

Identification of Difficulties of Physics Education Student Faculty of Teacher Training & Education in Online Learning Process On Covid-19 Pandemic Era

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Abstract

Online thesis guidance is an obstacle faced by students majoring in physics education, FKIP USK. This qualitative descriptive study aims to find out what difficulties affect the student learning process through online learning for Physics Education students. The sample in this study were all Physics Education students who carried out online learning, totaling 54 respondents. Data collection was obtained by using a questionnaire to determine learning difficulties in the online learning process. The data analysis technique used to determine the percentage of learning difficulties is sorting the data according to research indicators including internal factors, namely physical and psychological barriers, external factors, namely barriers to educators (lecturers), facilities, families, and extracurriculars. The results of data analysis showed that learning difficulties with percentages were physical barriers (61.1%), psychological barriers (56.7%), educators (lecturers) (58.7%), facilities (53.6%), family (49.7%), and extracurricular (47.4%). So it can be concluded that the main factor that affects the difficulty in the learning process is internal physical barriers.

Keywords: *difficulty learning, online, covid-19*

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INTRODUCTION

The coronavirus is now causing an outbreak over the world. Coronavirus is a broad family of viruses that can produce a variety of symptoms ranging from minor to severe. The first Corona virus was identified in Wuhan, China, in December 2019. May 2020 has infected more than 5.8 million people in 216 countries around the world, including Indonesia.

It has been declared an international health emergency by the World Health Organization (WHO) (WHO, 2020). Maintaining social distance, or "social distancing," to decrease interactions between people in the wider community, according to the World Health Organization (WHO), is one of the methods to anticipate the spread of the corona virus (Smith & Freedman, 2020). Corona virus Diseases 2019 (COVID-19) is a brand-new disease that has never been seen in humans before. Symptoms of acute respiratory distress, such as fever, cough, and shortness of breath, are common indications and symptoms of COVID-19 infection. The greatest incubation duration is 14 days, and the typical incubation period is 5-6 days. Outbreaks of this disease can be fatal, and anybody can be affected. This virus is spreading at an alarming rate, particularly in Indonesia. Of course, this has ramifications in a variety of fields, including education (Rahmawati, et al: 2020).

Conforming to the 2003 Education Law, education is an intentional and planned effort to create an environment and learning process where students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence and noble character as well as the skills needed by themselves, their society and their nation.

There are three main types of education in Indonesia, namely formal, informal, and non-formal education. Early childhood, elementary, middle, and high school education are also divided into four levels. The learning process is also inextricably linked with education. Pupil training refers to any process in which a person's environment is modified in order to enable him or her to function in a specific situation or respond appropriately (Susanto, 2013:186). They were Hardini and Puspitasari, respectively" (2012:10). In order to achieve a goal, namely the achievement of curriculum goals, learning is a deliberate activity that aims to modify various conditions. The learning process has a negative impact on education in the age of pandemics.

As a result of the lockdown or quarantine policy, fewer people are interacting with each other, reducing the risk of the corona virus spreading. Many countries, including Indonesia, have implemented policies that have resulted in the closure of all educational activities, forcing the government and related institutions to provide alternative educational processes for students and students who are unable to attend school. On March 24, 2020, the Minister of Education and Culture Nadiem Makarim issued Circular Letter No. 4 regarding the Implementation of Educational Policies During the Emergency Period for the Spread of Coronavirus Disease (Covid-19) in PDF format. As stated in the policy, "the health and safety of students, educators, education staff, families, and the community is a top priority when setting learning policies."

The impact on the learning process is that all learning activities that were previously carried out face-to-face must now be shifted to the online learning process (in a network). Online learning is learning which uses the internet network with accessibility, connectivity, flexibility, and the ability to generate various types of learning interactions (Setiawan et al., 2019).

This is done at all levels of education, from elementary school to college (Windhiyana, 2020). Learning that takes place online, through the use of learning apps and social media, is referred to as online learning. Online learning is learning that is done through a platform rather than face-to-face instruction. All types of topic matter are distributed online, communication is done online, and assessments are also done online (Ivanova et al, 2020). Using the internet, video/audiobroadcasting, video/audioconferencing, other telecommunications and information technology, online training is a form of distance learning (directly and indirectly). Each one of these electronic tools is designed to help students better understand the material they are studying. In other words, learning online means utilizing electronic device assistance directly. In the individual learning model, this online activity is incorporated into the curriculum.

Of course, students face a variety of challenges during this online learning process. Some students do not follow the lecture process, which makes it harder for educators to monitor, and this has an impact on student learning results. The success of the learning process can be seen in the students' learning achievements. The ability

to implement online lectures is a problem for instructors. Student learning outcomes are superior to those of traditional lectures (Rizal, 2019). Educators must be able to assist pupils in overcoming obstacles in the learning process. Not only that, but lecturers face challenges as well. Some instructors are not used to using a blended and entirely online learning system, and they require media such as phones, laptops, or computers. This problem emerges because they have not been instructed on how to use equipment for online distance learning models. As a result, additional assistance and mentoring are required to make changes to the online learning experience (Noviati, 2020).

According to Purwanto et al's (2020) research, one of the most obvious effects is the difficulty students have learning at home. As a result of inadequate facilities and infrastructure, students feel compelled to study remotely. These obstacles arise from the fact that parents do not fully understand the material, it is difficult to instill enthusiasm and motivation in children, and it is difficult to divide time between parental work and child assistance, according to Wardani, et.al (2020). because of limited internet coverage and the fact that parents were impatient in accompanying their kids online while the covid-19 pandemic was going on." But learning difficulties can also be affected by both internal and external factors (Abdurrahman, 2003). Other issues include insufficient interaction between students and teachers, as well as the requirement for greater experience (Setiawan, 2020). In general, learning obstacles are divided into two categories: internal and external difficulties (Dewi, 2020).

Learners' difficulties can be looked at from two angles, namely from the inside and the outside, says Djamarah (2008:235). When it comes to internal factors, there are a variety of physical and psychological disorders or deficiencies, including: cognitive (inventive domain), such as low intellectual capacity or intelligence, Affective (feeling realm), such as instabilities in emotions and attitudes, and Psychomotor (intentional realm) (eyes and ears). When it comes to external factors, the family environment plays a role in the online learning process, as does the family's economic life, which includes various facilities such as learning support tools and a peaceful living environment that includes internet access networks. Environment of the learning process activities for students in conditions of inadequate facilities and

infrastructure, such as sufficient numbers of learning quotas or teaching materials in the learning process. However, there are some drawbacks to using the online practicum method, including the need for a variety of resources such as internet quotas for accessing practicum learning, and tools and materials used in practice (Faizi, 2013: 228).

Various issues that students face can become roadblocks in the learning process. Educators must be aware of students' obstacles in learning Physics in order to provide good and effective instruction.

Based on this hypothesis, the researchers decided to undertake a study titled "Identification of Physics Learning Difficulties in the Online Learning Process for Physics Education Students FKIP Unsyiah in the Covid-19 Pandemic Era."

METHOD

Faculty of Teacher Training and Education (FKIP) Syiah Kuala University (USK) Department of Physics Education, JL. Teuku Hasan Krung Kalee, Kopelma Darussalam Syiah Kuala Banda Aceh conducted the research. Starting in January 2021, the research period will begin.

This study is a qualitative descriptive study aimed at determining how problems in online learning effect student learning for Physics Education students. This study involved 253 students from four generations of physics education students at FKIP USK:

Table 1. total students by class

NO	Class Student	number of students
1.	2017	64
2.	2018	52
3.	2019	71
4.	2020	66

Taro Yaname and Slovin's formula for determining the number of sample members is used if the population is known (Riduwan and Kuncoro, 2011:49). then there were 54 students in this study.

In this study, proportionate stratified random sampling was used as the sampling

technique. Because it is more difficult to learn Physics online, there are more sample members.

Table 2. sample size for the students

N O	Class Student	Population by batch (Ni)	Number of Samples by batch (ni)
1.	2017	64 Student	14 Student
2.	2018	52 Student	11 Student
3.	2019	71 Student	15 Student
4.	2020	66 Student	14 Student
Total sampel (n)		253 Student	54 Student

A random number generator is used to determine the sample members. Each batch's name is drawn at random, and the number of samples is determined based on that.

using a questionnaire as a research tool, As part of the online learning process, a questionnaire consisting of 40 statements was distributed to each class leader via Whatsapp in order to collect data. it is then distributed to all students via a google form, which has four options.

A Likert scale was used to examine the questionnaire in this study. This study's Likert scale is a four-choice format (fourth scale). The scale is set up in the form of a statement, with a selection of responses to reflect the level of difficulty (Widoyoko, 2016: 104). The data is then analyzed using Darmadi's percentage algorithm (2011:324). The data is then described and analysed in order to arrive at findings and answers to research questions. Starting with the greatest number and working down to the lowest, the interpretation is presented using Hamid Darmadi's criterion (2011: 324).

RESULTS AND DISCUSSION

The findings of an online study of Physics Education FKIP USK students to determine the factors that contribute to student learning challenges during the online learning process. This study employs descriptive quantitative research methods.

Table 1. shows the findings of the study.

Aspect	Indicator	Percentage
	Physical Obstacles	61,1 %

Internal factors	Psychic Obstacles	56,7 %
Average		58,9 %
External Factors	a teacher (Lecturer)	58,7 %
	facility	53,6 %
	Family	49,4 %
	Extracurricular activities	47,4 %
Average		52,2 %

Internal and external elements were identified to be the learning challenges factor for Physics Education students in online learning, based on the results of the questionnaire data (Wangid & Sugiyanto, 2013).

External constraints include educators (lecturers), facilities, families, and extracurricular activities, while internal impediments include physical and psychological barriers. Based on the respondents' choices of barriers, it can be deduced that two elements of obstacles faced by students are categorized as low.

The average internal aspect is 59 percent, and the average external aspect is 53 percent, with a low barrier category indicating that these two factors are not that difficult for pupils to overcome.

1) Internal factors

Table 1. due to a lack of internal motivation

Internal factors	Percentage	Category of Difficulty
Health	61,1%	Difficulty
Cognitive	64,4%	Difficulty
Affective	52,6%	Difficulty
Psychomotor	53,1%	Difficulty

There are two types of internal barriers: physical and psychological. 61,1 percent of students had difficulty with physical barriers, indicating that many students had difficulties. When it came time to attend lectures online some

students were sick from lack of sleep and dizzy from sitting in front of a computer screen, so they avoided it.

The second indicator is based on psychological barriers, with 64.4 percent of students experiencing difficulties. Understanding the material in the physics learning process is quite difficult, as evidenced by this cognitive sub-difficulty indicator's score of 6. Many students have difficulty absorbing the material. Student and higher-level student's ability to reformulate and then combine it with his understanding for later assessment/consideration (Solichin, 2012).

There are 53.1 percent of students who have difficulty with this sub-indicator, which is the second sub-indicator in the psychological indicators category. This is due to the fact that new students adjust to the use of technology in the learning process. When it came to using electronic devices during online lectures, students had a lot of trouble adapting to the features available in online learning applications, which caused a lot of confusion. To be fair to students, this isn't a huge problem.

As a psychological indicator, affective barriers are the third sub-indicator. In particular, 52.1 percent of students had difficulties because of the lowest barriers based on internal indicators. The students' lack of enthusiasm and motivation is a major hindrance to their success. Because they don't interact directly with each other, the level of competition between students decreases, and they're less motivated to learn. Aside from that, a large number of students aren't paying attention and aren't paying attention to the material being explained, which makes it difficult for them to interact with their lecturers.

The importance of motivation in the learning process has been emphasized by Nurhidayati (2013). Students' motivation will determine whether or not they succeed in achieving satisfactory results. In addition, laziness disorders at home are a common cause of students' absences from school.

Education professionals can use the three domains (cognitive, affective, and psychomotor) to determine the level of success in the learning process (Kasenda et al, 2016).

2) External Factors

Table 2. learning disabilities caused by external factors

External Factors	Percentage	Category of Difficulty
Submission of materials	57,7%	Difficulty
Task	53,2%	Difficulty
Practice	65,4%	Difficulty
quota	58,7%	Difficulty
Internet access	54,6%	Difficulty
Device	47,6%	No Trouble
Parent	49,4%	No Trouble
Campus-based activities	45,3%	No Trouble
Extracurricular Activities	49,5%	No Trouble

Educators, facilities, families, and extracurricular activities make up the external factors. The first indicator of difficulty for educators (lecturers) is that 65.4 percent of students have difficulty with the virtual process. When it comes to the virtual practicum process, many students don't understand what's going on because it's difficult to get tools or practicum materials.

57.7 percent of students have difficulty understanding material delivered by lecturers, according to the second sub-indicator. Lecturers who use unattractive methods and deliver difficult-to-understand teaching materials are directly responsible for students' poor understanding of the material. They also have a difficult time mastering applications used for online learning.

In addition, 53.2 percent of assignments are classified as difficult by students as a sub-indicator. Student understanding is not deepened by lecturers' assignments. A lot of assignments are given by professors without considering the student's level of understanding.

As a second obstacle indicator, students' access to quotas, internet access and other learning aids can be seen (mobile phones, laptops, computers). A 58.7% internet quota limit is the biggest obstacle. According to Dindin et al(2020). 's research, the biggest obstacle to online learning in the midst of the covid-19 pandemic is the

limited number of seats available online. Only 54.6% have internet access, but many do because they live in urban areas or use WI-fi. Students lose concentration when the signal or internet network is not optimal, according to Mastuti (2016). Depending on the geographic location, the signal capturing power varies. Student whose house is in the middle of nowhere, far from satellite internet, bad weather, and too many skyscrapers, for example. Learning is slowed as a result, which leads to students losing concentration.

There are 47.6 percent of students using learning support devices such as smartphones and laptops, so this sub-indicator is not a big obstacle.

Lastly, there's a factor called family. A learning process can be carried out from home through online/distance learning, according to Circular Letter No. 4 of 2020 concerning the Implementation of Education Policies during the Emergency Period for the Spread of Corona Virus Disease (Covid-19). In addition, because online learning is done from home, students who come from a family background may encounter obstacles. Parents make up a family. Whether or not online learning has benefited them is determined by their response. As a result of the survey, respondents reported that they felt their parents' support while learning online. Learning is a process that is well understood by most parents of students. In addition to providing assistance to parents, students can also benefit from a variety of tools to aid in the learning process, as well as a conducive family environment that helps the learning process go smoothly. Students with a score of 49.4 percent are considered to have no difficulties.

Extracurricular activities, which include both on-campus and off-campus activities, are the final determinant of student success. This is a measure of how much this activity interferes with the student's ability to learn. As far as percentages go, the results are almost identical. Without a challenge category, 45.3 percent of the activities on campus and 49.5 percent of those off campus were on campus. Because of this, online learning isn't disrupted by these two activities. However, there are a few students who have other obligations outside of school, such as working to support their families. In part, it's because of the Covid-19 pandemic, which has reduced the number of jobs available to parents, resulting in an insufficient income. In order to provide for themselves and their families, they must work.

Students who have a lot of influence in their families tend to get tired and leave the lecture. So, for example, he was his family's backbone. Student workers have significantly reduced learning activities as a result of the amount of time they spend on work, according to previous research (Mardelina & Ali, 2017). Part-time workers, according to Glagah and Sri Umi (2019), have lower GPAs because they don't have time to rest and instead spend it sleeping in class instead of doing their homework or reading.

CONCLUSION

Physics Education students' struggles with online learning can be divided into internal and external factors, according to research conducted by FKIP USK on the difficulties of learning physics online during the covid-19 pandemic. indicators of physical barriers (61.1%), psychological barriers (56.7%), educators (lecturers) (58.7%), facilities (53.6%), family (49.4%) and extracurricular activities (47.4 percent). External barriers such as power cuts and internet networks as well as students' own internal barriers and internet quotas are the most significant indicators of learning difficulties.

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