

## Conference Paper

# The Effectiveness of Online Learning Model Implementation

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**ORCID:**Ali Muhtadi: <http://orcid.org/0000-0002-3725-7657>**Abstract**

The study from home policy was implemented to reduce crowds as an effort to suppress the spread of Covid-19. All levels of education were asked to learn from home, guided and facilitated by educators and educational institutions. Ideally, the learning process should run smoothly even though learning activities are carried out online. However, the shift in learning modes from face-to-face to online has created many learning problems. This study aimed to assess the effectiveness of the implementation of online learning models in Indonesia. This was a descriptive study and a quantitative approach was used. Data were collected online using a questionnaire. Data were analyzed interactively through three components of analysis, namely data reduction, data presentation, and drawing conclusions or verification. Based on the results, it was found that the implementation of online learning was effective. 100% of the lecturers implemented online learning using LMS, of which 86.67% were skilled at using the LMS platform in carrying out online learning. The lecturers used various strategies to organize learning, including integrating cognitive materials in core activities to improve student preparation, involvement and independence in online learning activities. In addition, 50% of the lecturers have conducted student satisfaction surveys on online learning.

**Keywords:** effectiveness, learning model, online learning

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## 1. Introduction

The Covid-19 pandemic effect has been seen on various sectors of life, including in the educational field. One of the policies issued by the Government of Indonesia, through the local government, is learning from home policy. This policy was allegedly effective in reducing crowds and as an effort to suppress the spread of the virus. Students from all levels are asked to learn from home guided and facilitated by educators and school institutions. Ideally the learning process should run smoothly even though learning activities are carried out online. However, the switching of the learning mode from face to face to online has caused many learning problems, Fajaruddin [7] identified some of these learning problems, including: the learning atmosphere at home is different from

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at school which causes students to feel lazy to learn, because they are impressed at home. more relaxed without the physical presence of the teacher; The teacher's lack of understanding of the essence of online learning so that the teacher only registers students with a large number of questions every day, and many teachers are digital immigrants who have limitations using e-learning applications for learning purposes. Dwi, et al [4] also disclosed other problems related to the technical constraints of implementing online learning, namely inadequate gadgets and internet quota.

Based on the preliminary studies that have been carried out, the main obstacle that is seen from the student side apart from the limited data quota is the use of various online learning applications/platforms by the lecturers. Students have a number of credits that must be completed in one semester. Therefore, students must try to adapt to the online learning mode applied by each lecturer. Meanwhile, from the lecturer side, with the implementation of "work from home" the workload becomes heavier, on the one hand one has to carry out its role as a teacher and on the other hand must carry out its function as a family member, which is done at home. Another burden is that lecturers are also required to be adaptive in making changes to learning patterns which previously were mostly done in person and nowadays they are required to be entirely carried out online which is not necessarily ready. This readiness is mainly in terms of knowledge and skills using online learning applications and online learning design.

In fact, online learning is seen as an innovative approach to be used as a good media design, user-centered, interactive and as a learning environment that has various conveniences for anyone, anywhere and anytime. Online learning is a part of electronic learning or what is commonly called e-learning, which currently combines the two terms into one and has a meaning that distance learning is carried out in the internet network. Horton [10] defines online learning or e-learning as any use or use of the internet and the web to create learning experiences. Online learning itself has advantages including learning that can be done flexibly and supports independent learning. Soekartawati [11] explained some of the advantages of online learning, including the e-moderating facility, structured learning, easy peer-review implementation, distance efficiency, and direct access to learning resources. However, what needs to be noted is how the learning design, implementation, and learning evaluation from online learning are implemented by each lecturer? Has it been referring to the principles of educational technology? Is it true that online learning that is applied is really carried out by the rules of the online learning model that facilitates learning? Does the online learning model that is applied accommodate the characteristics of the material and students? This study aimed to find the effectiveness of the implementation of online learning models in Indonesia. These

are the things that need to be a concern and need to be known so that later a pattern can be formulated for the application of an applicable online learning model and look for patterns for implementing the right online learning model to be applied in learning effectively and efficiently.

## 2. Related Works/Literature Review

Haughey and Anderson [13] states that there are three models in the development of online-based learning, namely the web course model, web centric course, and web enhanced course. Web course model uses internet for all learning purposes, it means there are no face-to-face learning. All teaching materials, discussions, assignments, exercises, evaluations and other learning activities are fully conveyed via the internet. This model also called full online learning model. The web-centric course model uses internet only for distance learning purposes. Some of the material is delivered via the internet and some through face-to-face with complementary functions. This model also called blended learning model. The web enhanced course model uses the internet to support the improvement of the quality of learning carried out in class. It also called web facilitated model.

Ramsay (2001) in [2] states that there are three stages of activities in online model learning which refer to ICT-based learning, namely (1) Seeking information, searching for information from various sources of information available online and offline based on relevance, validity, reliability content and academic clarity. Educators or facilitators play a role in providing input for students to find effective and efficient information. (2) Acquisition of information, students individually or in cooperative-collaborative groups attempt to find, understand, and confront them with ideas or ideas that already exist in the minds of students, then interpret the information / knowledge from various available sources, until they able to re-communicate and interpret ideas and interpretations using facilities; (3) Synthesizing of knowledge constructs / reconstructs knowledge through a process of assimilation and accommodation starting from the results of analysis, discussion and formulation of conclusions from the information obtained.

The process of learning activities for the three online-based learning models is the same, which consists of opening activities, core activities and closing activities. It's just that what distinguishes the three models according to Allen (2007) in [1] is the percentage of content delivered online and face-to-face. According to Allen, if the proportion of content sent online is around 29%, it is included in the web facilitated learning category, if the content is delivered online, about 30 to 79% includes blended learning and if more

than 80% of the content is given online it is included in full online learning. The online model of learning activities based on the three stages of seeking information, acquisition of information and synthesizing of knowledge in the process of opening, core and closing learning activities are as follows: (1) In the initial activities, learning activities are carried out with offline and online activities, namely the educator gives apperception in the form of related explanations material to be studied and provide motivation through questions to students regarding the material. The educator's explanation also includes the contents of the syllabus and activity lesson plans (Seeking information). (2) On core activities. Activities carried out offline or online or collaborative offline are combined with online depending on the type of online learning model that is applied. In the core activities the activities include elaboration, exploration and confirmation activities such as seeking information, question and answer, discussion, presentation, assignments both groups and independently (seeking information, acquisition of information and synthesizing of knowledge). (3) In closing activities, activities can be carried out offline or online. Students and educators conclude learning outcomes and convey conclusions in front of the class or by uploading conclusions via webpages / blogs / WA / other online learning applications (Synthesizing of knowledge).

Online learning is a challenge for educators who force them to master online learning media to carry out learning activities and are expected to be able to be creative in the learning process so that learning objectives can be achieved optimally [3]. When learning activities take place, it is necessary to pay attention to effectiveness, in other words, the level of success achieved. The characteristics of the effectiveness of the learning program are successfully delivering students to achieve predetermined instructional goals, providing attractive learning experiences, involving students actively so as to support the achievement of instructional goals and having the means to support the teaching and learning process [12]. The effectiveness of online learning is not only seen from student learning outcomes, but also must be seen in terms of the learning process. The effectiveness of online-based learning can be identified through behaviors, namely learners or educators and learners or learners who are effective in the classroom, and also most of the environmental context in which the learning process takes place. These learner behaviors are referred to as general behaviors, which include such as learning speed, feedback, and example. Dwi et al. [4] explained that preparation before providing learning services is one of the critical factors in learning success, especially in online learning where there is a distance between educators and students. In the online learning environment, educators have more responsibility

in designing. The materials needed by educators must be prepared in advance before being presented for study by students.

In online learning, educators must know the principles of learning and how students learn because online learning is not all suitable for students because each student has different learning styles, in general the learning styles are visual audio and kinesthetic. Students who tend to learn visually are more receptive to learning by seeing or observing first before learning new things. Students whose learning style is auditory must first listen to explanations to easily understand learning. While students with a kinesthetic learning style always want to move and are more interested in finding their own without having to always read [8]. So that teachers need to choose the right online learning strategy. One of the reasons for choosing a learning strategy is to promote meaningful learning, because according to Rovai [4] learning delivery tools are not a determining factor for the quality of learning but rather the learning design that determines the effectiveness of learning. The effectiveness of online learning is also influenced by the ability of educators to carry out management activities. There are at least three activities carried out by educators in managing online learning, namely time management, class management and learning management [6]. The maximum online learning system can only be done by educators who have a clear vision of learning and are able to form inner bonds with students by carrying out their roles as motivators, facilitators, mediators and communicators.

Online learning cannot run optimally because of limitations in communicating, interacting and creating both due to internet access networks and other obstacles so that students are required to be able to adapt to new things [7]. In addition, students must understand the goals (what) are expected of them with regard to the various responses to the stimuli they face. Learning will be more effective if students can be actively involved. Morison, Ross, & Kemp (in [11]) state that learning can increase when students are actively involved in the learning process. If students or learners are actively involved in learning, where students can access and manage their own presentation materials, they will be more interested in what is being learned. Thus, it is considered very important to develop a design that involves students actively in the learning process, besides that the learning process itself must be organized in a clear and systematic manner. This study looks at the effectiveness of the application of online learning models in Indonesia. These are the things that need to be a concern and need to be known so that later a pattern can be formulated for the application of an applicable online learning model and look for patterns for implementing the right online learning model to be applied in learning effectively and efficiently.

## 3. Material & Methodology

### 3.1. Data

The data was collected online using a survey method. The instrument is in the form of closed and semi-open questionnaires regarding the effectiveness of the implementation of the online learning model. The focus of the instrument is the learning design, the stages of applying the model, and the evaluation carried out during online learning. Instrument validation was carried out using expert judgment to ensure that the instruments used were valid for extracting data. The validation process begins with the preparation of instruments by the researcher as many as 50 items, consisting of 10 items regarding respondent characteristics, 10 items related to online learning design, 15 related to the application of online learning models, and 15 items related to online learning evaluation. Furthermore, the instrument that has been prepared is then presented in a seminar to ask for consideration from people who have an educational background and whose works are considered to understand the relevant aspects of the instrument. This consideration is intended as a form of content validation, which is to provide rational judgment or professional judgment regarding the suitability of the question item provided with the area of the object to be explored or the extent to which the content reflects the characteristics of the attribute to be measured. Besides having to cover the content area of the object to be measured, the question items must also be relevant and not outside the boundaries of the measurement objective. The judges work independently, then the score / scale is determined based on the highest agreement among the judges. From the seminars and judges' considerations, 30 question items were generated, consisting of 5 items regarding respondent characteristics, 8 items related to online learning design, 9 related to the application of online learning models, and 8 items related to online learning evaluation. The valid instruments were distributed to 100 lecturers from major universities in Indonesia, who were considered to have owned and used a qualified Learning Management System, and were responded to by 30 lecturers.

### 3.2. Method

This research is a descriptive study with a quantitative approach. This study explores qualitative information through a comprehensive and meaningful analysis of the issues raised. The hermeneutic approach through systemic studies is used as a strategy

to determine the trend of symptoms found in the field, both quantitative and qualitative, regarding the patterns of implementing online learning models by looking at the coherence of quantitative and qualitative data related to the patterns of implementing online learning models. The interactive analysis has three three components of analysis, namely data reduction, data presentation, and drawing conclusions or verification. The process of data reduction is carried out by simplifying and transforming it by strictly selecting respondents' answers, summarizing them, classifying them into broader patterns and so on until a pattern is formed that describes the characteristics of the data. Meanwhile, the presentation of data is carried out based on the classification of patterns that have been prepared, which is followed by drawing conclusions or verification.

## 4. Results and Discussion

### 4.1. Results

#### 4.1.1. Sample Characteristics

Among the 100 copies of valid Instrument distributed, 30 of them were filled in and returned by respondents, which was then analyzed. It was found that respondents came from several provinces in Indonesia, namely, North Sumatra (3.33%), Riau (3.33%), Yogyakarta (60%), Central Java (3.33%), East Java (10%), South Kalimantan (3.33%), South Sulawesi (3.33%), Bangka Belitung Islands (3.33%), East Nusa Tenggara (6.67%) and Papua (3.33%) (see Figure 2).

Among the 30 respondents, 47% were women while 53% were men (see Figure 1), with an age range from 29 years to 49 years as shown in Figure 3. The largest percentage of age was 29-31 years, namely 30%, 32-34 years as much as 26.67%, and 35-37 years as much as 16.67%.

In addition, it was found that 37% of respondents have just started teaching online since the Covid-19 pandemic, 30% of respondents have 2-3 years of teaching experience, and 33% have taught online for more than 3 years. Meanwhile, the types of subjects taught are practical subjects (26.67%) and theory courses (73.33%). This data shows that the respondents are on average productive age and have online teaching experience, have had good experiences in teaching online, and have carried out initial activities, core activities and closing activities during the online learning process. Thus, the characteristics of the respondents were correct and were able to answer the

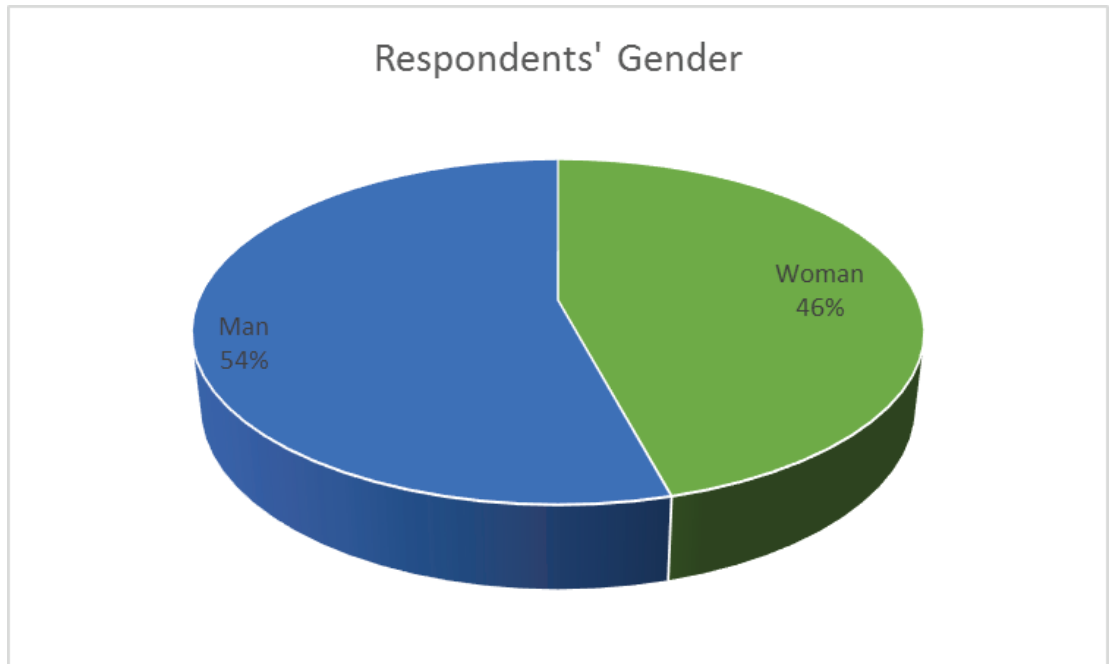


Figure 1: Respondents' gender

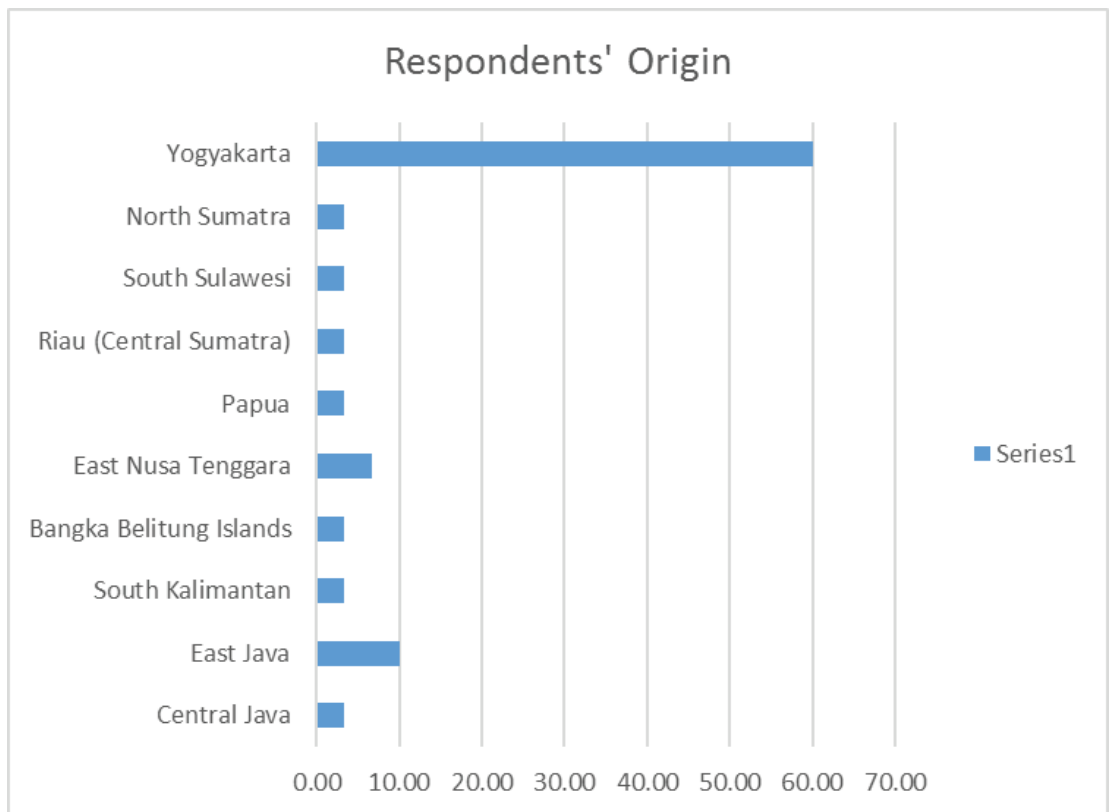


Figure 2: Respondents'origin

questions provided regarding the effectiveness of implementing the online learning model.



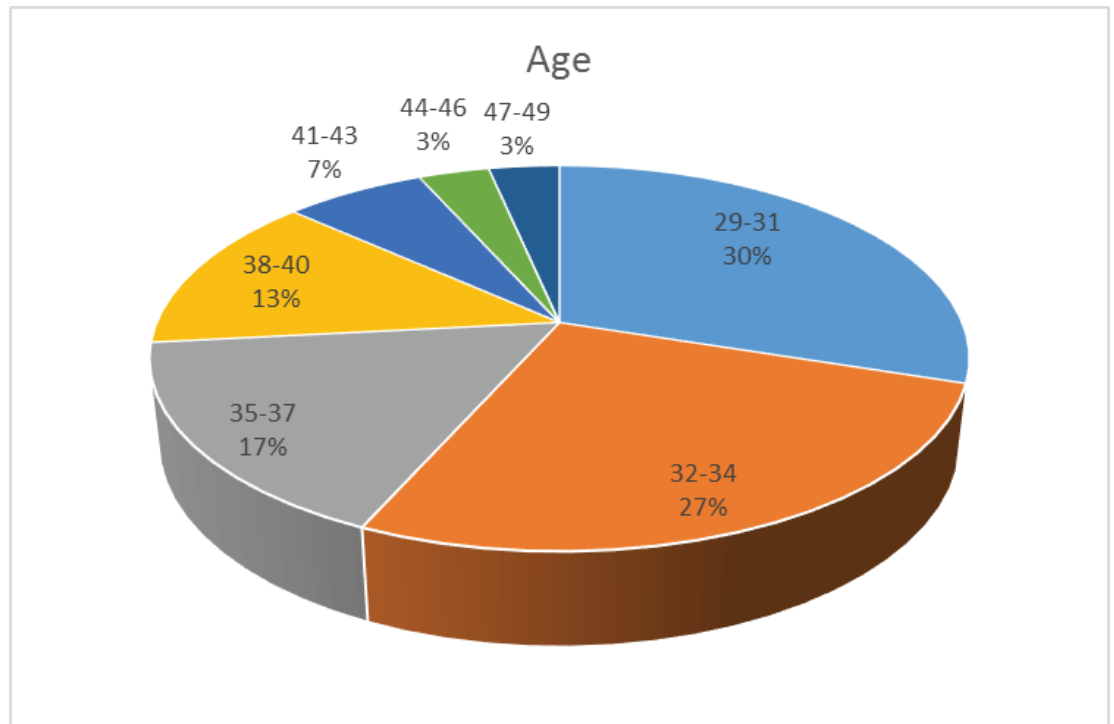


Figure 3: Respondents' age

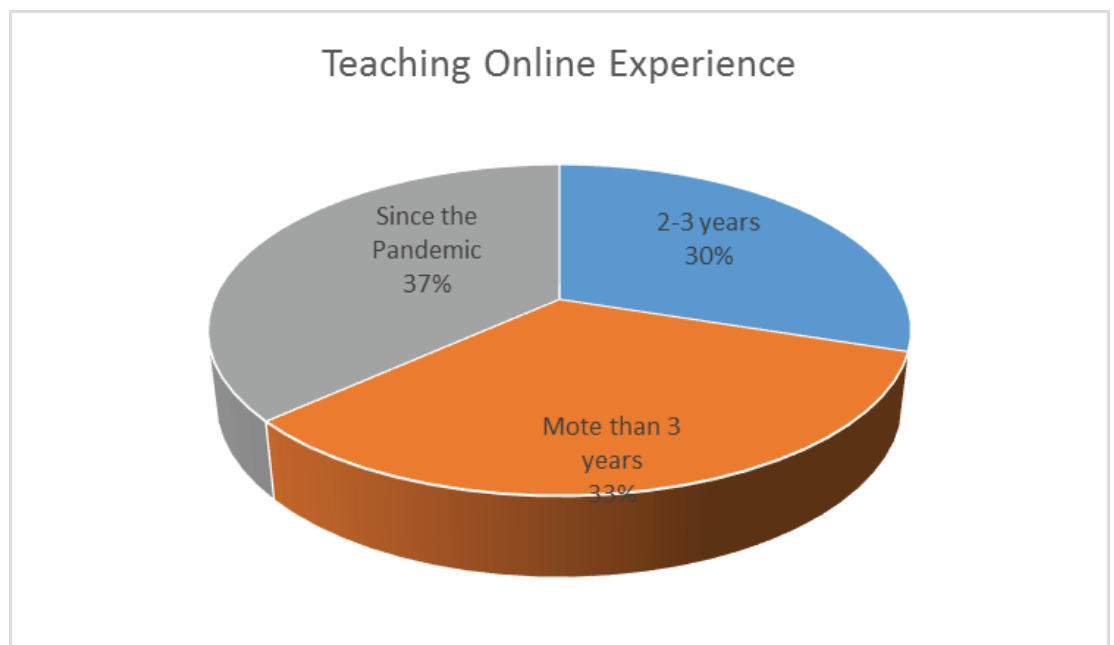


Figure 4: Respondents' teaching online experience

#### 4.1.2. Respondents' Skills in Applying the Online Learning Model

Based on the results of data analysis, it was found that all respondents (100%) had used the LMS (Learning Management System) platform in carrying out online lectures, namely 66.67% of Moodle Platform users, 23.33% Google Classroom users, 6.67% Edmodo

users, and 3.33% Edlink users (see Figure 5), where around 86.67% of respondents are skilled and have no difficulty using the LMS, while around 13.33% still have difficulty using the LMS.

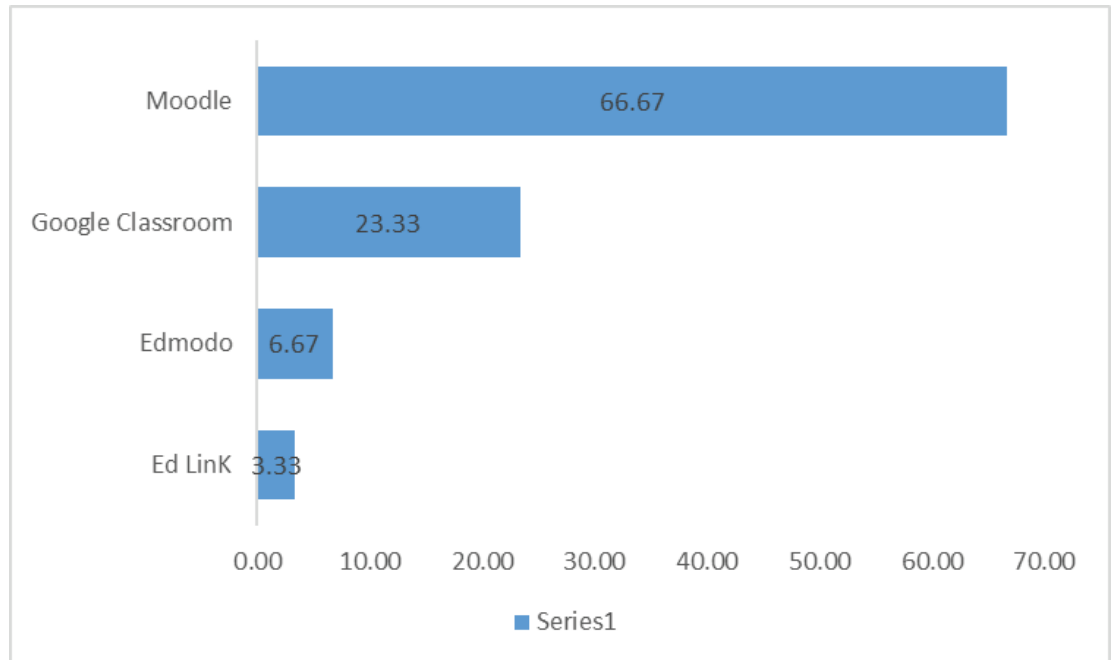


Figure 5: LMS platform usage

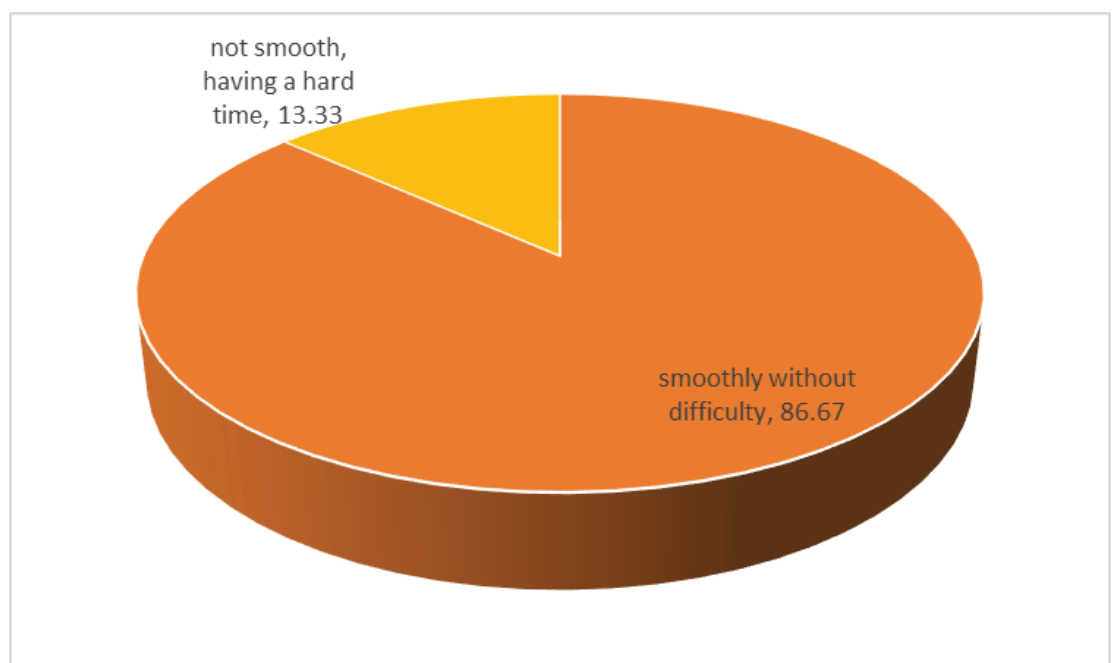


Figure 6: Respondents' skill in using the LMS

Another finding was around 96.67% of respondents stated that they were fully supported by the university in organizing online learning, namely providing an online learning system, LMS platform and training on how to use it, internet quotas, and supporting platform for video conferencing. This data illustrates that the average respondent is ready and skilled in applying the online learning model.

### 4.1.3. Student Readiness, Involvement and Independence in Online Learning

Based on the results of data analysis, it was found that around 50% of respondents stated that more than 85% of students were ready to learn using the platform chosen by the respondents as the main capital for online learning, around 43.33% of them stated that 50-85% of students were ready while 6.67% stated that less than 50% students who are ready to learn using the LMS chosen by the respondent concerned. This means that the average student is ready to learn using the platform chosen by the respondent.

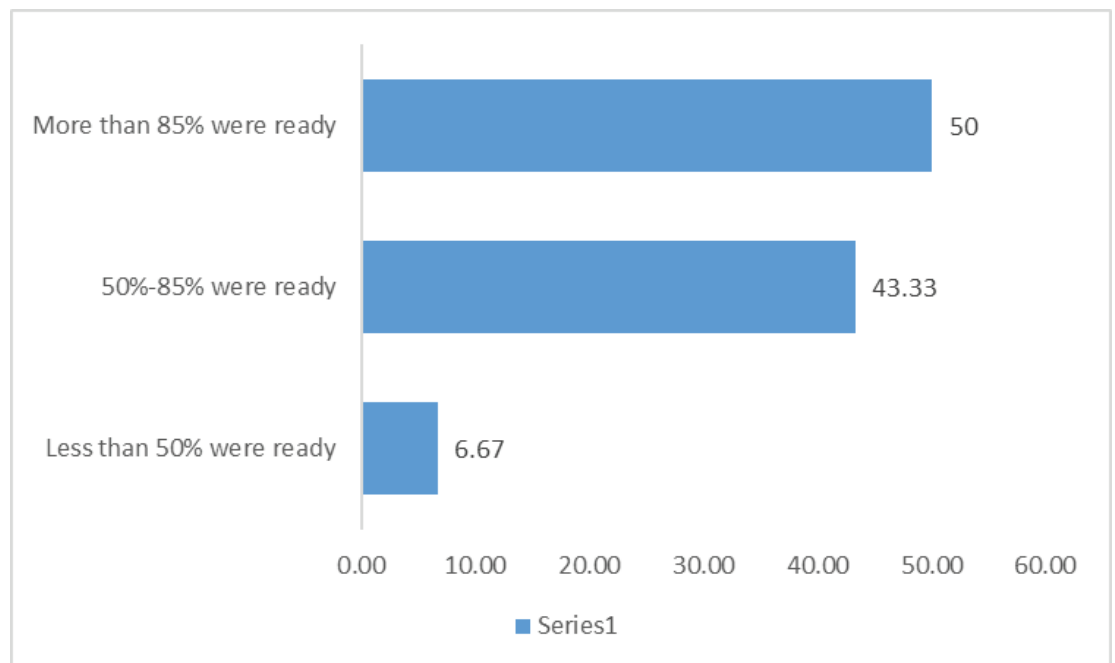
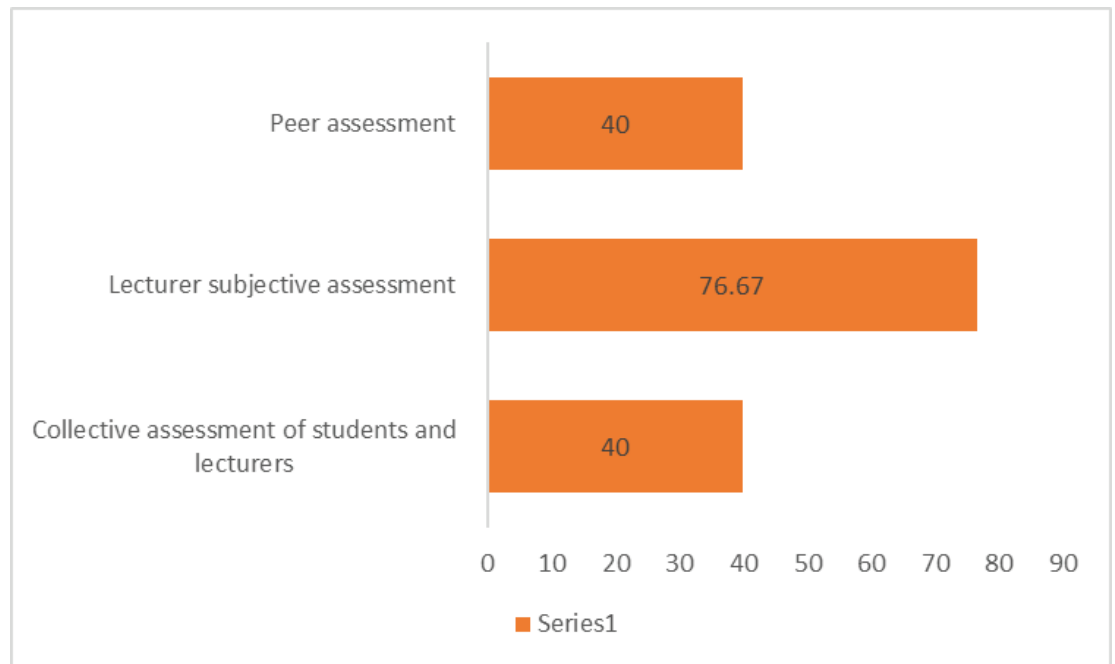


Figure 7: Students' readiness to learn using LMS

In order to provoke student activity and maximize student involvement in online learning, respondents used video conferencing (96.67%), Independent Assignments (100%), group assignments (86.67%), asynchronous and synchronous discussions (76.67%), quizzes (73.33%) and surveys (36.67%). Meanwhile, in terms of student learning independence in carrying out online lectures with the platform / tool chosen by lecturers, 10% of them stated that students were very independent, 33.33% were independent,



**Figure 8:** The type of assessment applied to assess students' learning outcomes

and 56.67% were quite independent. Respondents used various strategies to help students learn well in cognitive online materials, including holding video conferences (synchronous), initiating independent study before lectures, providing video tutorials, giving assignments, and holding discussions. As for online material that is affective in nature, respondents applied several strategies, namely, providing learning videos, group assignments, holding virtual face-to-face learning, implementing project-based learning, independent assignments and motivation. In addition, to help students learn well in online material that is the respondent's skills in implementing several strategies, namely providing video tutorials, implementing project-based learning, preparing technical guides and online training practicums.

#### 4.1.4. Students' Achievement

Based on the results of the data analysis, it was found that respondents applied three types of assessment in assessing student learning outcomes, namely the subjective assessment of lecturers (76.67%), student and lecturer collective assessments (40%), and peer assessments (40%) (see Figure 8). The aspects assessed include cognitive, affective and psychomotor. Students have succeeded in achieving the target of learning outcomes in online lectures on formative (90%) and summative (86.67%) evaluation. Of the 50% of respondents who have conducted a survey about the level of satisfaction of students learning online with the application / platform used by the respondents, the

result is that 53.33% are quite satisfied, 33.33% are satisfied, while those who are less satisfied are 13.33%.

In addition, 50% of respondents have conducted a survey to students regarding learning resources that make it easier for students to learn in online lecture mode, namely preferring virtual face-to-face (synchronous) rather than asynchronic, preferring video tutorials rather than ppt / pdf only, and technical guides supporting lectures rather than text books. So, according to the results of this study, the application of online learning has been effective, it is proven that 100% of lecturers have implemented online learning using LMS, where 86.67% of them are skilled at using the LMS platform in implementing online learning. Lecturers have used various strategies to organize learning both affective and cognitive materials in core activities to increase student preparation, involvement / activity and independence in online learning activities. In addition, 50% of lecturers have conducted student satisfaction surveys on online learning and surveys regarding learning resources that make it easier for students to learn online.

## 4.2. Discussion

Based on the results of this study, respondents are on average productive age and have online teaching experience, have had good experiences in teaching online, and have carried out initial activities, core activities and closing activities during the online learning process. Thus, the characteristics of the respondents are correct and are able to answer the questions provided regarding the effectiveness of implementing the online learning model. The online model of learning activities is based on three stages of seeking information, acquisition of information and synthesizing of knowledge in the process of learning opening, core and closing activities. Based on the results of this study, it was found that all respondents had used LMS in which 86.67% were skilled in using LMS and implemented the three activities (initial, core, and closing) properly during the online learning process. The initial activity of the lecture contract is carried out by conveying the achievements and learning strategies, the weight of the assessment, the lecture techniques and the lecture rules. In core activities, 100% of respondents used various strategies to help students learn well in cognitive online materials, including holding video conferences (synchronous), initiating independent study before lectures, providing video tutorials, giving assignments, and holding discussions. Meanwhile, for online material that is affective in nature, respondents applied several strategies, namely, providing videos, group assignments, holding virtual face-to-face learning, implementing project-based learning, independent assignments and motivation.

In addition, to help students learn well in online material that is the respondent's skills, they apply several strategies, namely providing video tutorials, implementing project-based learning, preparing technical guides and online training practicums. In the closing activity, respondents provide feedback on student learning outcomes. About 50% of respondents invited students to reflect by asking about their satisfaction regarding the online learning process with the platform used by lecturers, the result was 53.33% of students were quite satisfied, 33.33% were satisfied, while 13.33% were less satisfied. This means that around 86.67% of students are quite satisfied with online learning activities. These findings illustrate the characteristics of the effectiveness of the learning program in accordance with Rohmawati's opinion [12], namely that the learning process is successful if it is able to lead students to achieve predetermined instructional goals, provide an attractive learning experience, involve students actively. Thus, supporting the achievement of instructional goals and having the means that support the teaching and learning process. Good preparation before providing learning services is one of the determining factors in learning success, especially in online learning where there is a distance between educators and students. In the online learning environment, educators have more responsibility in designing. The materials needed by educators must be prepared in advance before being presented for study by students.

## 5. Conclusion

Based on the discussion, the application of online learning has been effective. It can be seen that 100% of the lecturers have implemented online learning using LMS, where 86.67% of them are skilled at using the LMS platform in implementing online learning. Lecturers have used various strategies to organize learning both affective and cognitive materials in core activities to increase student preparation, involvement / activity and independence in online learning activities. In addition, 50% of lecturers have conducted student satisfaction surveys on online learning and surveys on learning resources that make it easier for students to learn online. However, it should be noted that there are still around 50% of lecturers who carry out closing activities in online learning, so that it becomes input for institutions to pay more attention to the online learning system provided so that the achievement of learning objectives can be optimized even though learning must be carried out online.

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