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The Impact of the COVID-19 Pandemic on University Students' Learning Behavior and Social Interaction

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Abstract:
People are forced to interact indirectly or face-to-face due to the COVID-19 pandemic. Direct social interaction is more reliable than indirect one, and online lectures impact university students. The objective of this research is to investigate students' learning and social behavior at the faculty of teacher training and education, Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia. This research used a quantitative technique, which allows the researchers to get numerical data by statistically examining samples with specified instruments. The research sample consisted of university students who were chosen randomly. The data were collected through an online questionnaire in Google Forms, documentation, and literature review. The impact of the COVID-19 pandemic on students' lecture activities is primarily associated with how internet signals impede the modification of online approaches. The COVID-19 pandemic has impacted their learning, social and health behaviors. However, one positive outcome is that they have become more adaptable to learning technologies that can help them learn, improve social relationships, and live a healthy lifestyle. Because the COVID-19 pandemic is new, it is critical to explore its impact so that strategies to overcome the issues can be established as part of efforts to adjust to new habits.

Keywords: COVID-19 pandemic, social behavior, social interaction, online learning, learning behavior.

新冠肺炎大流行对大学生学习行为和社会互动的影响

摘要：
由于新冠肺炎大流行，人们被迫进行间接或面对面的互动。直接的社交互动比间接的社交互动更可靠，在线讲座影响大学生。本研究的目的是调查印度尼西亚日惹萨尔加纳维亚塔塔曼西斯瓦大学教师培训和教育学院的学生学习和社会行为。这项研究使用了一种定量技术，该技术使研究人员可以通过使用指定仪器对样本进行统计检查来获得数值数据。研究样本由随机选择的大学生组成。这些数据是通过谷歌表格、文档和文献综述中的在线问卷收集的。新冠肺炎大流行对学生讲座活动的影响主要与互联网信号如何阻碍在线方法的修改有关。新冠肺炎大流行影响了他们的学习、社交和健康行为。然而，一个积极的结果是，他们

变得更加适应学习技术，这些技术可以帮助他们学习、改善社会关系并过上健康的生活方式。由于新冠肺炎大流行是新的，因此探索其影响至关重要，以便制定克服这些问题的策略，作为适应新习惯的努力的一部分。

关键词：新冠肺炎大流行、社会行为、社会互动、在线学习、学习行为。

1. Introduction

Coronavirus, commonly known as COVID-19, is a virus that has prompted growing concerns globally. The COVID-19 outbreak in Indonesia has negatively impacted all aspects of life, including teachers' problems in adopting distance learning and strategies for overcoming them (Azhari & Fajri, 2021). Because dealing with the coronavirus is challenging, many government leaders have established regulations that are tough to adopt but must be implemented by the government to reduce the virus's spread. Many places have been closed to prevent the virus from spreading, forcing everyone to study, worship from home, maintain physical distance, quarantine areas on a large or small scale, and decrease social interaction among individuals.

This restriction on social interaction has impacted many industries, including education. Although government vaccines have shown to be particularly successful in limiting and suppressing the current pandemic, the majority of them are for social distance, which improves physical health, reduces viral transmission, lowers negative emotions, and improves cognition (Davy, 2021; Zhang et al., 2021). Social interaction, in this sense, is defined as the relationship among individuals or groups of people (Mullen et al., 2021), and its significance to distance learning and teaching cannot be overstated. Educators have previously concentrated on traditional learning approaches, such as face-to-face interactions in class among teachers and students or lecturers and students. Face-to-face instruction, conversation, question-and-answer sessions, and mentoring are all parts of the learning and teaching processes.

In one way or another, teachers must now immerse themselves in this online learning (Carrillo & Flores, 2020; Bryson & Andres, 2020; Mathrani et al., 2021). The COVID-19 pandemic forces them to interact with one another either indirectly or directly. However, as the experts articulate, direct social engagement has a higher level of trust than indirect social interaction.

Online learning has been troublesome for students in higher education during the COVID-19 pandemic because problems arise not only in terms of abilities in using technologies (Adedoyin & Soykan, 2020) but also due to the technological divide (Nurdin, 2021). Instructors are less skilled in online pedagogy in some situations, parents' ability to aid children in learning is limited, and the internet network is unreliable, according to studies. Surprisingly, 77.75 percent of regular-class students and 81.05 percent of non-regular-class students reported having learning anxiety. The difference in learning anxiety between regular and non-regular class students was not statistically significant (Arribathi et al., 2021). The COVID-19 pandemic has significantly impacted Indonesia's education system, causing it to quickly adapt its teaching methods to respond to pandemic and post-pandemic circumstances (Indrawati & Kuncoro, 2021).

COVID-19 has significant impacts on online learning, according to students. Thus, using various platforms such as Zoom Meetings, Google Meet, LMS, Telegram, Google Classroom, WhatsApp groups, online lectures became an alternative to traditional lecture activities that could not be carried out due to social restrictions (Pratiwi, 2020). According to Arizona et al. (2020), online learning is a type of distance learning or training that uses telecommunications and information technologies such as the internet and CD-ROOM (directly and indirectly). Learners and their learning resources (databases, experts/ lecturers/ instructors/ teachers, libraries) who are physically separated or even far apart can communicate, engage, and collaborate directly (synchronously) or indirectly (asynchronously) through online learning.

In the aftermath of COVID-19, digital transformation is a critical challenge in maintaining higher education policies. According to Nurhas et al. (2021), in higher education, the challenges of rapid digital transformation have arisen amid a pandemic. Even though there were still digital divide gaps in many locations, the students knew about the COVID-19 pandemic and had enough information about this global concern. Students learned how the virus spreads, what symptoms to look for, and what precautions people and the broader public should take (Baloran, 2020).

Based on the above emphasis, more research is needed to examine how the COVID-19 pandemic has affected learning activities, social interactions, and behavior. The urgency of this research stems from the fact that the COVID-19 pandemic is a novel phenomenon that requires research into its effects to devise strategies to overcome the challenges posed by COVID-19's influence in the effort to adapt to new habits, particularly in dealing with problematic internet use (Deutrom et al., 2021).

2. Methodology

2.1. Research Design

This study used a quantitative approach, allowing researchers to acquire numerical data by statistically analyzing samples with predetermined instruments. A cross-sectional survey design was adopted, which is a

research design that collects all data from the sample at once.

2.2. Sample and Data Collection

The data was collected using an online questionnaire with open and closed questions, then analyzed quantitatively using univariate analysis to determine the frequency distribution of the data collected. The questions address experiences, habits, attitudes, sentiments, actions, and problems faced while learning online (in the network).

2.3. Data Analysis

The validity of the data is based on objectivity regarding the degree of agreement among many people. A group of students from the Faculty of Teacher Training and Education at Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia, took part in the survey. The correlation coefficient significance test indicates that 19 of 22 items about social interaction and 9 of 10 questions about learning behavior were accurate. Then, the invalid questions were deleted from the study; only 28 remained. It is considered reliable because the dependability coefficient is 0.75.

3. Results

The study involved students from Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia, notably those from the Faculty of Teacher Training and Education. The respondents were selected among graduates of 2017, 2018, 2019, and 2020 in various study programs. As a response to the circumstances and conditions during the COVID-19 pandemic in Indonesia, according to the Minister of Education and Culture's circular and the Governor of the Special Region of Yogyakarta's circular, lectures are delivered online using a variety of platforms, as illustrated below:

Table 1. Platforms used at lectures

Obstacles	Number (f)	Percentage (%)
WhatsApp group	194	90.7%
Google Meet	174	81.3%
Sipedar	187	87.4%
Portal UST	163	76.2%
Zoom Meetings	171	79.9%
Google Classroom	117	54.7%
WhatsApp Forum	26	12.1%
Etmondo	26	12%
Telegram	2	2%
Others	0	0%

Table 1 shows that the most commonly used platforms in online lectures are WhatsApp groups as the primary means of communicating lecture information, schedules, and links.

3.1. The Impact of the COVID-19 Pandemic on Learning Behavior

The COVID-19 pandemic began in the Chinese city of Wuhan and spread to several countries throughout the world, including Indonesia, where the virus is still active. One of the repercussions of the COVID-19 pandemic for education is a delay in teaching and learning activities. All educational institutions, especially those in higher education, must provide opportunities for online learning (in networks). Due to these restrictions, students prefer lectures delivered outside of the network (offline) to lectures held within the network (online), as shown in the figure below.

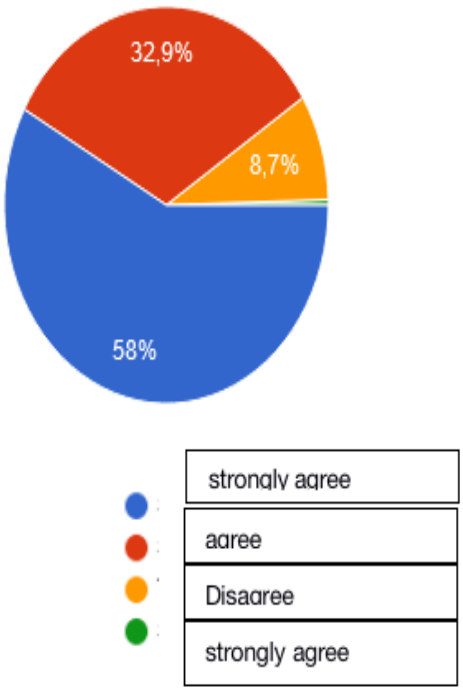

Figure 1. Students' learning preferences

According to the results of a survey conducted with a questionnaire distributed to the respondents, 90.0 percent of the students prefer offline or face-to-face lectures to online ones. For various reasons, not all students are prepared to participate in online courses; one of the problems is network problems. Students from diverse countries continue to encounter some issues as a result of the use of multiple online platforms at lectures, as illustrated in the table below:

Table 2. Learning obstacles in the online network

Obstacles	Number (f)	Percentage (%)
There is no good internet network.	110	48.25%
Limited quota	115	50.44%
Others	3	1.31

In general, online learning is a type of teaching and learning that takes place online, rather than in place, using available digital platforms. Changing the teaching and learning system is unquestionably difficult. Several students remarked that if the lectures were delivered face-to-face, the subject would be more difficult to understand and more pleasant. When lessons are offered online, students assume they have more tasks and to spend more time in front of a laptop or cellphone. Attending classes, completing assignments, and submitting assignments require the purchase of additional internet quota and computer/laptop devices.

Not all online learning harms the teaching and

learning processes. One of the primary goals of implementing remote learning is to suppress, if not break, the COVID-19 transmission chain. Its impact also gives students new abilities, such as accessing internet references regularly, running an online business as a second job, improving video editing skills, and learning new programs, as seen in the figure below:

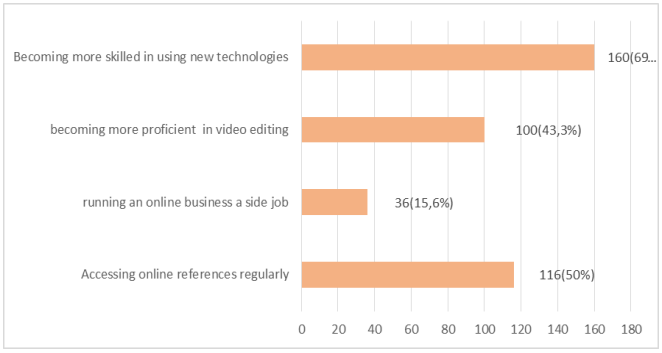

Figure 2. Students' new abilities in online courses

Interestingly, video-based learning seeks to support internships, industrial practices, culinary practices, clothing, development courses, and other pertinent activities carried out by students at the Faculty of Teacher Training and Education. Lecturers guided students in addressing practical task concerns using videos. Students who participated in online classes improved their skills and knowledge in Microsoft Office (Word, Excel, PowerPoint) and working with PDF (converting PDF to Word, PDF to JPG, etc.). 43% of students learned new skills related to video editing through various applications.

For some students whose parents are financially impacted by the COVID-19 pandemic, online learning is helpful in augmenting their income by doing internet business or even working as online motorbike taxi drivers. Students are also more likely to read journals, online references, the Indonesian Wikipedia site, e-books, or via free reading apps such as Ipusnas.

3.2. The Impact of the COVID-19 Pandemic on Social Interaction

The Indonesian government has enforced social restrictions and maintained physical distance since the coronavirus first appeared. Circular Letter No. 3 of 2020 concerning preventing Corona Virus Disease (COVID-19) in the Education Unit, which said that schools and colleges were closed, was published swiftly in response to one of the measures to curb the spread. This is done to break the COVID-19 transmission chain. The government sets policies in every area, such as allowing all levels of education to be completed at home online.

Students from the faculty of teacher training and education at Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia, who participated in this study, had similar experiences. In today's society, online learning maintains students' virtual connections with their classmates (Zapata-Cuervo et al., 2021). Students, for example, still care about and pray for a sick classmate, and if the lecturer has new material content, students always share it. Similarly, when the lecturer offers group assignments, students work diligently and extensively on them (Nygren & Olofsson, 2020), as depicted in the following figure:

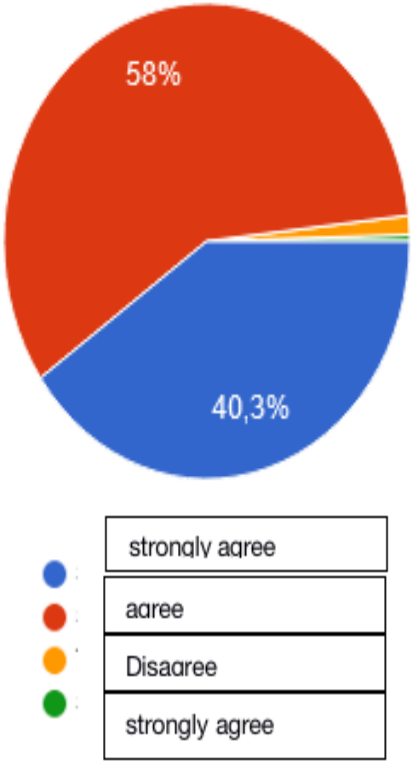

Figure 3. Online learning challenges

As seen in Figure 3, online learning and stay-at-home restrictions (Eshelby et al., 2021) do not hinder students from connecting with their friends or working on group projects, as shown in Figure 3. 58 percent of students strongly agree that group work should be continued with full accountability (Lim et al., 2021), 40.3 percent disagree, and the remaining students do not complete group projects with full responsibility and discipline.

4. Discussion

The findings revealed that most students had trouble perceiving online lectures since changing the teaching and learning systems is difficult. Some students indicated that the course material would be more difficult to understand if the lectures were given face-to-face. Online lectures are more pleasant because they allow more individual learning. Students believe that they have more responsibilities and spend more time in front of a computer or smartphone. Attending lectures, completing assignments, and mailing assignments contribute to the cost of acquiring knowledge, which is reliant on internet bandwidth and computer/laptop devices as required. Meanwhile, some financially disadvantaged students must assist their parents at the workplace, with less time to study. Online learning also limits practical lectures because they cannot be conducted immediately in the field (Cutri et al., 2020).

There is a lack of connection among lecturers and students in online lectures, which hinders the construction of values in learning and teaching processes. According to studies, not all online learning hinders the teaching and learning process, but dampening and even breaking the COVID-19 transmission chain is one of the primary goals of remote learning implementation (Carpenter & Dunn, 2020; Shin & Hickey, 2021). Its massive impact has several positive outcomes, including developing technological skills. When lectures are held online, students often complete tasks using laptops or cellphones, progressing over time. Another advantage is that students can record lectures and re-learn the material independently. Because students can take detailed notes on the things that have been taught, this strategy is fairly effective.

According to Heliandry et al. (2020), because online lectures are supposedly highly successful in lowering the risk of COVID-19 transmission, online learning is a good alternative to learning in class, particularly if the university is located in the red zone. Physical activity and mobility outside the home have decreased considerably as actions to manage the COVID-19 pandemic are implemented worldwide. All efforts to prevent the COVID-19 transmission, such as staying at home for long periods, social distancing, reducing physical activity (Brooks et al., 2020), increase sedentary behavior (lazy movement) such as playing computer and video games, watching television, using mobile phones, and reading books.

Based on the research findings, the students then wrote down their hopes for what they would like to do once the pandemic was over. Students want to engage in regular activities, such as listening to lectures face-to-face as they did before the pandemic, meeting with their families and classmates, and completing practicums as they should. Some students better understand how to preserve health and obey health protocols (Cordaro et al., 2021).

5. Conclusion

The COVID-19 pandemic has impacted social behavior and interaction among students at Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia. Online lectures involve using technology. There are still technical challenges, such as signal issues, a lack of network, and insufficient practice courses. Online learning does not cause students to lose interest in their friends. Students, for example, still care for and pray for a sick classmate, and if the lecturer has new materials or group activities, they always share them.

As a result of the pandemic's influence, students discover that they can try new activities. They learn to be more creative with technological equipment and programs and become closer to their families when developing the new at home. It becomes a lesson that social connections are healthy when the principles of social distancing are obeyed. Because, before the pandemic, students engaged in social interactions with other people without thinking about their health. Direct contact is also used to transmit many different illnesses and viruses. This pandemic teaches students how to connect socially and in a healthier way.

The research took place when there were a lot of social regulations and restrictions. Palangka Raya University students' social behavior and health have also been affected by the pandemic. Because lectures are delivered through the internet, the influence of learning behavior is an adjustment to using technology. However, signal limits exist, and online platforms are not ideally employed for practical learning courses. Overprotective behavior results from social behavior; it is simpler to be suspicious when others are sick. Changes in health practices include diet, physical activity, boosting immunity and endurance by sunbathing, taking herbs, spices, or traditional substances, and exercising (Ulfa & Mikdar, 2020).

According to research conducted at STIKES Rajekwesi Bojonegoro, Indonesia, 54.5 percent of students have difficulty understanding lecture materials, 50 percent of students' creativity, 56.5 percent of students' assignments are difficult and slow, and 41 percent of students are less active during lectures (Rahmawati & Putri, 2020). Students at Palangka Raya University, Indonesia, find it difficult to comprehend lecture content; they prefer face-to-face courses to ask instructors questions directly. Outside of college, skills such as learning new programs, video editing, and others might help students be more creative. Due to network limits and a large number of tasks, task implementation is difficult, slow, and less active.

In India, a study by Chaturvedi et al. (2021) indicated that the COVID-19 pandemic had significantly impacted students of all ages, including time spent in online classes and on self-study, media used for learning, sleep habits, daily exercise routine, and eventual consequences on body weight, social life, and mental health. According to the findings, public authorities should take all necessary steps to improve the learning experience by reducing the negative effects of the COVID-19 outbreak (Chaturvedi et al., 2021).

The sampling technique utilized, for example, is one of the study's limitations. The method is based on digital infrastructure and voluntary involvement, which results in increased selection bias. Social restrictions limit students who do not have access to internet learning. According to the instruction to limited learning, this research was only collected from one specific area. Another disadvantage of this study is that the survey was conducted cross-sectionally, with no follow-up for the participants.

In light of such considerations, recommendations for online lecture activities have both a positive and negative impact. As a result, a lecture approach that incorporates methods that focus on accomplishing learning outcomes should be adopted. During a pandemic, the blended learning method could be one way to modify the order of education in Indonesia. Integrating traditional education approaches with digital-based systems is viable.

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