



## Analysis effectiveness of online learning during the COVID-19 pandemic

**Yudis Ghifari<sup>1</sup>, Diva Aulia Amanda<sup>2</sup>, Angga Hadiapurwa<sup>3</sup>**  
<sup>1,2,3</sup>Universitas Pendidikan Indonesia, Bandung, Indonesia  
[ydsqfr@upi.edu](mailto:ydsqfr@upi.edu)<sup>1</sup>, [divaauliaamanda12@upi.edu](mailto:divaauliaamanda12@upi.edu)<sup>2</sup>, [angga@upi.edu](mailto:angga@upi.edu)<sup>3</sup>

### ABSTRACT

The COVID-19 pandemic has forced all countries to implement distance learning and distance restrictions to break the chain of transmission. This article researches the effectiveness of online learning during the Covid-19 pandemic and its impact on student's ability to participate in learning. The research was conducted using a survey method with a quantitative approach. The subjects of this study were active students of the Education Technology study program at the Indonesian Education University class of 2018-2020. The survey data was analyzed by measuring the variables determined using numbers and then analyzed with the applicable statistical procedures. The results showed that online learning was considered less effective because the learning materials were not delivered properly to students. This causes students not to understand the task at hand. Another point that shows the ineffectiveness of online learning is that many issues occur during online learning sessions, for example, internet connection issues, limited interaction, lack of literacy skills, and lack of motivation and productivity of students in its implementation. The level of effectiveness of online learning still can increase if the issues that occur are minimized. Student learning motivation needs to be improved so that the effectiveness of online learning can also increase.

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### ABSTRAK

Adanya pandemi COVID-19 memaksa seluruh negara untuk melakukan pembelajaran jarak jauh dan harus melakukan pembatasan jarak agar memutus rantai penyebaran. Artikel ini bertujuan untuk meneliti keefektifan pembelajaran daring yang dilakukan pada masa pandemi COVID-19 dan dampaknya terhadap kemampuan siswa dalam mengikuti pembelajaran. Penelitian dilakukan menggunakan metode survei dengan pendekatan kuantitatif. Subjek dari penelitian ini adalah mahasiswa aktif program studi Teknologi Pendidikan Universitas Pendidikan Indonesia angkatan tahun 2018-2020. Analisis data survei yang diperoleh dilakukan dengan cara mengukur variabel yang telah ditentukan menggunakan angka untuk kemudian dianalisis dengan prosedur statistik yang berlaku. Hasil penelitian menunjukkan bahwa pembelajaran daring dinilai kurang efektif karena materi pembelajaran tidak tersampaikan dengan baik terhadap peserta didik. Hal ini menyebabkan peserta didik kurang paham dengan tugas yang dimiliki. Hal lain yang menunjukkan ketidak efektifan pembelajaran daring adalah banyaknya hambatan saat pembelajaran daring, misalnya gangguan koneksi, keterbatasan interaksi, kurangnya kemampuan literasi, serta kurangnya motivasi dan produktivitas peserta didik dalam pelaksanaannya. Tingkat keefektifan pembelajaran daring masih memiliki kemungkinan untuk mengalami peningkatan jika kendala yang terjadi dapat diminimalisasi. Motivasi belajar mahasiswa perlu ditingkatkan agar efektivitas pembelajaran daring juga dapat meningkat.

**Kata Kunci:** Efektivitas pembelajaran; pandemi COVID-19; pembelajaran daring

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\*Corresponding author: [ydsqfr@upi.edu](mailto:ydsqfr@upi.edu)

## **INTRODUCTION**

Education is one of the basic human needs that must be fulfilled. Education has a high purpose for life so that humans are more positioned. Education is also an element that cannot be separated from humans. From the beginning of life to the age that continues to grow, humans grow and experience the educational process obtained from several components, such as parents, society, and the environment. Humans need education through an awareness process that seeks to explore and develop their potential through teaching methods or in other ways recognized by society. The existence of Law Number 20 of 2003 concerning the National Education System is also a reinforcement of this statement.

Education has a critical role in the progress of a nation. There are several supporting factors to support the success of educational goals, one of which is the situation in the learning process (Anjelin & Purnomo, 2021). The situation will affect teaching and learning outcomes directly related to educational goals' success. The question is how the learning process occurs and whether educators and students are in an effective learning atmosphere. For example, all countries are now forced to carry out distance learning due to the COVID-19 pandemic, which must carry out distance restrictions to break the spread chain. Learning is done online using digital technology so that learning can still be done well. Educators and learners interact through several educational platforms, conferences, and others. This had reaped pros and cons in the community because it was considered ineffective in conveying information and materials in learning. Distance learning (PJJ) is learning where students are separated from their educators and use learning resources through ICT and other media (Mobarok et al., 2021). PJJ is one online learning, where the learning system uses face-to-face learning asynchronously or synchronously using the internet.

Various online learning problems include: material content delivered online cannot be entirely accepted by all students because it is not comprehensive; limited ability of educators to use online learning technology operations such as devices and others; limited educators in controlling the learning of an existing class and other problems. The results of research conducted by Sadikin (2020) suggest that the real challenge in online learning is the availability of the Internet and the cost of carrying out online learning. Meanwhile, the results of research conducted by Indrawati (2020) suggest that interest in higher education has decreased, learning methods have entirely shifted to online classes, and there are various challenges and obstacles to distance learning. While universities have more opportunities to take advantage of existing technology, lectures can be done flexibly.

There are challenges in online learning, including the difficulty of receiving information about learning delivered by educators. Learners are encouraged to find the material to be learned. Another challenge in online learning is the creativity of educators in implementing online learning so that learning feels exciting and not dull. Educators must have creativity in managing online learning. This is in line with research conducted by Hartati (2021), Hartati said that in online learning, students can become less active in conveying their aspirations and thoughts, which can result in saturated learning. A student who experiences boredom in learning will not be optimal in fulfilling learning outcomes.

Therefore, a driver is needed to move students to be enthusiastic about learning so that they can have learning achievements. In addition to challenges, there are also obstacles in the implementation of online learning the main obstacles to online learning are connection constraints during learning or constraints on the devices used for learning and other obstacles are the lack of knowledge of educators and students in running technology to support online learning to the readiness of students and teachers in learning (Asmuni, 2020).

Learning is organized as an effort to improve students' thinking skills, the ability to construct new knowledge, and the ability to master the subject matter well. Learning needs to be well-designed because it involves the interaction of students, educators, and learning resources in a learning environment. Online learning is the right solution to break the chain of transmission of the COVID-19 outbreak because online learning is learning that is carried out remotely and utilizes online-based technology. Online learning is one way to overcome problems in a pandemic like this. Online learning is also a new lifestyle today, offline learning is too risky, considering the COVID-19 virus is transmitted very quickly. Seeing this, the author did this research to know the effectiveness of online learning during the COVID-19 pandemic and its impact on student's ability to take part in learning.

## LITERATURE REVIEW

### Online learning

Online learning uses the internet network with accessibility, connectivity, flexibility, and the ability to generate various learning interactions (Moore et al., 2011). Online is one of the parts of distance learning. Distance learning is a form of formal education where the instructor or educator is in a separate location from the students, requiring a system that connects the two. According to Romli, online media are all kinds of media formats accessed through the internet in the form of photos, sounds, videos, and so on. Online is a network-based format in the form of the internet that connects one to another.

Online learning is a distance learning method expected to break the chain of COVID-19 transmission. Online learning is conducted using online-based digital technology. Everything is done online, from the learning process to communication and several other aspects. Online learning is a solution that can answer the challenges of education during the COVID-19 pandemic because only online learning education can run well even though it is not as usual. Online also expresses the condition of equipment or a functional unit. A condition is said to be online if it meets the following requirements: (1) Under direct control of a device, (2) Under direct control of a system, (3) Available for immediate or real-time use, (4) Connected to a system in operation, and (5) Functional. (Fauzi, 2020; Nurmatin, 2020; Putri, 2020)

An online learning strategy that could be used is the expository learning strategy. In this case, the teacher is essential as the source of knowledge and skills. Lecture and tutorial methods can be used in the expository strategy. Problem-based learning strategy (*Strategi pembelajaran berbasis masalah*). SPBM learning is a learning strategy containing a series of learning activities that emphasize solving problems faced scientifically. Through this

learning strategy, students will slowly begin to develop better. This proves that student development occurs through affective and psychomotor aspects.

E-learning is an educational system or concept that utilizes information technology in the teaching and learning process (Agustini & Kurniawan, 2020). The learning system is used as a means for the teaching and learning process to be carried out without having to meet face-to-face directly between teachers and students. Another thing with blended learning is a combination of two separate learning models, traditional learning with computer technology-based learning with the emphasis used in the above definition that leads to current computer technology, and the computer technology referred to here is internet technology. Since blended learning emphasizes combining conventional methods (face-to-face) with online methods, the readiness of both is the primary key to the success and smooth running of online learning.

Online learning has disadvantages and advantages. The disadvantages of online learning are based on the data we collected, showing that connection constraints cause it, hardware that does not support it, and other obstacles that hinder learning. Meanwhile, the advantages of online learning based on the data we collected show that many respondents consider online learning to be flexible, easy to access anywhere, and overcome the limitations between space and time (Lisman et al., 2021).

## **Learning Motivation**

Motivation is vital in achieving goals or goals in carrying out an activity. Motivation is a desire from the inner individual to do something because something causes the trigger. A student must also be motivated to achieve something aimed with enthusiasm, even though the online learning situation does not change the learning motivation like when face-to-face (Shadiqien, 2020).

Interactive, comfortable, and conducive learning will increase students' learning motivation; however, if online learning feels uncomfortable, it will make students bored and bored. The delivery of material also affects the motivation of students to learn. It is a challenge for educators to innovate with their creativity to create learning with the atmosphere expected by students. In addition, the obstacle that assesses the ineffectiveness of online learning is the distance that requires practicum not to be carried out correctly, but the theories can be appropriately conveyed. The five forms of online learning participation include student attendance, discipline in doing assignments, cooperation in group assignments, politeness in speaking, and implementation of the Midterm and Final Semester examinations. This online learning activity needs to be improved because learning activity is essential to achieving learning goals (Purbawati, 2020).

Many learners and educators complain about online learning because they experience barriers and challenges during the online learning process. These obstacles and challenges come from the facilities, infrastructure, environment, and learners and educators. Limited internet networks, unsupportive gadgets, and the cost of online learning facilities are obstacles and challenges in terms of facilities and infrastructure experienced by learners.

Connections that often experience interruptions can hinder the ongoing learning process, so they cannot follow it properly.

The limitation of online features in various gadgets that do not support it is a big obstacle because online learning requires complete learning features. However, not all of them have gadgets that support online learning. On the other side of the two obstacles, the financial need to support them is also an obstacle. Before the assistance from the government, they spent quite a lot of money to fill the quota and update the gadgets so that they could follow online learning well. Environmental factors also influence students' participation in online learning (Hanina et al., 2021). Their environment must be in an area that can reach a good signal so as not to interfere with the connection when learning is taking place. They must be in a comfortable and conducive atmosphere so that they can focus when carrying out online learning. Sometimes, learners experience connection problems because the area they live is far from the signal source, and sometimes, some learners need to be more focused because their home conditions are crowded and not conducive.

The government has also taken a role in addressing the inequality of learning activities during the COVID-19 pandemic. Launching the official website of the Indonesian Ministry of Education and Culture, there are 12 platforms or applications that students can access to study at home, namely: Rumah Belajar, Meja Kita, Icando, IndonesiAx, Google for Education, Kelas Pintar, Microsoft Office 365, Quipper School, Ruangguru, Sekolahmu, Zenius, and Cisco Webex. (Handarini, 2020)

In online learning, features that support and are often used are Zoom Meeting, Google Meet, Google Classroom, WhatsApp Group, and features available from institutions. Zoom and Google Meetings are online features that are very effective in virtual meetings (Oktaviani, 2021; Setyorini, 2022). When the video conference takes place, educators and students are more free to communicate because there are microphones, reactions, chat, presentation, and other features in Zoom Meeting and Google Meet. The Midterm and Final Semester Examinations in online learning are still being implemented. The two exams are carried out with different systems depending on the course supervisor. The Midterm and Final Semester Exams are carried out in two ways: working on questions with the CBT system or making products and works.

In teaching and learning activities, educators continue to innovate in order to create learning activities that are effective, conducive, and can improve the quality of online learning (Hasanah, 2020; Qoriawati & Maknun, 2021). One of the things that educators rely on is learning media. In delivering material, educators use various media to make it easier for students to understand the material. Media that can be used in online learning is audio media, for example, students are instructed to listen to podcasts that discuss the material being studied. Video media can also be used as learning media. Usually, students are required to analyze a concept from the video provided by the educator. Another media for learning is PowerPoint, which is usually used to convey the material through presentations. Media is essential in learning because it can help educators and students.

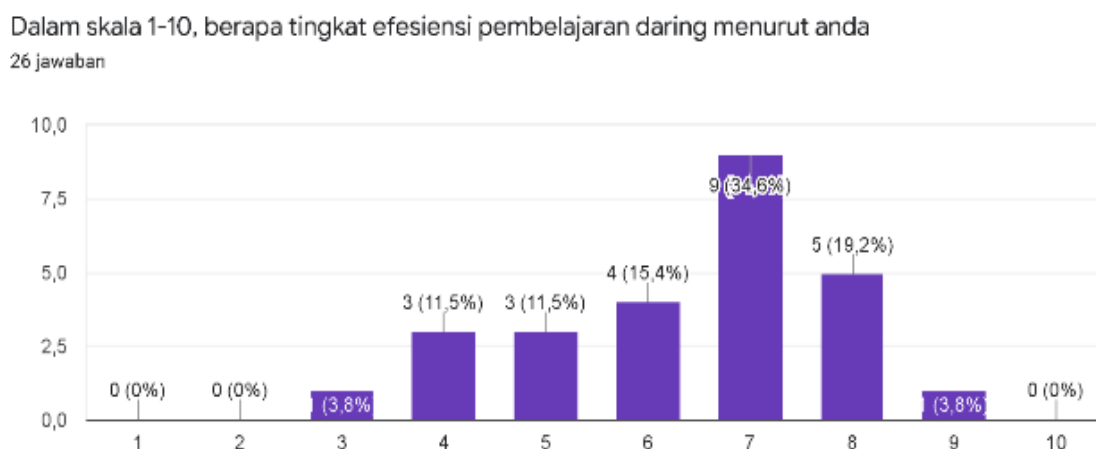
## METHODS

In this study, the authors used quantitative methods. According to Kasiram, the quantitative method is a process of finding knowledge that uses data in the form of numbers to analyze information about the data we want to know (Djollong, 2014). The problem that is trying to be solved is what underlies the researcher taking data and determining variables, which are then measured by numbers so that applicable statistical procedures can carry out analysis. Thus, the quantitative method is a systematic data research based on numerical calculations to produce a conclusion from a hypothesis.

The author researches to determine the level of effectiveness of online learning during the COVID-19 pandemic. Quantitative research conducted by researchers is by using a questionnaire through Google Form, which is distributed to students of the University of Indonesia Education Technology study program with a sample of 26 respondents who are currently carrying out online learning activities.

## RESULT AND DISCUSSION

The data we obtained through research that we conducted from April 9, 2021 to April 13, 2021, there were 41 active student respondents in the Educational Technology study program at the Universitas Pendidikan Indonesia.



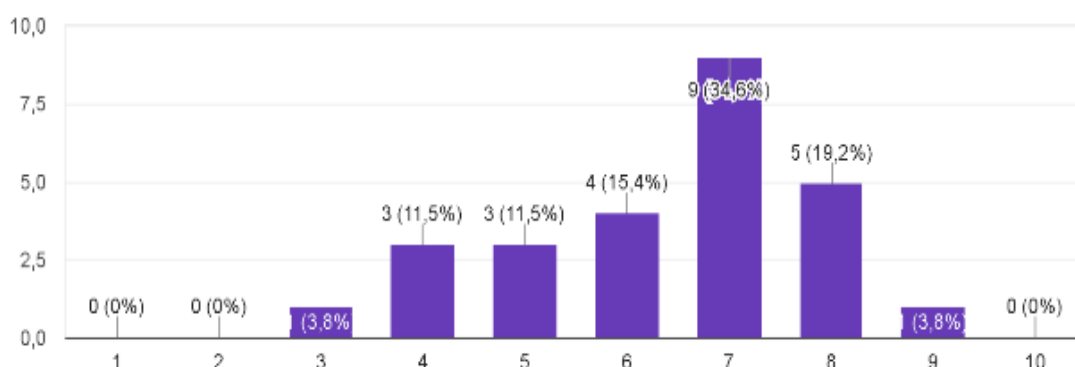
**Figure 1.** Effectiveness of Online Learning  
*Source: Author's Documentation 2021*

The data of university students in **Figure 1** above shows the effectiveness of online learning according to students. As a result, as many as 34.6% of respondents from the whole assessed that online learning, according to them, level of effectiveness is only on a scale of 7. While 19.2% of other respondents assessed online learning, the level of effectiveness is on a scale of 8. Furthermore, there are the same assessments on scales 4 and 5, with a percentage of respondents as much as 11.5%. Next, 11.4% of respondents assessed the effectiveness of online learning on a scale of 6. Moreover, the rest assessed

the effectiveness of online learning on scales 3 and 9, with 3.8% of respondents each. From these data, it can be concluded that the effectiveness of online learning according to students is quite adequate, shown on a scale of 7 out of 10. The data is in accordance with the results of [Kuntarto's research \(2017\)](#), where the online learning model has been able to increase student absorption of course material, reaching more than 81% compared to only using the face-to-face learning model.

The effectiveness of online learning can be seen from the quality of learning, learning strategies applied, and learning outcomes in students during online learning. The data follows the results of [Febriyanti's research \(2021\)](#) that online learning is an effective solution in learning at home to break the chain of spreading COVID-19, physical distancing is also a consideration for choosing this learning. Good cooperation between teachers, students, parents and schools/madrasas is a determining factor to make online learning more effective. The discomfort in online learning is due to ineffectiveness and internet network constraints ([Setiawan et al., 2021](#)). Online lectures also provide an overview of the less-than-optimal understanding of the material and the many assignments given to students, resulting in an ineffective lecture process ([Widiyono, 2020](#)). Online lectures impact student abilities, decreasing or increasing, which returns to how learning patterns are applied to each person ([Presilawati et al., 2022](#)).

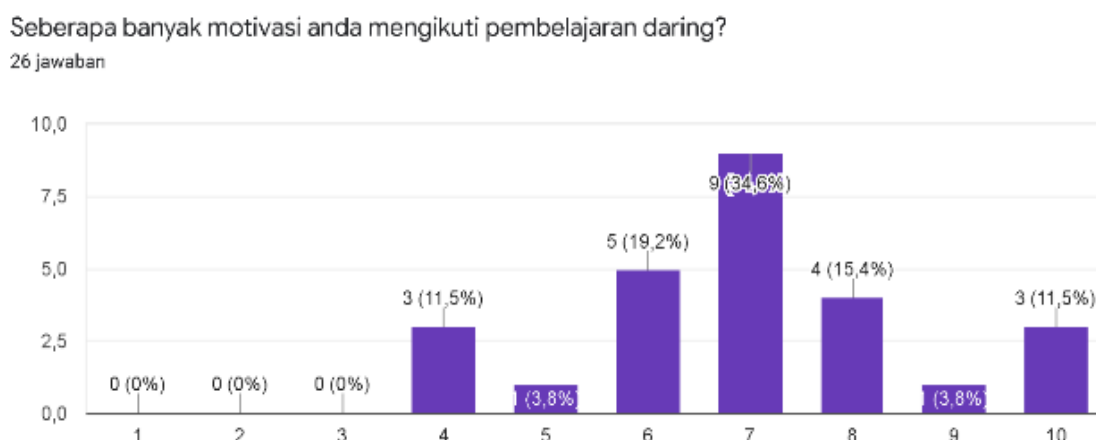
Dalam skala 1-10, berapa tingkat efesiensi pembelajaran daring menurut anda  
26 jawaban



**Figure 2.** Online Learning Barriers  
*Source: Author's Documentation 2021*

The student data in Figure 2 above shows how many obstacles are passed in online learning. There is the same assessment on scales 7 and 8, with 26.9% of respondents each. Then, 11.5% of respondents from all respondents experienced obstacles up to scale 9. On scales 3, 5, and 6 have the same percentage of respondents, 7.7%. Next, scales 1, 2, and 4 were assessed with the same number of respondents, namely 3.8% of respondents. From the data, in online learning, we will all experience obstacles and challenges in running it from various aspects. This is in line with the results of research conducted by [Sadikin \(2020\)](#), which suggests that the real challenge in conducting online learning is the availability of the internet and the cost of carrying out online learning. The provision of facilities to support information technology online learning skills of students

and lecturers to use technology to support the learning process and stable internet network conditions significantly affect the success of online learning in achieving learning goals (Adriana, 2020).



**Figure 3.** Respondents' Motivation  
*Source: Author's Documentation 2021*

The student data in Figure 3 above shows students' motivation to participate in learning. As a result, as many as 34.6% of respondents assessed their motivation on a scale of 7 out of 10. Furthermore, 19.2% of respondents assessed their motivation on a 6 out of 10 scale. Next, 15.4% of respondents assessed their motivation on an 8 out of 10 scale. There is the same assessment on scales 4 and 10, with 11.5% of respondents each. On scales 5 and 9 have the same number of respondents, namely 3.8%. From the data, it can be concluded that a number of students have strong motivation in online learning, but the data shows that students have enough motivation in online learning.

There are eight indicators of learning motivation according to what Uno explained in his book entitled *Teori motivasi dan pengukurannya: analisis di bidang pendidikan*, which states that the indicators of learning motivation start from concentration, curiosity, enthusiasm, independence, readiness, enthusiasm, encouragement, unyielding and self-confidence. Meanwhile, the factors influencing learning motivation are based on Cahyani (2020), namely ideals, learners' abilities, and learners' conditions. The student learning motivation data aligns with Hartati's research (2021). In online learning, students can be less active in conveying their aspirations and thoughts, resulting in saturated learning. A student who experiences boredom in learning will get no progress in learning outcomes. Therefore, it is necessary to encourage students to be enthusiastic about learning so that they can have learning achievements. Therefore, lecturers as facilitators must implement a practical, innovative, and creative learning system so students do not feel bored in online learning (Jannah & Haryadi, 2020). In conducting online learning, facilities also need to be considered because learning discipline and learning facilities increase students' motivation and learning outcomes (Patmi, 2021).

Apakah materi pembelajaran daring tersampaikan dengan baik?

26 jawaban



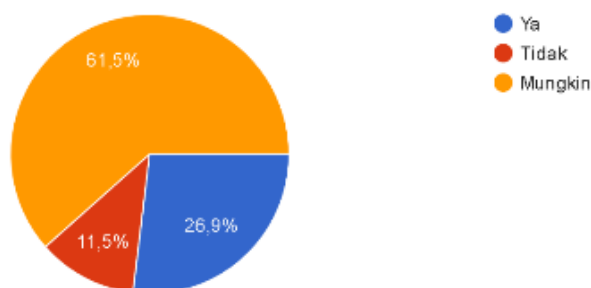
**Figure 4.** Online Learning Material Delivery

*Source: Author's Documentation 2021*

The data of higher education students in Figure 4 above shows whether the learning materials are delivered well. As a result, 57.7% of respondents considered online learning materials well delivered, while the remaining 42.3% considered that online learning materials needed better delivered. From this data, it can be concluded that the learning material is quite well conveyed for students. Various learning methods, such as the lecture method, can deliver the material presented in online learning. This is in line with the results of research by [Khafifah et al. \(2021\)](#), that students feel that the application of online learning they get is only centered on giving assignments. The ratio of material provision is minimal. In addition, access to asking questions is also less broad than during offline learning, both by asking teachers and friends. Another study [Setiawan et al. \(2021\)](#). Also mentioned is that students are uncomfortable doing online learning because the task load is more, because they need help understanding, and it is ineffective.

Apakah pembelajaran daring ini dapat meningkatkan produktivitas anda?

26 jawaban



**Figure 5.** Online Learning Productivity

*Source: Author's Documentation 2021*

The data of higher education students in Figure 5 above shows whether online learning can improve students' productivity. As a result, 61.5% of the respondents think online learning can increase students' productivity. In comparison, 26.9% of the respondents think that online learning can increase students' productivity, and the remaining 11.5% answered

that online learning cannot increase their productivity. From the data, it can be concluded that it is possible to increase students' productivity levels in online learning. The data aligns with the research results by [Marlina et al. \(2021\)](#) that students in a much more independent learning community express their opinions, attitudes, and behaviors more productively. They undergo academic activities by showing a diversity of adaptations according to several factors that influence the learning and learning space they live in. Online lectures impact student abilities, decreasing or increasing, which returns to how learning patterns are applied to each person ([Adnan & Anwar, 2020](#)). Online learning activities can be carried out well if the facilities provided by public universities are adequate ([Rusdiana, 2020](#)). Efforts to improve the effectiveness of online learning need to be made and prepared by lecturers and students. Especially for students, preparing online learning tools and applications, and increasing mental preparation, namely adapting, being independent, resilient, and responsible are efforts to achieve maximum learning results ([Cahyawati, 2020](#)).

## **CONCLUSION**

From the data of the research conducted, students of the Education Technology study program at Universitas Pendidikan Indonesia show an excellent interest in online learning, and the level of productivity of online learning is high. Students can adjust to the current situation and adapt well. Online learning is a method carried out remotely because it is expected to break the chain of transmission of COVID-19. Not a few students and educators complain about online learning because they experience obstacles and challenges during the online learning process. These obstacles and challenges come from facilities, infrastructure, the environment, and learners and educators. Online learning still has an ineffectiveness value for students. Based on research results with student and college student respondents, online learning still needs to be improved for high school students and practical enough for college students. The online learning process for students and college students has the possibility of increasing the level of learner productivity. Students' motivation level in online learning needs to be higher or can be said to be still low. Online learning has pros and cons because its effectiveness is still in doubt. This is also evidenced by the percentage of obstacles experienced by students, for example, in the delivery of material, some students assess that the material delivered by educators needs to be better conveyed to students, but others assess that the material delivered can be understood. Another obstacle is network constraints, this is the biggest obstacle because students often experience network constraints that hinder the online learning process.

## **AUTHOR'S NOTE**

The authors declare that there is no conflict of interest related to the publication of this article. The authors emphasize that the data and content of the article are free from plagiarism.

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