Evaluation of E-Learning on Learning Outcome at Universities in Indonesia

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Article History ***Article Submission*** 21 October 2022 ***Revised Submission*** 30 November 2022 ***Article Accepted*** 29 January 2023	**Abstract** The COVID-19 pandemic has changed the normal functioning of education and learning around the world. This study focuses on learning management with e-learning during a pandemic learning outcomes, which aims to evaluate the effectiveness and efficiency of e-learning compared to conventional learning methods. This research was conducted for 4 months, from February to May 2022, involving 308 student respondents from the Faculty of Tarbiyah and Teacher Training at IAIN Ponorogo, UIN Surakarta, UIN Malang, and UIN Samarinda. The results of the study found that e-learning learning policies in the Learning Management System (LMS) developed by universities in Indonesia have met the needs of lecturers and students. Student learning outcomes were obtained from the effectiveness of the implementation of the Semester Lesson Plan (RPS) and the quality of learning. RPS quality indicated by student responses to learning experiences, final abilities, methods, and references obtained good responses from more than 52% of the student. The effectiveness of e-learning is reflected in student responses; learning can make students active, independent, think critically, responsible, collaborate, and discuss according to the learning objectives above 52% in the excellent category. E-learning has become an integral part of the education system in Indonesia in increasing access to high-quality education for students. **Keywords:** Effectiveness; E-Learning; RPS; Learning Outcome; Higher Education

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Introduction

Electronic learning, hereinafter referred to e-learning, was initiated in the 1950s (Ravenscroft, 2001) and it was developed in Indonesia in the 1990s. At first, e-learning was used only as additional learning in schools and universities. However, since the 2010s, e-learning has begun to be widely used as an alternative to learning in Indonesia. Many schools and universities in Indonesia use e-learning as a learning method, especially amid the COVID-19 pandemic (Almarzooq et al., 2020). The COVID-19 pandemic has forced educational institutions to carry out online learning. Joko Widodo's government in 2020 issued regulations for online learning and working from home. This condition forces universities in Indonesia to carry out massive digital transformation indirectly (Zamora-Antuñano et al., 2021).

In response to this situation, the Institut Agama Islam Negeri (IAIN) Ponorogo established online learning by choosing some learning platform options, namely e-learning in Google Classroom, WhatsApp Group Zoom, and Google Meet. The same response was also made by other universities, such as Universitas Islam Negeri (UIN) Surakarta, Universitas Islam Negeri (UIN) Malang, and Universitas Islam Negeri UIN Samarinda. The e-learning adoption policy also refers to the best experiences in several countries in the world that are reforming their educational process with their learning (Tolsteneva et al., 2020). E-learning can be adapted to the needs, as a supplement, or as a substitute for learning activities in the classroom (Suartama et al., 2020).

Evaluation carried out by the Quality Assurance Agency, online learning has not been able to run optimally, because of (1) technology disparities between students living in urban and rural areas, (2) the limited ability of lecturers and students to use IT, (3) limited internet access, and (4) integrated relations between students and lecturers. These obstacles cause learning outcomes to be low, below 70% (EI, interview, March 3, 2021). Learning management designed in LMS which includes implementation planning, methods, and evaluation systems has not been well-systematized (Ameli et al., 2020), causing the effectiveness and quality of online learning to be difficult to realize (Al Mawangir & Puspita, 2021a).

The results above indicate that higher education policies in the development of a standardized Learning Management System (LMS) are needed to prevent the learning outcomes in the Semester Learning Plan (RPS) from being disrupted. Therefore, student activities designed in the LMS, specify students to do other activities simultaneously (multitasking), including consumer activities such as playing games, chatting, and listening to music should not be higher than accessing learning activities. A previous study conducted by Hidayat et al (Hidayat et al., 2017) reminds university leaders to develop an LMS that has many features to enable students to be independent, creative, responsible, problem-solving, foster collaboration, and synergy, to avoid student recreational activities.

E-learning pragmatically might completely replace face-to-face learning, considering that the world of education around the world is doing the same thing during the pandemic. A study conducted by Short, William, and Christie in the book entitled The Social Psychology of Telecommunications (Albertson, 1980) explained that digital communication is considered less personal and more oriented to the distribution of information only when compared to face-to-face communication. Digitally mediated communication has limitations; one of these limitations is the absence of social cues that are adequately conveyed. Social cues are nonverbal signs used in communication, such as facial expressions, body movements, and voice, that help understand the intentions and emotions of the other person because there are no social cues in digitally mediated communication, so lecturers and students find it challenging to understand the emotions of the other person or know whether the other party agrees or disagrees with what is conveyed. Although Walther argues that in the end, offline and online communication is the same, they still cannot be considered the same considering the absence of cues and how more time should be spent conveying the same information. A virtual meeting is certainly different from a meeting face-to-face (Walther, 1995). However, with various limitations in e-learning, Suartama concluded that online learning has proven to be effective in achieving the targeted competencies (Suartama et al., 2020).

The achievements of e-learning have attracted the attention of many researchers. Barber explained that the success and satisfaction of students with e-learning are influenced by

environmental factors, motivations, strategies, methods, and facilitation provided by the lecturers (Baber, 2020). Ajmera concluded that the success of online learning can be seen from several aspects, namely excellence, perfection or consistency, fit for purpose, collaboration, and transformation (Ajmera, 2014). Cheung, L.L.W. and Kan, A.C.N. argue that the factor that affects the achievement of students who take part in e-learning is the existence of a tutorial program that can be used independently (Cheung & Kan, 2002). Meanwhile, Gamage stated that the factors that influence the effectiveness of e-learning are interaction, collaboration, motivation, networking, and pedagogy (Gamage et al., 2014). Whereas, determining the quality and effectiveness of e-learning must be based on student perceptions of the relevance of learning, the attractiveness of e-learning, effectiveness, efficiency, and learning productivity (Aslami, 2020).

Referring to the findings of several previous studies mentioned above, it is natural that many studies focus on the success of online learning on learning competencies in both cognitive, psychomotor, and affective aspects. Online learning is only dominant to achieve cognitive competence and is not necessarily effective in other competencies (Prawiradilaga, 2016). Therefore, it is very relevant and urgent to explore further, the considerations of higher education policies in developing e-learning to achieve learning achievement targets in the Semester Lesson Plan (RPS). Bearing in mind that in both virtual learning and face-to-face learning schemes, the learning objectives are the same, namely knowledge, skills, and attitudes. All three must be achieved in a balanced way in order to form character with any learning model. Thus, this study is very important to analyze in-depth to create online learning that is not only a supplement but also functions as a complement and substitution hence it can encourage the realization of a cultural transformation that can place e-learning as the main learning medium as a substitute for conventional learning during the COVID-19 pandemic.

Literature Review

The millennial era based on digital applications has given rise to many choices of learning resources and media such as e-books, e-learning, e-libraries, e-forums, and e-journals (Astuti & Febrian, 2019). Education which was originally done conventionally began to swift into Learning Management System (LMS) which was specially developed to manage online learning systems (Mtebe, 2015). The year 2002 was the starting point for the history of the emergence of an LMS with an open-source concept called Moodle. However, face-to-face learning should not be abandoned, it is necessary to use a learning model that combines e-learning with the face-to-face learning method (blending) in an integrated and regular manner which will make the learning process more meaningful (Huda et al., 2019). E-learning in Indonesia was initially still combined with conventional learning to train students to be more independent in learning (Nastiti & Ni'mal 'Abdu, 2020). After students are more independent, online learning is carried out thoroughly.

E-learning itself according to Matthew Comer Hero is an educational and learning media that can increase motivation, communication, and efficiency if it is developed in an LMS properly (Mtebe, 2015). Another opinion states that e-learning utilizes computer technology and internet networks (Sadikin & Hamidah, 2020) as a method of delivering material, interaction, and various learning facilities to support various forms of learning services (Luh Sri Damayanti, 2020).

E-learning is a transformation of conventional education into digital form, in terms of materials, methods, and systems. Horton defines e-learning as the use of communication and information technology to create learning experiences (Horton, 2011). Thus, e-learning is believed to be able to provide knowledge covering many things, understanding, and broader knowledge, because students can not only listen to material descriptions but can also more actively observe, perform, and demonstrate. E-learning offers a higher level of interaction compared to distance learning. Students can communicate with tutors or fellow students in real-time and access content available online. Whereas distance learning usually only provides communication facilities via email or discussion forums.

The world of education has realized that education in the era of the industrial revolution 4.0, absolutely requires IT tools to form a creative, innovative, and competitive generation, as well as several predetermined learning experiences. Optimization of the use of technology and information in education must be carried out to be able to produce outputs that are following

global developments characterized by speed, network, and efficiency (Kitao, 1998). Therefore, the use of IT in learning not for reasons of need but must be due to considerations of credibility and the modern image becomes a concern

How are the learning achievement targets, both cognitive, psychomotor, and affective in e-learning? LMS gives lecturers freedom in designing student learning experiences. The learning experience is understood as a description of the activities that students must do in learning for one semester. Each activity is provided through a conducive academic atmosphere created by lecturers to assist students in achieving learning outcomes set in RPS. Competencies in the Indonesian Qualification Framework (IQF) are formulated with the term "learning outcomes" (Prasetyo et al., 2019; Frisnoiry et al., 2019). Learning achievement is a set of performances that are specifically derived from Graduate Learning Outcomes which are charged to teaching materials and courses (Chan et al., 2021). Learning outcomes in the IQF include four elements, namely attitudes and values, workability, elements of scientific mastery, and elements of authority and responsibility that are needed to obtain satisfactory results as learning benchmarks (Reksiana et al., 2020).

Measurement of achievement targets and the effectiveness of learning outcomes, in general, can be seen from program success, target satisfaction, program satisfaction, and the level of input and output (Mudamayanti & Wiryanto, 2020), which shows the level of ability to realize several conformities, (1) tasks and functions, (2) plans and programs, (3) rules and regulations, and (4) objectives (ZR & Saugi, 2020; Saputra et al., 2021).

Methodology

This study is a quantitative descriptive study employing a survey method conducted online. A descriptive study was conducted to obtain data from the exploration of the e-learning platform used by lecturers and the effectiveness of learning on the achievement of student learning competencies. The respondents of this study consisted of 308 students which were 156 students of IAIN Ponorogo (48.7%), 85 students of UIN Samarinda (27.6%), 22 students of UIN Surakarta (7.1%), and 51 students of UIN Malang (16.6%) spread across various study programs (Figure 1).
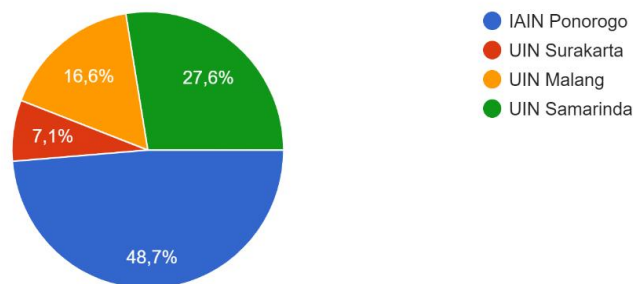

Figure 1. Number and Distribution of Respondents

This study was designed multi-side with the logic of replication, namely the results of online surveys during a pandemic at four universities, namely IAIN Ponorogo, UIN Surakarta, UIN Malang, and UIN Samarinda. The four Islamic state universities were chosen because they use the same monitoring and evaluation instruments to determine the success of learning with the e-learning platform. Sampling was conducted using the Solvin formula (Consuelo, 2007), and the technique used was purposive sampling, because the data were homogeneous, namely, the learning using the e-learning platform developed in the LMS. Each individual or certain group in the population has the same possibility of being sampled and being the focus of the study (Creswell, 2016). However, some of the populations taken in this study were not necessarily representative (Kerlinger, 2014), because the population is assumed to have an equal chance of being selected in the online learning process survey.

The steps conducted in this study began with the development of research instruments. The instrument was created by conducting an extensive literature review, followed by content validation and the process construction in consultation with experts. The instruments used in this

study consisted of research implementation instruments and data collection instruments. The research implementation instruments include the basis for consideration of higher education policies in developing e-learning in LMS. Instruments were arranged based on student competency achievements. Data on student competency achievement was obtained from student responses from February to May 2022 using an online survey supported by interviews via GoogleForm with the following criteria: 5 = excellent; 4 = good; 3 = fair; 2 = bad; 1 = very bad. This survey method was used to look at problems that are currently trending nationally toward the implementation of certain policies (Creswell, 2015) that contextually involve online learning policies during a pandemic.

Results

Online Learning Policy

IAIN Ponorogo, UIN Samarinda, UIN Malang, and UIN Surakarta responded to the Work From Home (WFH) policy of President Joko Widodo's government by issuing a policy for lectures to be conducted fully online from 2020 to 2022. Therefore, the construction of higher education institutional policies has taken into account the prevention of COVID-19 by not doing any offline activities. The following is data about online learning media used by lecturers;

Lecturer Learning Media

Based on an online survey of students at IAIN Ponorogo, UIN Surakarta, UIN Malang, and UIN Samarinda, there are several media used, as visualized in Figure 2.
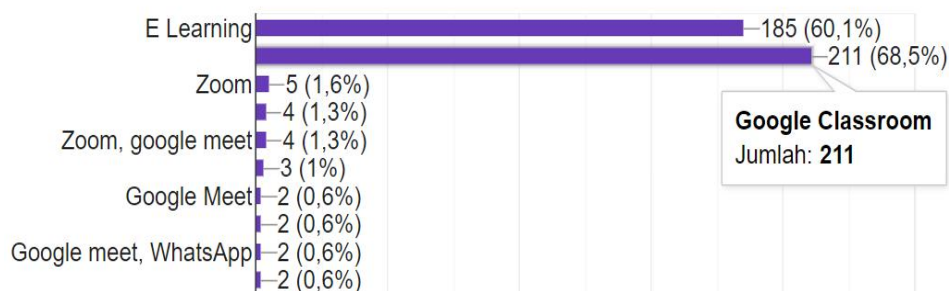

Figure 2. Lecturer Learning Media

Figure 2 provides information that the most widely used learning media by lecturers was Google Classroom at (68.5%), followed by e-learning at (60.1%), while Google Meet and Zoom Meeting were at 2.9%. It is interesting to note that the learning media used by the lecturers is a mixture of synchronous and asynchronous. According to AR (interview, April 17, 2022), besides using this combined platform to reduce student boredom, e-learning also functions as a supplement, complement, and substitution.

In contrast to the early 2020 pandemic period, there were 23 online media used in the learning process at IAIN Ponorogo. The most widely used media was WhatsApp Group at 58.5%, followed by Google Classroom at 57%, and email at 22%. WhatsApp Group was the most popular choice because students and lecturers are used to using it in the communication process before the pandemic. Meanwhile, e-learning media has not become the choice of the majority of lectures because universities have not developed a standard LMS (Mukhibat & Wilujeng, 2021). The same thing was also found at UIN Samarinda where the use of WhatsApp Group was at 57%, Google Classroom at 21%, and Zoom at 19% (Al Mawangir & Puspita, 2021b).

Google Classroom is a mixed-learning multi-platform application, designed to simplify the creation, distribution, and assignment of assignments. Google for Education (2021) claims that this application was created with multiple layers of security and can be accessed with 99.9% uptime and implements global education standards. The percentage figure of 68.5% indicates that respondents strongly agree that this application makes it easy for students to be able to submit and store their work easily and safely. Moreover, it can be accessed at any time.

The use of e-learning which received a response of (60.1%) indicates that e-learning has benefits and a strategic position in learning. according to Arif (SA, interview, April 25, 2022), using e-learning as learning media is more flexible in determining when to start, finish, and define the material, cost-effective, the material can be repeated, and easily accessible at any time. Besides the benefits and advantages of e-learning and Google Classroom, learning using e-learning also has limitations, namely, students easily lose focus because they are not supervised, learning tends to be monotonous, and discussion forums are less than optimal.

Due to the drawbacks of the Google Classroom and e-learning media stated above, most lecturers try to complement it with Zoom and Google Meet media which get a student response of 2.9% to improve students' ability to convey ideas in course presentations. The Zoom and Google Meet applications allow lecturers to meet each other synchronously as a bridge for space and time, with student time flexibility in the learning process. Those applications were chosen because it provides automatic activity recording facilities during video conferencing, making it can be watched again or played back at any time (ZA, interview, April 15, 2022). According to Istiqomah, the use of the Zoom Meeting application is 70% effective (Istiqomah, 2021), while Novita et al concluded that the use of Zoom and Google Meet was considered ineffective (Novita et al., 2021).

E-Learning Effectiveness on Learning Outcomes

Effectiveness in general is the success of the program, target satisfaction, program satisfaction, and the level of input and output (ZR & Saugi, 2020; Saputra et al., 2021). The measurement of the effectiveness of e-learning on learning outcomes was divided into two categories. The first is the quality of the implementation of the RPS. The second is the effectiveness of e-learning. Based on research results, there are at least nine indicators that show the effectiveness of online learning on learning outcomes.

Student Learning Experience

The COVID-19 pandemic has attracted the attention of many people to study the learning experience of students (Baber, 2020). Learning outcomes and student satisfaction were strongly influenced by the ability of lecturers in designing learning strategies, materials, and facilitation in RPS. The learning experience planned by the lecturer in the RPS received student responses as follows:
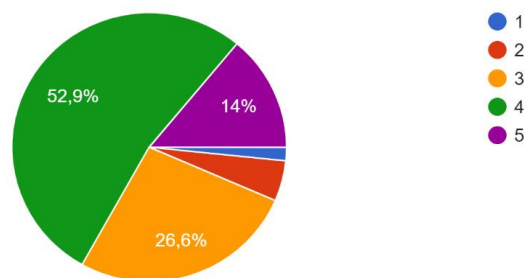

Figure 3. Student Learning Experience

Figure 3 shows that the learning experience embodied in the description of student assignments for one semester was good at (52.9%) and very good at (14%). Meanwhile, (26.6%) gave moderate responses, followed by 4.3% less and 1.6% with very poor. The lecturer's RPS has served as a guide for students in carrying out lecture activities for one semester to achieve predetermined learning outcomes. This means that although currently, many students have complained about the online learning process, such as boredom, the number of assignments given by lecturers, and the longing to meet friends and want to experience face-to-face lectures which are considered more effective, the description of assignments for one semester contained in the RPS got a positive response from students in a good category. The positive response mentioned above was influenced by the lecturer's strategy in giving assignments to students.

Telaumbanua suggests that the basis for the learning process is the formation of associations (cognition) before entering the fixation and automation stages (Telaumbanua, 2020). At the association stage, students have an overview of the subject matter that will be delivered by the

lecturer, enabling them to get adequate information about their experiences and activities that will be carried out during one semester.

In terms of learning experiences in the form of assignments, (63%) of students prefer individual assignments to groups (Figure 4). During the pandemic, most students studied from home, making it difficult to coordinate and collaborate in doing group work. As for the tasks that were done in groups, a total of (37%) of respondents stated the reason that group assignments were easier was that they were done together (Figure 4).
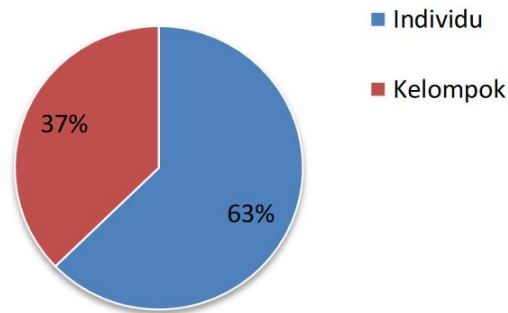

Figure 4. Students' Preferred Task Model

Planned final capabilities to meet learning outcomes

The curriculum used in the higher education environment contains plans and arrangements regarding learning outcomes, study materials, processes, and assessments that are used as guidelines for the implementation of the Study Program. The following is the student's response to the fulfillment of learning outcomes contained in the RPS.
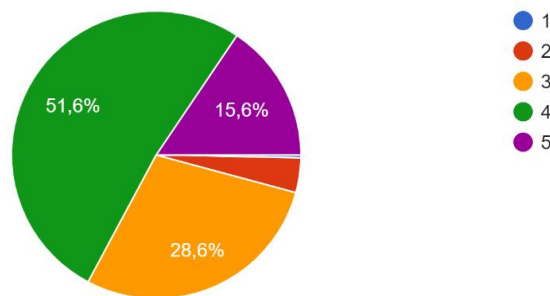

Figure 5. Planning for Learning Outcomes in RPS

Figure 5 above shows students' responses to the final ability as outlined in the RPS. The responses were very good at (15.6%), followed by good at (51.6%) good, moderate at (28.6%), poor at 3.9%, and no very poor answers from the respondents. Based on these results, it can be concluded that 51-6% of students understood the focus and formulation of lecture learning outcomes. Only a very few 3.9% did not understand learning outcomes.

Learning Reference

The lecturer prepares the RPS referring to the specific description of the study program and graduates' outcomes, as well as the study program curriculum. Article 12 Paragraph (1) of the Regulation of the Minister of Research, Technology, and Higher Education No. 44 of 2015 states, that the learning process is based on the RPS which is prepared for each subject. Furthermore, Article 12 Paragraph (3) explains that the RPS contains at least 8 aspects, one of which is a list of references to guide students in finding learning resources so that students are not confused in finding reading sources. The reference list provided in the RPS got a student response of (51.9%) good and (18.2%) very good category as shown in Figure 6. This response is proof that the reference list in the form of books, journals, e-books, and e-journals has made it possible for students to be more active in digging up various information that adds to their insight and
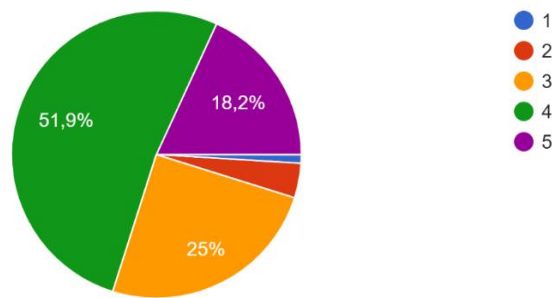
intelligence.

Figure 6. Learning Reference

Students participate in learning actively, independently, and responsibly

Independence, activeness, and responsibility in learning are important elements in learning activities, as well as indicators of learning quality. Independence emphasizes student activities in learning that are full of responsibility for success in learning. Student responses to learning can be seen in Figure 7 below.
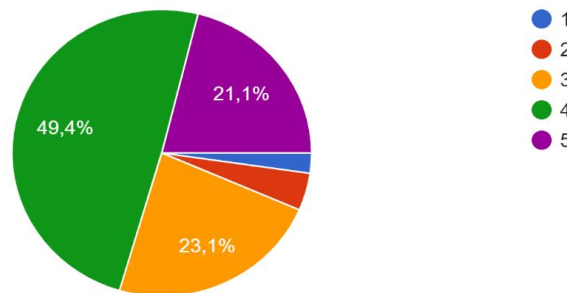

Figure 7. Active, Independent, and Responsible Learning

Figure 7 shows that (21.1%) of students gave a very good response that e-learning can grow student independence, responsibility, and activeness, followed by (49.4%) good, and 2.3% very bad. The high very bad response, 2.3% of students, should be a serious concern for lecturers and universities to evaluate the learning process. The student response shows that many students were not fully able to achieve the indicators in active learning. Students only do assignments by sending them to the lecturer and listening to the material given by the lecturer. During the discussion session, only a few students were able to carry out the discussion, such as expressing opinions, refuting questions or answers from friends, respecting friends' opinions, and being polite in speaking. Rarely did students ask questions related to the material being discussed, both to the lecturer and their friends. Yet, they did other activities instead (multitasking).

Figure 7 provides an overview of the culture of some Indonesian students, where their learning motivation is more dependent on the teacher. Moreover, not all subject matter can be applied to e-learning, such as material that requires practice and direct guidance from a teacher. Since independence has not been fully formed in students, the adoption of e-learning in Indonesian society still needs adjustment to the learning culture of the community. Such conditions can be said that cultural transformation has not occurred in online learning (Prawiradilaga, 2016).

Ability to Improve Group Collaboration between Students

Collaboration skill is the ability to work together effectively and show respect for diverse teams, practice fluency at work, and the willingness to make the decisions needed to achieve common goals (Scoular et al., 2020). The process of working on assignments followed by presentations and discussions has made students able to express opinions and ideas to others and

respect the opinions of others. This is what distinguishes students from students in online learning. For this reason, lecturers can already create good online collaborative learning. Online collaborative learning is a virtual approach to education that promotes active learning and problem-solving by facilitating communication and collaboration among learners through online tools like discussion forums, chat rooms, video conferencing, and collaborative document editing.

Based on Figure 8, in terms of the ability of lecturers to increase cooperation in making assignments and discussions on good criteria of (50.3%), very good criteria of (15.6%), and 26% moderate. This is evidence that the implementation of RPS by lecturers in learning had been able to increase group collaboration among students.
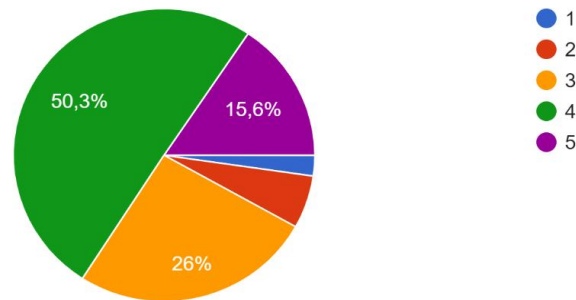

Figure 8. Lecturer's Ability in Creating Collaboration

Cooperation skills support the current development of education, namely the four 21st-century skills that must be mastered by students including; critical thinking, creativity, communication, and collaboration. Collaboration skills have an important role in supporting the success of a student. These skills become supporters when pursuing a career in social life.

Delivery of Materials Using Contextual Problems

The achievement of learning competencies might go well by providing real experience to students. Through real experience, students can come into direct contact with the substance they are learning. The ability of lecturers in realizing student skills to solve contextual problems can be seen in the image below.
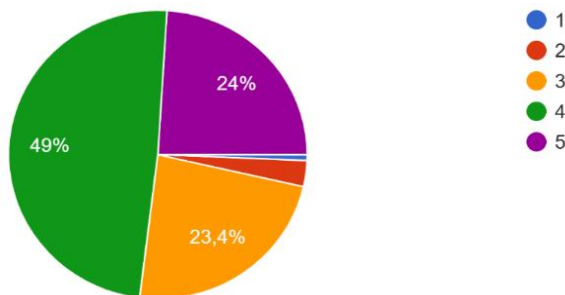

Figure 9. Contextual Learning

Figure 9 shows that the learning materials had been able to grow students' abilities in solving real problems that exist in the community, receiving a student response of (24%) very good, (49%) good, and (23.4%) moderate. This finding supports Kassen's opinion (Klassen, 2006) that contextual learning will strengthen and apply student knowledge in the real world which emphasizes critical thinking, gathering, analyzing, and interpreting information from various sources and perspectives.

Improving Critical Thinking Skills during the Learning Process

Lecturers are important pillars of higher education in facing the digitalization era. Therefore to make students competitive and ready to compete in the industry 4.0 era, lecturers who have strong core competencies, soft skills, critical thinking, creativity, communication, and

collaboration with students are needed. Student perceptions of e-learning in improving critical thinking skills can be seen in the image below.
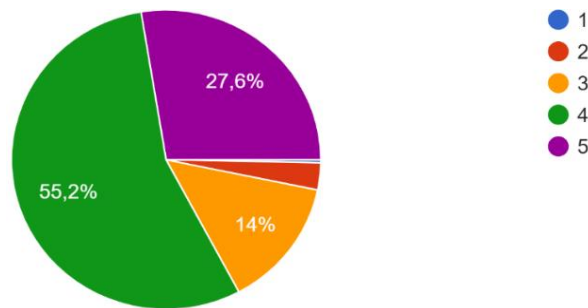

Figure 10. Lectures Improve Critical Thinking

Figure 10 shows that the lectures attended by students were considered capable of growing critical thinking activities. The materials, assignments, and quizzes given by the lecturers based on Figure 10 show that (27.6%) are very good, (56.2%) are good, and (14%) are moderate. To conclude, lecturers had good abilities in increasing students' critical thinking activities during the Covid-19 pandemic. Materials, assignments, and quizzes were not only tasks to fill in face-to-face vacancies but also stimulated students to do critical thinking activities.

Contextual learning that had been practiced by lecturers as described in Figure 9, was able to encourage students to use real condition problems as a context to learn about critical thinking and problem-solving skills, as well as to acquire essential knowledge and concepts from learning materials. The role of lecturers as facilitators and student learning partners was very visible. Thus, they were able to stimulate and present thinking situations for students on authentic problems from a material through the application of concepts and facts.

Lecturer's Ability to Manage Discussion

Discussion is an interaction between students and educators, to analyze, explore, and solve certain problems. The discussion method can make student interaction higher to gain complete knowledge of the tasks made and present them (Schellens & Valcke, 2005). Student responses about the ability of lecturers in learning with the discussion method can be seen in the figure below.
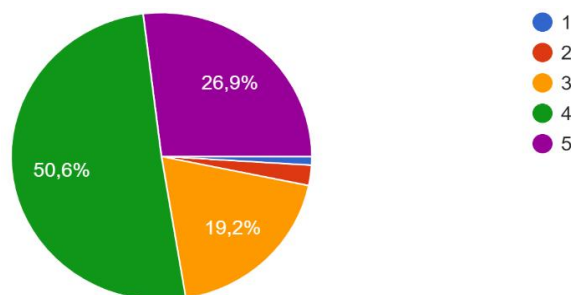
Figure 11. Lecturer's Ability to Manage Discussion

Figure 11 shows that the lecturer's ability to manage discussions got various responses from the students such as (26.9%) very good, (50.6%) good, (19.2%) moderate, and 2.3% poor. This is because online media did facilitate the communication process, but managing discussions for 30 students required effort besides limited internet data and access from each individual. However, on average, the ability of lecturers was given a good response by students.

Discussion

The research aims to evaluate online learning by focusing on e-learning learning policies at tertiary institutions in Indonesia and how the effectiveness of online learning on learning outcomes. The LMS development policy in the four tertiary institutions has been based on several important considerations. (1) LMS adoption is based on students' needs to learn independently. (2) instructional design has considered aspects of course content and learning unit analysis, learner analysis, learning context analysis, instructional analysis, stated instructional objectives, and selected instructional strategies. (3) the development of e-learning has followed the development of ICT facilities. (4) Prototypes of teaching materials and instructional designs that are continually evaluated continuously. (5) The development of e-learning is carried out by following the development of ICT facilities and prototypes of teaching materials and instructional designs, which are continuously evaluated irrationally. (6) Complete prototype implementation can be transferred to a computer using HTML format.

An online survey of 308 students at IAIN Ponorogo, UIN Surakarta, UIN Malang, and UIN Samarinda showed that there were many variations of the media used, namely Google Classroom of 68.5%, and e-learning of 60.1%. The development of the LMS has proven effective for student learning outcomes. At the same time, the effectiveness measurement can be seen from two categories: the quality of the implementation of the lesson plans and the effectiveness of e-learning learning. This means that if student responses to the implementation of lesson plans in online learning show something positive, then the lesson plans can be of high quality. The quality of the lesson plans was indicated by the student's response to the learning experience, final abilities, methods, and references/learning resources. The lesson plans compiled by the lecturers have been able to describe procedures systematically in organizing student learning experiences. So that students as an association already have an idea of the material to be discussed. Structured and measurable assignments have reduced the negative impact of e-learning because lecturers cannot supervise students all the time, especially for students who use facilities outside the campus. The lesson plans that had been prepared by the lecturers have met the characteristics of flexibility and focus. Flexibility in this sense means meeting the various needs and learning styles of students. Lesson plans have helped students focus on achieving particular/exceptional learning outcomes and achievements. With flexibility, most of the benefits of a learning contract are obtained. Meanwhile, with focus, students can quickly retain their way.

Based on all the indicators used in measuring the effectiveness of online learning, students give very positive, moderate or excellent responses. E-learning has made students active, independent, creative, responsible and think critically. E-learning has led students to learning objectives, collaborative learning, contextual learning, and providing students with good and excellent discussion skills. These results provide an understanding that the adoption of e-learning in LMS carried out by four universities in Indonesia has fully helped learning outcomes. Despite the presence of relatively new IT, unstable internet access, limited infrastructure, and cultural differences. E-learning has been accepted as a learning system in Indonesia and has made it easier for lecturers to overcome the limitations of learning infrastructure during the pandemic. These findings are Fitzgerald's opinion, which says that several factors influence the success of e-learning, content quality, instructional design, technology, support from all parties, and motivation (Fitzgerald et al., 2021). These factors distinguish e-learning from distance learning, where e-learning in terms of content is presented interactively, such as videos, animations, and simulations. Meanwhile, distance learning usually uses content that is presented in a linear manner, such as text, images, and documents.

Conclusion

The e-learning learning policy in the developed LMS is by the needs and contains independent learning for students. The learning achievements in this study were seen from the quality and implementation of RPS through e-learning. The quality of lesson plans is indicated by student responses to learning experiences, final abilities, methods, and learning references/resources, receiving positive student responses on average good and very good. E-

learning has been able to make students active, independent, creative, responsible, and think critically, and has led students to learning objectives, collaborative learning, and contextual learning and provided students with good and excellent discussion skills, although not the majority of respondents. These results confirm that adopting e-learning in LMS has become an integral part of the education system in Indonesia in increasing access to high-quality education for students. E-learning has been accepted as a technical, organizational, and cultural learning system.

Limitations

Quantitative survey research was limited to 308 students from the Tarbiyah and Teacher Training Faculty of IAIN Ponorogo, UIN Surakarta, UIN Malang, and UIN Samarinda East Kalimantan in Indonesia. This study could not reach a more significant sample capable of producing more detailed information about the subject. However, this research has helped develop effective learning strategies using e-learning technology and enhance the learning experience. For this reason, further research with different designs can explain different aspects of the research focus to contribute to better online learning practices.

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