



The effectiveness of online learning amidst covid-19 pandemic at postgraduate program of Universitas Kristen Indonesia

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Abstract

This study investigates the effectiveness of online learning amidst the covid-19 pandemic. It was done at the Postgraduate Program of Universitas Kristen Indonesia and conducted in the odd semester of the 2020/2021 academic year. This study was a quantitative descriptive study using a survey method conducted online. Data collection in this study was carried out by distributing questionnaires that consisted of 24 statements created on google form and submitted online to 148 respondents. The results of the study are that: a) student participation in online learning at the UKI Postgraduate Program is in a good category; b) the application used in online learning at UKI is dominated by the use of the Microsoft Teams application; c) the condition of network quality during online learning is at good category; d) the quality of the material provided by the lecturer during online learning is in a good category; e) the availability of discussion time between lecturers and students during online learning is at a poor category; and the last f) the opinion of respondents for the implementation of learning in the next semester, namely students are more likely to choose the teaching and learning process to be done through blended learning.

Keywords: online learning, covid-19 pandemic

Introduction

Since the pandemic outbreak caused by the Coronavirus in Indonesia in March 2020, the government has taken many ways to break the spread chain. Based on the Circular (SE) issued by the government on March 18, 2020, it is stated that to reduce the spread of the coronavirus, and all activities carried out indoors and outdoors in all sectors are temporarily postponed. On March 24, 2020, the Minister of Education and Culture of the Republic of Indonesia issued Circular Letter No. 4 of 2020 concerning the Implementation of Educational Policies in the Emergency Period for the Spread of COVID-19. In the Circular, it was explained that during the COVID-19 pandemic, the learning process was carried out in each other's homes. Through online/distance learning. Distance learning, or electronics learning, is a distance education concept that uses internet technology as a medium ^[1]. Learning that uses the internet network with accessibility, connectivity, flexibility, and the ability to bring up various learning interactions is also called online learning. The internet and multimedia technology can change delivering knowledge, which can be an alternative to learning done in traditional classrooms ^[2]. The implementation of online learning requires the support of mobile devices such as smartphones, tablets and laptops that can be used to access information independently anywhere and anytime without being hampered by space and time limits ^[3]. Mobile technology contributes to achieving distance learning goals in today's education world ^[4].

The implementation of online learning can also use various supporting media, such as Google Classroom, Edmodo, Schoology services used for virtual classes ^[5], and instant messaging applications for smartphones such as WhatsApp ^[6]. In online learning, adequate facilities and infrastructure are needed, such as laptops, computers, smartphones, and internet networks ^[7]. It can be an obstacle experienced by students, especially for underprivileged students in areas where most of the economy is still low because not all students have facilities that can support this online learning process. In addition, the obstacles that occur in online learning are financing which can overcome the limitations of hardware, software and, no less critical, internet accessibility ^[8]. It is what underlies the author to find out an overview of the effectiveness of online learning amidst the covid-19 pandemic. It was done at the Postgraduate Program of Universitas Kristen Indonesia.

Literature Review

Etymologically the word "effective" comes from the Latin word effective, which means creative, productive, or practical. It appeared in middle English between 1300 and 1400 AD. Effectiveness has an effect or effect caused, is effective, brings results and is the success of an effort or action. Effectiveness is a measure to say that a desired goal or target has been achieved ^[9]. Meanwhile, he continued, learning effectiveness measures the success of an interaction process between students and lecturers in educational situations to achieve learning objectives. The same thing is said that education is effective if the results follow the plans/programs made previously ^[10].

Learning outcomes can be said to be effective if there is a positive change in behaviour and the achievement of

the learning objectives that have been set ^[11]. Several aspects must be considered to realize effective learning, including a) Lecturers are required to be able to make systematic teaching preparations; b) Quality learning process with the delivery of material by lecturers using various variations in delivery; c) The time used in the learning process is effective; d) Lecturers and students have high motivation; e) Establish a good interactive relationship between lecturers and students ^[12].

Meanwhile, effective learning cannot be separated from the role of effective lecturers, adequate learning conditions, student involvement, and a supportive learning environment ^[13]. Several components of effective learning can be illustrated as follows: a) Learning will be effective if students integrate the knowledge or skills acquired in everyday life; b) Learning will be effective if students activate their previous knowledge; c) Learning Activation will be effective if students activate their previous knowledge; d) Learning Activation will be adequate if students activate their previous knowledge; e) Learning will be effective if students see a demonstration of the skills to be learned.

The effectiveness of teaching in a good learning interaction process is all the efforts made by lecturers to help students learn well ^[14]. To determine the effectiveness of teaching by giving tests because test results can be used to evaluate various aspects of the teaching process. Learning effectiveness measures the success of an interaction process between students and between students and lecturers in educational situations to achieve learning goals ^[15]. Learning effectiveness is practical, and purposeful learning allows students to learn specific skills, knowledge and attitudes with ease, fun, and learning objectives can be completed as expected ^[16]. From some of the explanations above, it can be concluded that the effectiveness of learning is learning that cannot be separated from quality activities in planning, implementation, and evaluation carried out by lecturers and will be a benchmark for lecturer success in the classroom. If it is associated with learning outcomes, learning can be effective if there are positive changes in students and include increased learning outcomes or following the established minimum completeness criteria provisions.

Learning strategies are used in learning activities with the objectives that have been designed, and the results obtained are learning effectiveness ^[17]. There are several indicators in measuring the effectiveness of learning, namely: a) Quality of Learning, which is how far the information is described so that students can learn it with a small error rate; b) The suitability of the level of learning, is the extent to which the lecturer brings students ready to learn new material; c) Incentives, is how much effort to motivate students to complete learning tasks and study the material provided; and d) Time, how much time is given to students to study the material presented. The effectiveness of learning is usually measured by the level of achievement of the learner ^[18]. Several essential aspects can be used to describe the effectiveness of learning, namely the accuracy of the mastery of the behaviour being studied, the speed of performance, the rate of transfer of learning, and the level of retention of what is learned. Learning effectiveness is carried out by involving students in organizing and finding information so that students' activeness in learning can impact learning success ^[19]. So it can be concluded that the effectiveness criteria used in this study are three aspects which include: a) the lecturer's ability to manage to learn well; b) student activities in learning are good; c) student learning outcomes are completed classically. Thus the requirements for the completeness aspect of learning are met.

"Learning" comes from the word "teaching", which means instructions given to people so that they are known or followed, while "learning" means the process, way of doing things to make people or living things learn. Learning is a set of actions designed to support the student learning process, considering the extreme events that play a role in the series of internal events experienced by students ^[20]. Learning is essentially a process of interaction between lecturers and students, direct interactions such as direct face-to-face activities and indirect interactions such as using various learning media ^[21].

Meanwhile, learning is everything that can bring information and knowledge to the ongoing interactions between educators and students ^[22]. Learning is also a permanent behaviour change resulting from repeated practice ^[23]. Learning means that the subject of learning must be taught, not taught. The subject of study in question is a student or learner who is the centre of learning activities. Students as subjects are also required to seek actively, determine, analyze, formulate, solve problems, and conclude a problem. The characteristics of learning are as follows: a) It is a conscious and deliberate effort; b) learning must make students learn; c) Objectives must be determined before the process is implemented; and d) The implementation is controlled in terms of content, time, process and results ^[24]. In supporting the learning process, there are three learning variables, namely, a) learning condition variables, indicating that learning conditions are the beginning of learning strategies to achieve learning outcomes; b) learning method variables, emphasizing the components of learning strategies, delivery and management of learning; and c) learning outcomes variables, which are more directed at learning models that are effective, efficient, and have attractiveness ^[25]. Meanwhile, the learning system consists of several components that interact with each other until effective interaction is obtained, including the presence of students, instructors, learning materials, and learning environments ^[26]. In other words, the component in learning is an effort to create conditions (external environment) conducive to the learning process (internal conditions) to occur in students. In other words, learning will be successful if students actively carry out the learning process themselves through interaction with learning resources and the environment. From the statement above, it can be concluded that learning is an information processing through an action that occurs between lecturers and students either directly or indirectly, one of which is by using learning media in the form of applications that are connected via the internet network. Learning will be closely related to learning outcomes, namely the output of the learning process that students have carried out as a reward to be received. Learning outcomes can be interpreted as changes experienced by themselves, both regarding cognitive, psychomotor, and affective aspects as a result of learning activities that have been carried out ^[27]. Learning outcomes are essentially behavioural changes resulting from the learning process marked by chan

ges in knowledge, skills, understanding and attitudes, including the realm of knowledge (cognitive), attitudes (affective) and skills. (psychomotor) [28]. Learning outcomes are changes in behaviour, not just one aspect of human potential. Furthermore, learning outcomes include skills, information, understanding, and attitudes. Thus, it can be said that the learning outcome is a change in overall behaviour, not just one aspect of human potential. As mentioned above, the learning outcomes categorized by education experts are not viewed separately but comprehensively. Learning outcomes are results that someone has achieved after carrying out learning activities, including cognitive, affective, and psychomotor aspects, which can be expressed by symbols, numbers, letters, and sentences that can reflect the quality of individual activities in a particular process [29]. Meanwhile, learning outcomes are the results of a person after they finish learning from several subjects, as evidenced by test results in the form of learning outcomes. Completing this study can be in the form of results in one sub-topic or in several subjects carried out in one test, which results from an earnest effort to achieve changes in student learning achievement, which are carried out with full responsibility.

By comparing the behaviour before and after learning, it can be determined how much learning a person achieves. From the description above, it can be concluded that learning outcomes are changes that occur in students both in the form of changes in behaviour, knowledge (cognitive), skills (psychomotor) and attitudes (affective). It can be measured through an evaluation process carried out by lecturers based on objectives. that have been determined and obtained learning outcomes in the form of numbers and values in following the teaching and learning process. Learning outcomes can be said to be successful if they have achieved the expected learning objectives, which the changes can see in students, both changes in knowledge and student behaviour. Learning outcome indicators consist of cognitive, affective, and psychomotor abilities [30].

Then, it can be concluded that measuring success in learning can be seen from the cognitive aspect (everything that involves brain activity), the affective aspect (related to attitudes and values) and the psychomotor aspect (skills). This study will focus on the cognitive aspect where students will be given an evaluation in the form of a written test or an oral question from the lecturer to determine the extent of students' understanding of the learning provided. This study will measure how much student economic learning outcomes improve after participating in the learning process. The indicators of learning outcomes are expected to achieve educational goals.

Online learning is a formal education organized by schools in which students and lecturers are in different locations so that they require an interactive communication system to connect the two and the various resources needed in it [31]. This learning can be done anywhere and anytime, depending on the availability of the supporting tools. Online learning can be defined as a form of distance education in which the delivery of material is carried out via the internet synchronously or asynchronously. Online learning is usually known as e-learning, virtual learning, computer-mediated learning, web learning, and distance learning. This learning term implies that students and lecturers do not have to meet face-to-face in the learning process but can use digital technology media such as computers and androids that allow flexibility of access.

Online learning is a learning activity that is not bound by time, place, and the rhythm of the presence of lecturers or teachers and can use electronic and telecommunication media facilities [32]. Online learning or commonly known as online learning, is a learning mechanism that utilizes ICT, in this case, through the internet [33]. One of the advantages of using this technology is our flexibility in carrying out daily activities. If seen from the above definitions, it can be concluded that it is said that online learning is learning that can be done anywhere and anytime by only utilizing internet access, but this also means that this learning requires internet channels and computers or androids.

In online learning, lecturers are not limited by the rules in choosing and using online media. However, lecturers must refer to the principles of online learning that the government has determined. It means that the media used by lecturers can also be used by students so that communication in learning can be done well. Several online media are used in this research, including WhatsApp and Google Form.

Research Method

This study was a quantitative descriptive study using a survey method conducted online. Data collection in this study was carried out by distributing questionnaires that consisted of 24 statements created on google form and submitted online to 148 respondents. The 24 statements are divided into six categories: student participation in online learning, applications used during online learning, network quality, online learning implementation instructions, material quality, discussion time during learning, learning outcomes, and respondents' opinions regarding the implementation of online learning. Furthermore, the collected data is analyzed for description. The data on respondents who have filled out survey data are as follows.

Table 1: of Respondents of the Study

No	Study Program	Number of Students	The respondent of the study (20%)
1	Magister of Education Administration	90	58
2	Magister of Law	121	26
3	Magister of Christian Education Religion	70	24
4	Magister of Management	37	12
5	Magister of Electronical Technique	20	13
6	Magister of Architecture	20	15
	Total	358	148

Result and Discussion

The implementation of online learning requires an evaluation step to determine the level of achievement of the quality of education. The online learning conditions discussed in this study consist of student participation in online learning, applications used during online learning, network quality, online learning implementation instructions, material quality, discussion time during learning, learning outcomes, and respondents' opinions regarding the implementation of online learning in the following semester. A complete description will be elaborated as follows.

1. Students' participation in online learning

The description of students' participation during online classes is that 95.8% of the students took the online class well and thoughtfully, and 4.7% of the students did not take the online class well and thoughtfully. In this condition, students show good participation in the implementation of online learning and students who cannot participate in the online learning process are influenced by factors that technological facilities do not support, such as inadequate network constraints. Besides, conducive family conditions because sometimes they are disturbed by children and incompatibility work due to an impromptu meeting from the office.

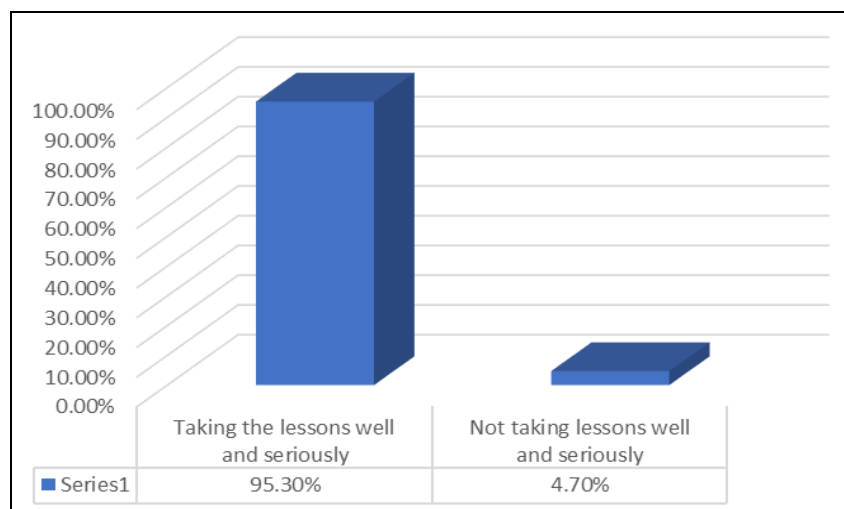


Fig 1: Students' Participation in Online Learning

2. Applications used in online learning

Online learning is given to students using several learning applications, such as Whatsapp, google classroom, zoom meeting, and Microsoft teams. In this condition, it can be seen that 95% of students use the Microsoft Teams application during online learning, while in second place is the WhatsApp application which is used as much as 5% in online learning, as well as the use of the zoom meeting application as much as 2% which is used during online learning and lastly, students do not have used the google classroom application in online learning. Several factors cause Microsoft Teams to be more popularly used, namely because UKI has collaborated with Microsoft companies in learning by making Microsoft Teams a partner in providing education at UKI during the Covid-19 pandemic. Then the WhatsApp application tends to be used when communicating with students related to classes and sending assignments and others. Moreover, the Zoom Meeting application is used if there is a problem with the Microsoft Teams application.

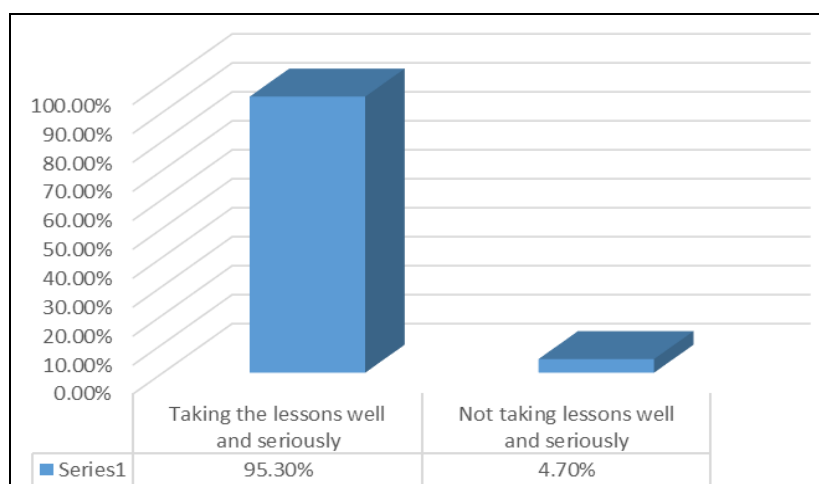


Fig 2: Online Learning Application Used

3. Network Quality during Online Learning

In the picture above, it is known that the quality of the network during online learning has various categories. 42.80% of the students said that the category of network quality during online learning is very good, 50.40% of the students said that the category of network quality during online learning is good, 10% of the students said that the category of network quality during online learning is rather good, and 4.20% of the students said that the category of network quality during online learning is at poor category. With such conditions, it can be concluded that the implementation of online learning is optimal; however, UKI still needs to make improvements so that the quality of the network in UKI needs to be improved to the highest stage.

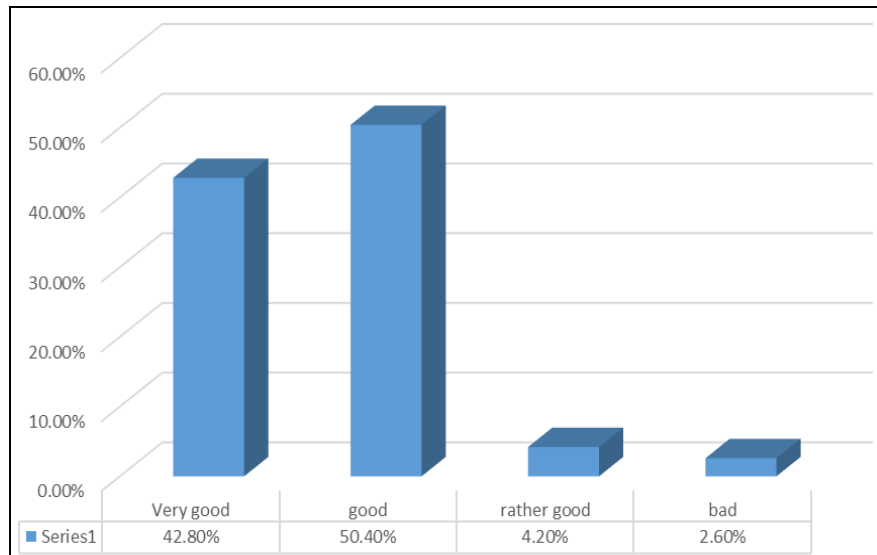


Fig 3: Signal Quality

4. Quality of material provided by lecturers during online learning

In the implementation of online learning during the COVID-19 pandemic, the quality of the material provided by the lecturer is one of the factors that can increase student learning motivation. Based on the data obtained, the quality of the material provided by the lecturer is in a good category but needs to be improved. Based on the figures, it is found that 36.20% of the students said the material quality provided by the lecturer was very good, 58.60% of the students said the material quality provided by the lecturer was good, 2.20% of the students said the material quality provided by the lecturer was rather good, 3.00% of the students said the material quality provided by the lecturer was poor. Thus, it can be said that the online learning materials provided by the lecturers already have good quality but still need improvement in the delivery of learning materials to the lecturers so that the quality of the material delivered can be even better. It is evidenced that some students are still not satisfied with the quality of the lecturer's material.

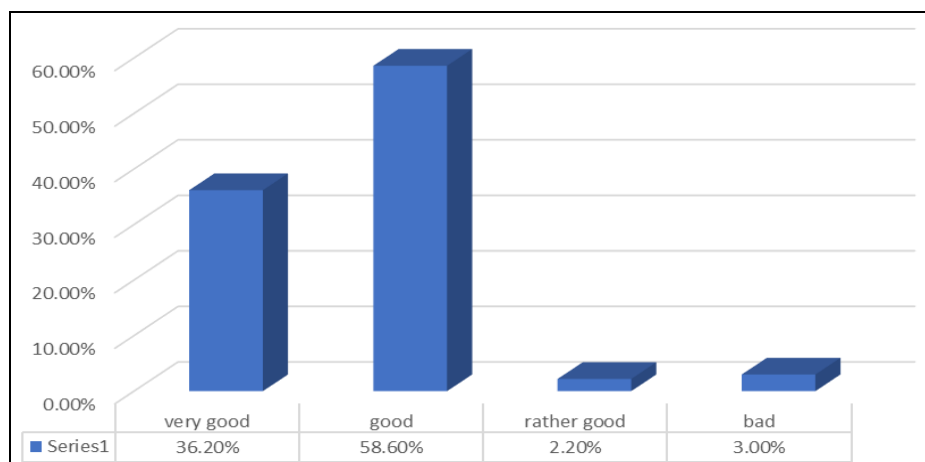


Fig 4: Learning Material Quality Given by Lecturers

5. Availability of discussion time between lecturers and students during online learning

Based on Figure 5, it is found that there is the availability of lesson discussion time used by lecturers during online learning. Students responded to the availability of material discussion time during learning, 21% of students said that lecturers are very available for discussion, 29% of students said that lecturers are available to

discuss with them, 27% of students said that lecturers are rather available to discuss with them, and 23% of students said that the lecturer is never available to discuss with them. With these results, we can conclude that during online learning, the provision of lecturer services to students is in the poor category, but researchers still give hope to lecturers who are less involved in this matter in order to provide full service so that the quality of learning does not decrease during this covid-19 pandemic.

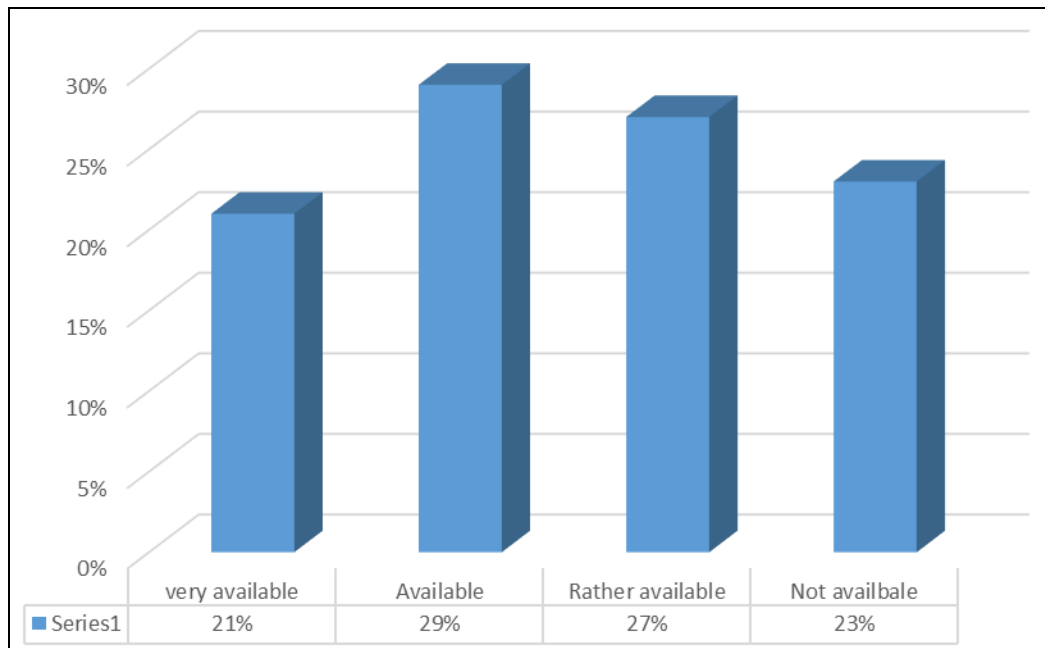


Fig 5: Discussion Time Provided by Lecturers

6. Students' opinions on the implementation of learning in the following semester

The implementation of learning during the COVID-19 pandemic has various responses. In this section, the researcher wants to get responses from respondents regarding the readiness to participate in the learning implementation in the following semester. Based on the data obtained, 25% of students said that in the next semester, they would prefer online classes to offline classes, 23% of students said that in the next semester, UKI would still implement online learning policies, and the remaining 27% of students said that the next semester should be better. UKI held a teaching and learning process with a blended learning model. From the data above, it can be concluded that if the social distancing implemented by the government has been completed, the teaching and learning process is expected to be 50% face-to-face in class, and 50% of meetings are conducted through independent projects (not face-to-face in class).

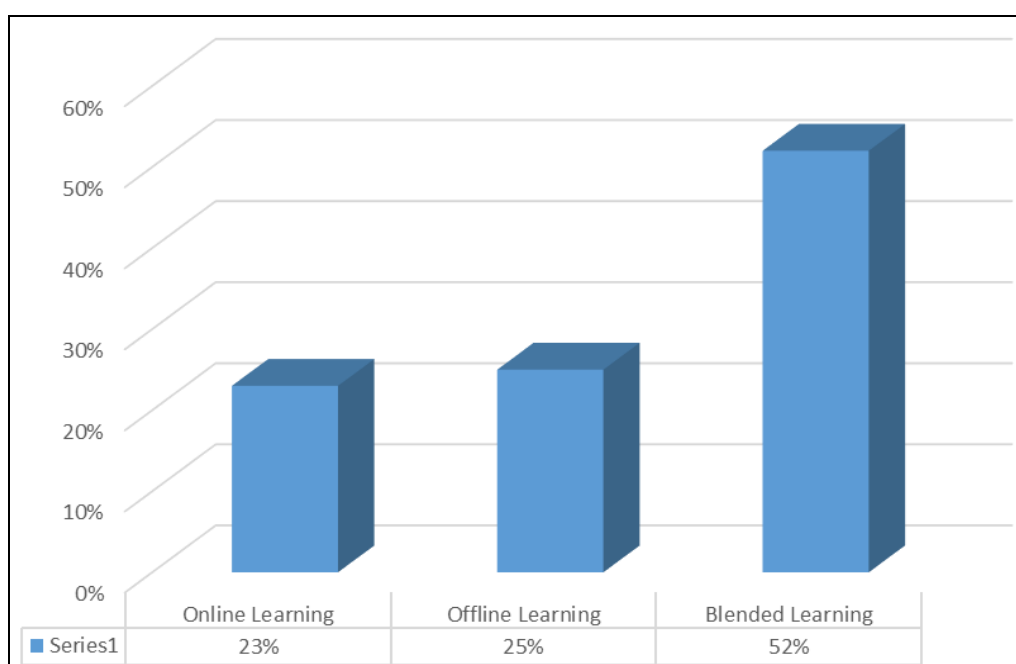


Fig 6: Learning Style Option for the Coming Semester

Conclusion

Based on the results of the analysis obtained by the researchers, it can be concluded that the evaluation of the implementation of online learning includes: a) student participation in online learning at the UKI Postgraduate Program is in the good category, because there are still network problems, either network in UKI or network for students. ; b) the application used in online learning at UKI is dominated by the use of the Microsoft Teams application, this is because UKI has subscribed to Microsoft as a partner in the implementation of online learning; c) the condition of network quality during online learning is optimal at UKI but improvements are still being made so that network quality is maintained correctly; d) the quality of the material provided by the lecturer during online learning is in the good category, but some lecturers still need to improve understanding and delivery of lecture material, so that their services in terms of the quality of lecture material are increasing; e) the availability of discussion time between lecturers and students during online learning is at the poor category, therefore UKI still continues to provide guidance to lecturers who do not provide services to their students; and the last one f) the opinion of respondents for the implementation of learning in the next semester, namely students are more likely to choose the teaching and learning process to be done through blended learning.

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