Kuram ve Uygulamada Eğitim Yönetimi
Educational Administration: Theory and Practice
2022, Cilt 28, Sayı 3, ss: 1-12
2022, Volume 28, Issue 3, pp: 1-12
www.kuey.net

Online Learning Applications for Students: Opportunities & Challenges

Agariadne Dwinggo Samala [1*], *Rizkayeni Marta* [2], *Sartika Anori* [3], *Yose Indarta* [4,5]

Article History

Article Submission
20 September 2022
Revised Submission
11 October 2022
Article Accepted
10 November 2022

Abstract

The purpose of this study is to discover: 1) how students respond to online learning during the COVID-19 pandemic, 2) what are the most popular online learning applications by students, and 3) the challenges and problems faced by students during the implementation of online learning. The research method used is a combination research method (mixed methods) is a research method between quantitative methods and qualitative methods to be used together in a research activity, to obtain more comprehensive, valid, reliable, and objective data. This study population comprised 1503 students from the Faculty of Engineering, Universitas Negeri Padang (FT-UNP). However, it turned out that many students stated that they did not like online learning because it was considered less fun, and the lecturer gave more assignments than usual. Although online learning has many advantages, online learning also has many challenges, including internet connection, lecturers' poor performance, students' poor independent study skills, technical issues with the use of technology, heavy tasks, low motivation, and an unsupportive environment. The conclusion of the study also shows that the online learning platform that students prefer is a platform that in addition to being able to support discussions.

Keywords: Online learning apps; Opportunities; Challenges; COVID-19; Education; E-learning

[1*] *Assistant Professor, Faculty of Engineering, Universitas Negeri Padang, Padang, Indonesia, agariadne@ft.unp.ac.id*
[2] *Assistant Professor , Faculty of Engineering, Universitas Negeri Padang, Padang, Indonesia, rizkayeni.marta@ft.unp.ac.id*
[3] *Assistant Professor, Faculty of Engineering, Universitas Negeri Padang, Padang, Indonesia, sartikaanori@ft.unp.ac.id*
[4] *Assistant Professor, Faculty of Engineering, Universitas Negeri Padang, Padang, Indonesia, yose_11@yahoo.co.id*
[5] *Assistant Professor, Indonesian National Police Headquarters, Jakarta, Indonesia, yose_11@yahoo.co.id*

Introduction

The COVID-19 pandemic has been ongoing for more than a year, with the World Health Organization (WHO) formally declaring the virus on March 9, 2020, which has spread throughout the world, including Indonesia (Maman et al., 2021). This situation has an impact on almost all activities from various sectors, including the education sector (Samala et al., 2021). The real impact that is most felt from this pandemic is that teaching and learning activities in schools are stopped nationally (Amir et al., 2020; Azhari & Fajri, 2022). The Ministry of Education and Culture (Kemendikbud) requests that schools temporarily substitute face-to-face learning with distance learning known as "PJJ" (Nurul et al., 2021). This is done to guarantee that students can study in the greatest settings possible, regardless of where they are—whether at school or home (Okmawati, 2020).

This policy has been effective since early April 2020 by Permendikbud Number 103 of 2013 concerning the Implementation of Distance Learning in Indonesian Education (Marlinda et al., 2021). Distance education can be defined as institutional-based formal education where students and infrastructure are located separately or study in virtual classrooms so that other resources are needed such as internet connections, computer equipment, and the use of platforms that support distance learning (Schneider & Council, 2021). In West Sumatra, the Governor has issued circular No. 433.3/566/p2p-Dinkes/IX/2020 regarding the red zone. Padang City is an area with a red zone (Yuniarti et al., 2020). This has resulted in calls for educational institutions to temporarily suspend face-to-face learning and implement distance learning to reduce the possibility of the virus spreading (Kohnke & Moorhouse, 2021; Rashid & Yadav, 2020)

Distance learning is often referred to as online learning (Chen et al., 2021). Online learning is learning that uses internet technology to connect lecturers and students from different locations virtually or remotely (Adedoyin & Soykan, 2020). Distance learning is the most appropriate alternative to support direct physical restrictions between lecturers and students (Coman et al., 2020). In addition to the internet, a digital learning platform has also been developed “Belajar dari Rumah” by the government for all students in Indonesia so that they can continue to study at home (Utomo et al., 2020). Various other applications can also be used in online learning by lecturers and students, such as Whatsapp, Telegram, Zoom, Google Classroom, Google Meet, Kahoot, and others applications.

The Faculty of Engineering, Universitas Negeri Padang (FT-UNP) is one of the faculties at the Universitas Negeri Padang. FT-UNP has started to implement full online learning. This online learning is carried out as a preventive measure to protect students and lecturers from transmitting the virus. Based on observations and interviews in the field, all lecturers use various application platforms. Some lecturers said they had difficulty using the application in online learning.

Various scholars from across the world have been drawn to the concerns and issues surrounding app selection for online learning and implementation strategy (García-Peñalvo, 2021; Susanti et al., 2021). Amalia 2020 experimented with online learning by utilizing free applications, and attempting to implement online learning with Google Classroom apps (Amalia et al., 2020). Google Classroom is a free web service developed by Google for schools that aims to simplify assignment preparation, delivery, and grading (Suhada et al., 2020). Students in Indonesia are not extremely active, according to this report. This is due to two factors: a lack of internet access and a lack of willingness to study online. The absence of video conference contact between students and lecturers throughout the online learning process may be to blame for the lack of enthusiasm. Distance learning necessitates contact between students and lecturers (Marioni G., 2020).

Several studies have been undertaken to assess lecturers' attitudes toward the usage of online learning applications in their teaching and learning processes (Rahayu & Wirza, 2020). The purpose of this research is to gain notable insights and outcomes on 1) how students responded to online learning during the COVID-19 pandemic, 2) what are the most popular online learning applications among students, and 3) the challenges and problems encountered by students during the implementation of online learning. This study aims to determine the best solution for lecturers and students at the Faculty of Engineering, Universitas Negeri Padang in overcoming issues during online learning, so that the findings may be used as a foundation for continuous improvement of online learning.

Methodology

The research method used is a combination research method (mixed methods) a research method between quantitative methods and qualitative methods to be used together in a research activity, to obtain more comprehensive, valid, reliable, and objective data (Sugiyono, 2011). The research instrument used was an online survey with a google form. The population in this study consisted of 1503 students from the Faculty of Engineering FT-UNP. Sampling in this study uses a purposive sampling technique. The sample was students who took the competence of Informatics Engineering as many as 207 people. This research is aimed to investigate: 1) how students respond to online learning during the COVID-19 pandemic, 2) what are the most popular online learning applications by students, and 3) the challenges and problems faced by students during the implementation of online learning. The type of questionnaire used is a mixed questionnaire. The questionnaire consists of 13 questions in the form of dichotomous questions (yes or no), and in the form of a checklist.

Questionnaire items are dichotomous, meaning that the questions and answer choices have been provided by the researcher, the respondent may choose yes or no, agree or disagree according to the situation and conditions experienced (Almusharraf & Khahro, 2020). Questionnaire items in the form of a checklist mean that the questions and answer choices have been provided by the researcher, and the respondent may choose more than one according to the situation and conditions experienced (Misran & Yunus, 2020). The questionnaire items are included in Table 1:

Table 1. A List of Questions

No.	Questions	Question Type
1	Do you agree with the application of online learning?	Yes or no
2	Can you understand the material through online learning?	Yes or no
3	Do you like online learning?	Yes or no
4	Is online learning fun?	Yes or no
5	Can you use online learning apps?	Yes or no
6	How do you do online learning activities at home?	Checklist
7	How do you interact with lecturers in online learning?	Checklist
8	What tools do you use most in online learning?	Checklist
9	What are the applications you are most interested in for online learning?	Checklist
10	What are the advantages of the application?	Checklist
11	What are your obstacles while online learning is being implemented?	Checklist
12	What are your expectations regarding online learning?	Checklist

Data analysis uses inductive data analysis, namely drawing conclusions based on specific facts and then drawing general conclusions. Data reduction, data presentation, and conclusion are all activities in this data analysis. Data reduction entails summarizing, selecting the essential points, and focusing on what is significant concerning the study objectives. After the data has been reduced, the next step is to display the data. Data can be presented in the form of concise descriptions, charts, diagrams, or graphs. Finally, concluding is the meaning of data that has been processed so that it is easily understood by oneself and others in general.

Findings and Results

Table 2 and Table 3 show the findings of a survey based on student comments about online learning during the COVID-19 pandemic. The percentage of student responses can be calculated by the following formula:

Percentage: $\frac{\text{Score}}{\text{Max}}$ x 100% (1)

Table 2. Survey Results (Yes or No)

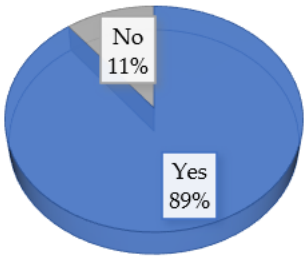
No	Questions	Responses		%	
		Yes	No	Yes	No
1	Do you agree with the application of online learning during the COVID-19 pandemic?	185	22	89%	11%
2	Can you understand the material through online learning?	145	62	70%	30%
3	Do you like online learning?	87	120	42%	58%
4	Is online learning fun?	101	106	49%	51%
5	Can you use online learning apps?	201	6	97%	3%

Table 3. Survey Results (Checklist)

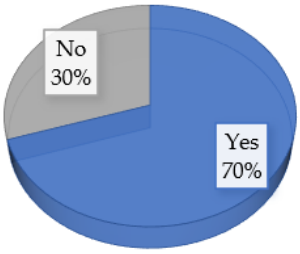
No	Questions	Student Responses	Total	%
6	What online learning activities have you done at home?	Doing assignments online	207	100%
		Self-study through youtube	174	84%
		Learn through video conferencing	48	23%
		Learn from textbooks	15	7%
		Learn from e-books and google	87	42%
7	How do you interact with lecturers in online learning?	Interaction through online classes	50	24%
		Interaction by phone	0	0%
		Interaction via email	0	0%
		Interaction via social media	0	0%
		Not interacting with the lecturer	157	76%
8	What apps do you use most in online learning?	PC Computer	0	0%
		Laptops	47	23%
		Smartphone	207	100%
9	What are the applications you are most interested in for online learning?	Zoom	45	22%
		Google Meet	87	42%
		Google Classroom	187	90%
		Whatsapp	34	16%
		Telegram	13	6%
		Edmodo	0	0%
		Kahoot	0	0%
10	What are the advantages of the application?	Easy to use	185	89%
		Follow the lecturer's directions	207	100%
		Attractive Appearance	49	24%
		Can interact with lecturers	76	37%
		Has many features	134	65%
11	What are your obstacles while online learning is being implemented?	Slow internet network	35	17%
		Difficulty having internet quota	178	86%
		Difficult to interact	100	48%
		Don't have a device	0	0%
		Difficult to understand the material	45	22%
12	What are your expectations regarding online learning?	Combined with other apps	178	86%
		Back to face-to-face learning	198	96%
		The material is packaged more attractively	150	72%
		Expand the material in the form of videos	100	48%

Discussion

Student's responses on online learning during the COVID-19 pandemic:



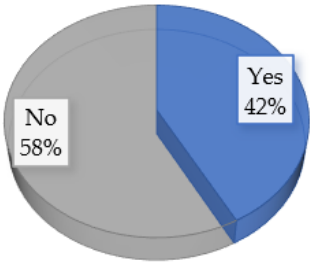
(a)



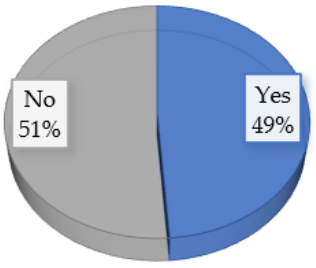
(b)

Figure 1. (a) application of online learning, (b) understanding of online learning materials

Based on the question "Do you agree with the application of online learning during the covid-19 pandemic?". Figure 1 (a) shows that most of the students, 89% of the students supported the use of online learning during the pandemic, and 11% said that they were opposed to the use of online learning during the pandemic. Now, how about the question: "Can you understand the material through online learning?". Based on the survey results, 70% of students state that they could understand the material from online learning, and 30% state that they did not or had difficulty understanding the material during online learning. Furthermore, the students said that some of the lecturers simply assigned them duties without providing any explanation.



(a)



(b)

Figure 2. (a) online learning (like or not), (b) online learning is fun (fun or not)

For questions about "Do you like online learning?" and "Is online learning fun?". As many as 58% of students stated that they did not like online learning, 42% of students said they liked online learning, 51% of students stated that online learning was not fun, and 49% of students thought online learning was fun. Based on figure 2 above, it can be interpreted that it turns out that more students do not like online learning because it is considered less fun.

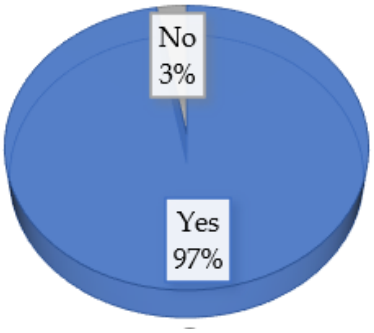


Figure 3. the ability to use online learning applications.

Next, the question "Can you use online learning apps?". According to the survey results in figure 3, it is also known that almost all students of respondents can use online learning applications such as Google Classroom, Zoom, Google Meet, Etc. This is considered reasonable because students are Generation Z, which is a generation that is already familiar with technology and the digital world (Samala et al., 2019). So here, lecturers are required to further improve their skills in using various online learning applications.

The most popular online learning applications by students:

Based on the results of a survey on " What online learning activities have you done at home?". From figure 4 and Figure 5, it is known that the majority of students do online assignments given by the lecturer. Most students said that they had less free time than they did previous to online learning since lecturers gave them more responsibilities than usual, and 80% of students choose to learn from youtube. So, it can be said that students are not very interested in learning from textbooks (7%), but students tend to be interested in learning from videos or multimedia. most students choose not to interact with lecturers when learning online (76%). It might be claimed that students in online learning suffer from a lack of engagement with lecturers and peers.

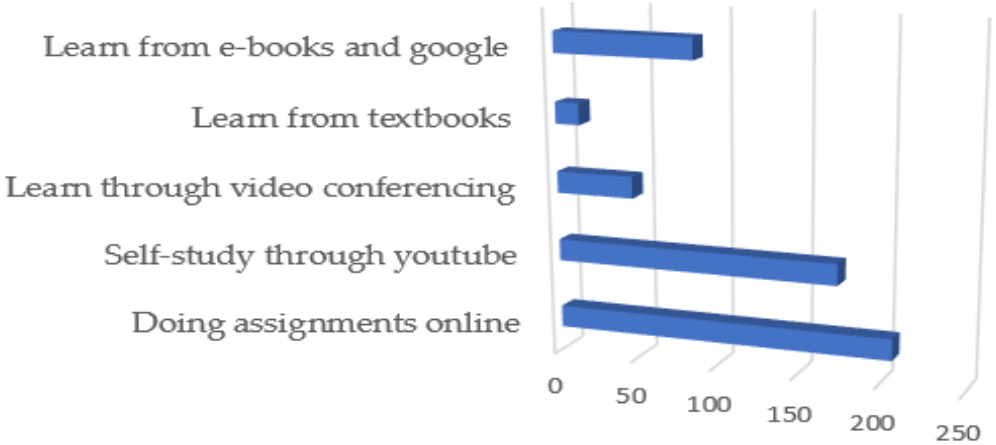


Figure 4. online learning activities.

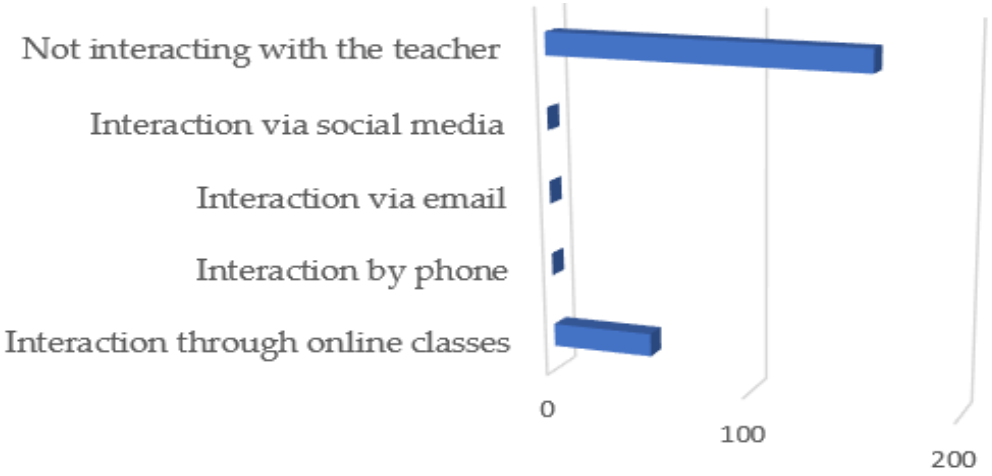


Figure 5. types of interactions carried out during online learning.

Meanwhile, the devices used by students in online learning are smartphones and laptops. However, from the survey results, it is known that 100% students, all of them already have a smartphone device.

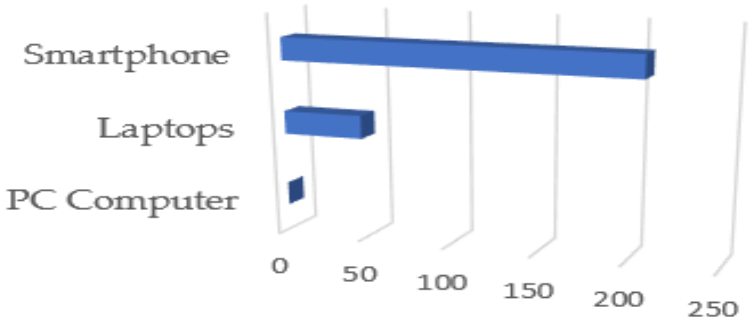


Figure 6. types of devices used in online learning.

The application that is most in demand by students in online learning is Google Classroom (Figure 7), Google Classroom is one of the educational services offered by Google Apps for Education (GAFE) (Taufik et al., 2021). GAFE is a component of Google's G-Suite for Education (GS-E). GS-E offers capabilities that may handle a single class, many courses taught by a single instructor, or bigger administrative entities such as schools and school systems (Ya Shak et al., 2021). Google Classroom is an application that allows the creation of virtual classes. Google Classroom may be used for discussions, assignments, and even evaluations, and it can be used for both discussion activities and assignment evaluation (Kurniawan et al., 2020). The second application that is most liked by students is Google Meet, followed by Zoom, WhatsApp, and Telegram.

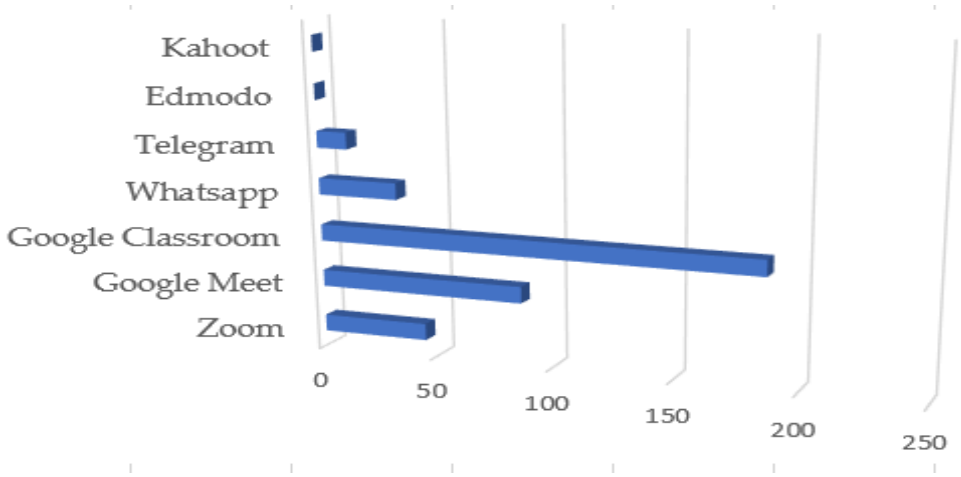


Figure 7. types of applications used in online learning.

Google Classroom is used by students at the suggestion of the lecturer. Why do students choose Google Classroom? Google Classroom is simple to use, saves time, is cloud-based, adaptable, free, and mobile-friendly, makes it easy to access all of the content, made the learning environment more relaxed, sparks student interest, and assists lecturers in organizing their teaching and learning resources.

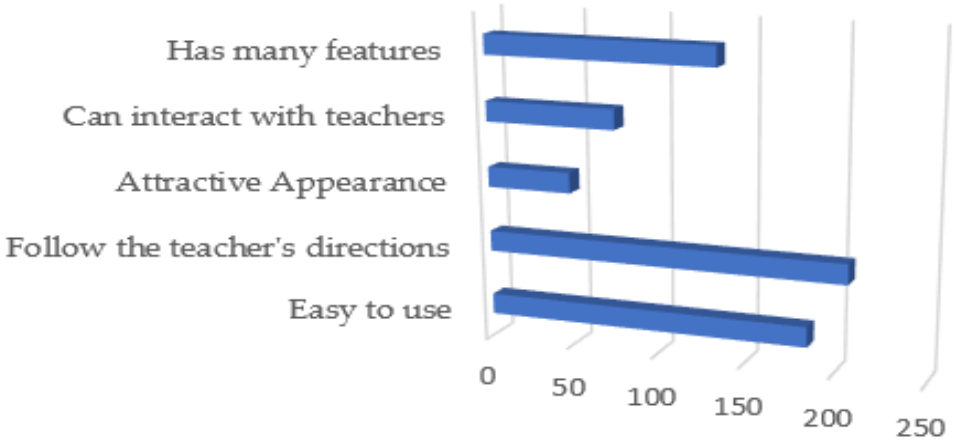


Figure 8. the advantages of the application used.

The challenges and problems faced by the students in online learning:

Although there are several benefits to using online learning, the poll findings demonstrate that it also has numerous problems and constraints. 86% of students stated difficulties in online learning because it was difficult to buy internet quota which was quite expensive, then students also had difficulty understanding the material without additional learning videos, online learning limited interactivity in learning, and another constrain was infrastructure, where the internet network was not evenly distributed, internet network disturbances such as slow networks cause online learning cannot be carried out optimally.

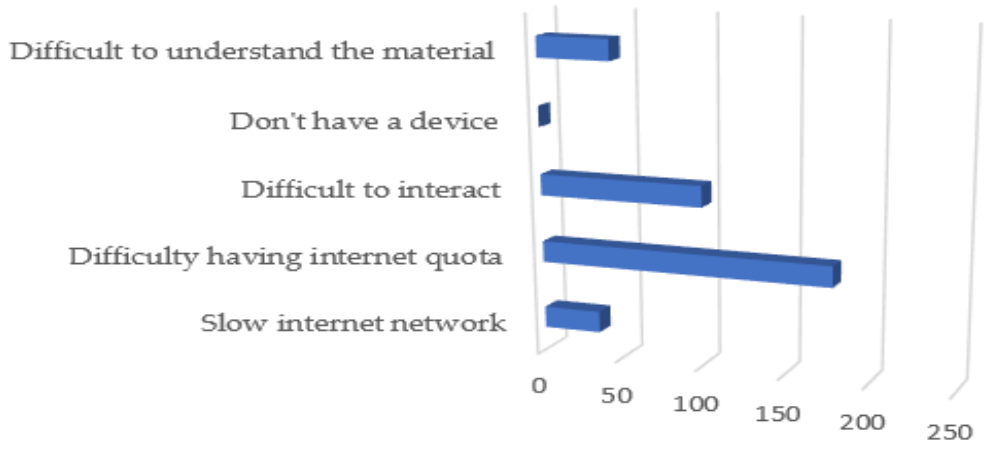


Figure 9. problems experienced when learning online.

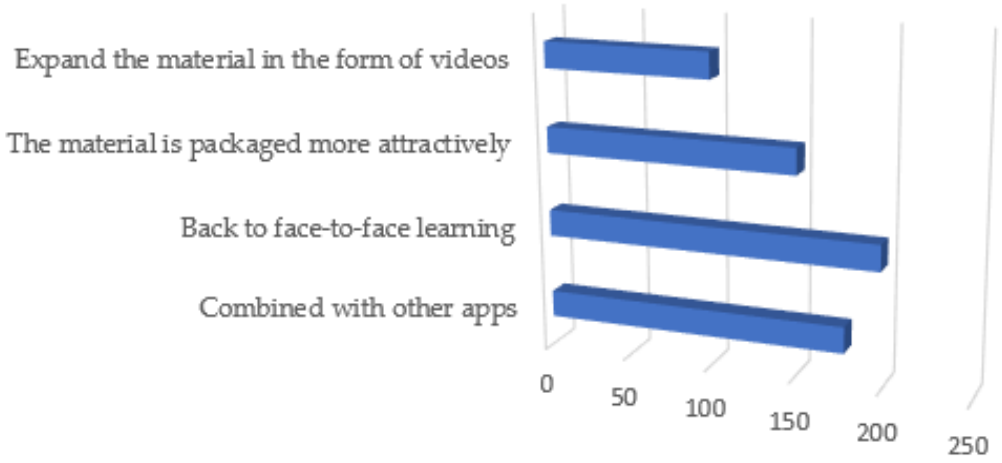


Figure 10. students' wishes about pandemic conditions and online learning.

Based on figure 10, shows that 96% of Students want face-to-face learning to be carried out again as before the pandemic. 86% of students also stated that if online learning is continued, it is necessary to use a variety of applications so that it is not boring. Students also hope that lecturers can package online learning materials that are more interesting, not only text-based.

Conclusion

The study sheds light on how the online learning process is carried out. As a result, it is likely that over time, as lecturers adjust and become more comfortable with online learning, the quality of the educational process will improve, as will students' opinions of online learning. Faculty of Engineering FT-UNP will effectively transition to online teaching and learning. Although there are still several difficulties and challenges, they can be mitigated through training in the use of lecturer learning tools. In this study, it was also shown that students offered poor replies to online learning, which was attributed to challenges encountered by students during learning connected to grasping the subject matter.

Certainly, schools have made efforts to address these issues and improve lecturer skills. Students' technological obstacles continue to include poor internet connections and difficulties meeting an online quota, particularly for students living in rural areas or students from low-income households. From our point of view, the main challenge of the Faculty of Engineering FT-UNP, that must be faced at this time is the ability of lecturers to change students' perceptions of online learning. Training programs for lecturers must also be designed to assist them in adapting to

changes in technology and applications, as well as understanding that the future of education cannot be divorced from technology or online learning, and there is little chance of returning to pre-pandemic ways of learning, so that the combination of face-to-face learning and online learning is slow, the use of technology and applications will always be at the forefront of the education process in the future. then in the use of applications, lecturers and students should not only be fixated on the use of one type of application but need to use various applications so that the weaknesses and shortcomings of the application can cover each other. Google Classroom is the application that is most in demand by Faculty of Engineering FT-UNP students, and Google Meet is the second choice of interest, followed by Zoom, this means that students want an online learning platform that supports the learning process other than assignments, online assessments, but also supports virtual face-to-face interaction via video conferencing.

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