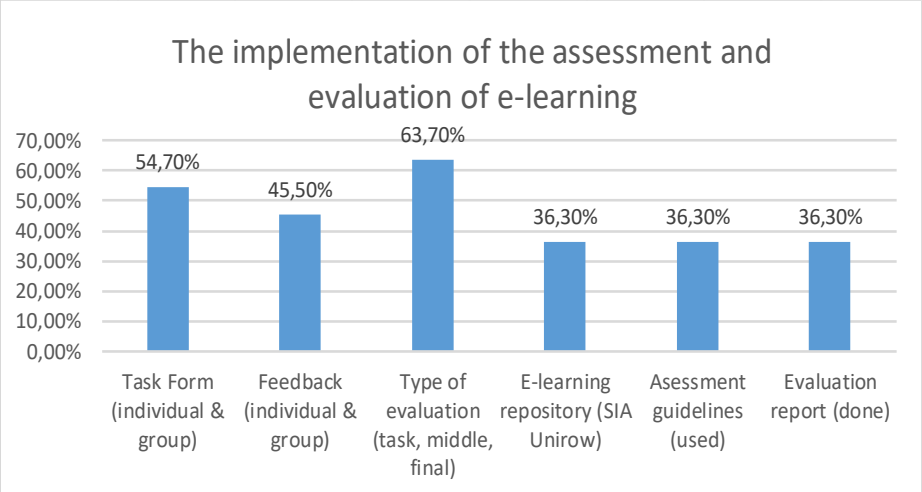

Figure 2 The Implementation of The Assessment and Evaluation of E-Learning Lecturers have done that

While the implementation of the assessment and evaluation of e-learning based on student perceptions is presented in Table 3, based on table 3, Students' perceptions of the assessment and evaluation of e-learning were very satisfied on the aspects of the form of assignment, feedback, evaluation of learning outcomes, assessment and evaluation guidelines and periodic e-learning reporting. However, 46.15% of students were quite satisfied with the e-learning repository. Thus, it is suggested to improve the e-learning digital collection repository for all courses that students can access. It is necessary to increase the internet network to access learning materials and increase learning interactions through chat rooms, WhatsApp groups and telegrams.

Table 3 Student Feedback on Assessment of The E-Learning Implementation and Evaluation of Learning Outcomes

Question: Are you satisfied with the e-learning assessment and evaluation? Student Feedback (%)						
Items	**Form of Assignment**	**Feedback**	**Evaluation of Learning Outcomes**	**E-Learning Repository**	**Evaluation Guidelines**	**E-Learning Reporting**
Not satisfied	0,00%	1,54%	0,00%	3.08%	7,69%	0,00%
Just so-so	7,69%	1,54%	0,00%	7,69%	12,31%	0,00%
reasonably	15,38%	27,69%	6,15%	43,08%	15,38%	9,23%
Satisfied	23,08%	23,08%	38,46%	46,15%	23,08%	36,92%
Very Satisfied	53,85%	46,15%	55,38%	0,00%	41,54%	53,85%

Student Learning Independence

The level of student learning independence in implementing e-learning is as in the following Figure 3. Online learning received very good responses from students in increasing their learning independence; 40.07% of students were quite independent and 27.63% of high learning independence. The e-learning method can trigger learning independence and encourage students to be more active in lectures because of the flexibility of its implementation, digital material facilities, and online evaluation. The development of interactive media for ICT can improve student self-learning (Suhada et al., 2019; Sharp & Sharp, 2016; Chou & Chen, 2008); meanwhile the application of an ICT-based learning model can increase student learning independence (Kulsum & Kustono, 2017; Soliman, 2014).

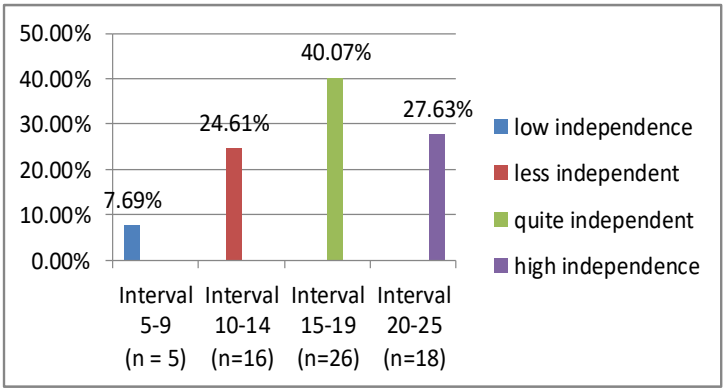

Figure 3 The Level of Student Learning Independence

However, there are also obstacles, namely, the interaction in online learning has limitations so that it does not allow lecturers to monitor student activities during lectures directly. Students also have difficulty understanding the teaching materials that are delivered online. The limited communication between lecturers and students through the instant message application or virtual classes was deemed insufficient by students (Firman & Rahayu, 2020; Cucus & Aprilinda, 2016).

CONCLUSION

Based on students' perceptions, the application of e-learning is quite effective in increasing learning

independence. E-learning provides flexibility in learning. Various modules or digital materials, and online evaluations assist students in self-study and self-evaluation. In order to increase the effectiveness of e-learning implementation, it is necessary to prepare lecturers in planning, implementing and evaluating e-learning. In addition, the readiness of the Head of the Study Program is also needed in monitoring and evaluating the implementation of e-learning. Forming a production team of teaching materials and online learning media is necessary to help lecturers prepare digital materials.

The implementation of e-learning during the Covid-19 pandemic can be received positively by students. Students are satisfied with the ICT media facilities and communication media during e-learning. However, students need to overcome the limitations of the internet quota and the difficulty of getting a signal by utilizing the wifi facilities provided by the campus. Intensive communication with lecturers and other students can overcome difficulties in understanding the material through Telegram and Whatsapp groups.

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