

# Online Learning During COVID-19 Pandemic: A Survey of LIS Students in Yogyakarta

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## ABSTRACT

*LIS education in Indonesia was affected by the emergence of COVID-19 pandemic in the middle of March 2020. Face to face classes have shifted towards online educational platforms. This sudden change has caused students and lecturers to adjust their learning approach. Various challenges have emerged due to this change. This is a quantitative study conducted by distributing online questionnaires using google form. The aim of this study is to investigate how students respond to this pandemic situation and their learning experiences particularly in attending the online classes. The results of this study indicate that due to the COVID-19 pandemic, face-to-face classrooms and laboratory activities, including physical library visits, have been halted. Thus, students are required to adjust and make changes on their academic schedule. Students express their concern in studying online due to an unfavourable learning environment at home caused by noise from the conversation among the family members, traffic nearby, and others. Other factors include interruption by people like starting conversations or asking questions to the students during online class due to not knowing the students were attending online class. This happens often especially in the early days when the online classes started. The Internet is also another barrier for some students as they live in the suburbs or rural areas with poor Internet connection. As such, the students sometimes need to find places with better Internet access, such as a café or a library. In addition, the noises have caused inconvenience towards their studies as a result of them paying less attention in classes. The students have hoped to have blended learning with a mixture of both on campus classes as well as online classes.*

**Keywords:** Pandemic, COVID-19, Library and Information Science education, Graduate LIS students; Indonesia.

## INTRODUCTION

The year of 2020 was the toughest year for sectors of business, industries, tourism, education and many others. This condition was caused by the unprecedented COVID-19 pandemic that hit most countries in the world including Indonesia. The COVID-19 pandemic resulted in a world health and economic crisis that occurred in 215 countries. Many people have lost their lives. According to Worldometers, more than 3 million people died up to now (data of 21 April 2021). Meanwhile, the pandemic has caused companies to be in debt or closed their business, and many people lost their jobs.

According to Worldometers, The US has the highest number of Coronavirus Cases (147,794,679), and quite recently India has increased a lot in the number of cases and now India reached 32,824,389 cases and the new cases is over 349.591 in a day. Brazil is on the third place with 14,340,787 Cases. Meanwhile Indonesia currently reached 1,662,868 cases (data of 29/04/2021).

As we all know, COVID-19 emerged in China in the end of 2019 and early in 2020 and the virus has rapidly spread all over the globe until finally the United Nations stated the situation as pandemic. Governments around the world have been taking various actions to cope with it. Indeed, the situation has affected most aspects of life—personally, institutionally, nationally, and internationally. The education sector is one of the many that has been affected by the situation and resulted in the closing of schools and universities for face-to-face activities.

The pandemic has disrupted the daily teaching and learning activities from elementary schools to universities. As we can see, most schools and universities cancelled all classroom activities and turned to online classes soon after the situation got worsen. This condition affected students, teachers or faculty, librarians, and other staff of the educational institutions socially and psychologically. For the developed countries and the countries that have applied online classes before the pandemic, there surely is no problem of adapting to online classes for both students and teachers. For the developing and underdeveloped countries, both students and their families are not always easy to cope with this sudden change. Some have to struggle to get facilities in order for their children to take part in the online classes and adapt to the new ways of learning using information technology tools. The shift from onsite to online, indeed, needs much effort from various parties—students, teaching staff, librarians, and all other staff, including administrative and laboratory staff, and even the gardeners and cleaning service employees.

The term 'online education' has actually been in existence in Indonesia for the last few decades, but this online education is considered not as effective as the onsite one. Therefore, most educational institutions emphasize face-to-face learning and the presence of people in the campus for the educational process. Online education is defined as a form of distance education that uses an internet connection as its learning method, with at least 80% of courses content posted online (Allen & Seaman, 2011; Shelton & Saltsman, 2005). It is separated by distance. Another term, 'distance education', is sometimes used and it means a management method in which students and teacher are physically separated. It can take advantage of a combination of technologies, including correspondence, audio, video, computers, and the Internet (Roffe, 2004). The COVID-19 pandemic really forces the educational institutions to move from onsite to online in order for the learning and teaching process to continue.

As we all know, in the beginning of COVID-19 outbreak, universities and schools anticipated the pandemic by stopping the onsite classes. Other activities such as conferences, seminars, guest lecturing, and thesis or dissertation defenses, were all cancelled.

According to United Nations Educational, Scientific, and Cultural Organization (UNESCO), more than 160 countries have implemented national school closures, affecting more than

half of the world's student population. In Indonesia all schools were closed. They then moved to online learning although most schools had no experience at all. Meanwhile, more than 4,000 higher education institutions in Indonesia switched to online learning methods. It is also stated that more than 7 million students and 300,000 lecturers are currently holding online classes (Yarrow and Bhardwaj, 2020). In fact, the total number of universities in Indonesia is 4,741 universities, but unfortunately only 15-20 universities have implemented and experienced e-learning system (Larasati, 2019). Therefore, many universities did trial and errors with online classes using whatever information technology they had.

In general, the pandemic has surely caused various positive and negative impacts. The positive side is that air pollution, for example, has dropped a lot, especially during the lockdown; digitalization becomes unavoidable and faster to implement. The pandemic has also forced those who seldom or never used any information technology applications to learn and practice using it. Senior faculty members who usually taught face-to-face without any learning technological facilities have been forced to practice using it, if they do not want to be left behind. All administration activities that were earlier managed onsite changed into online. Indeed, digitalization finally has run faster than expected.

From the university's point of view, however, this situation has also been really not comfortable. Managing buildings and maintaining various other physical assets while they are not in use is a burden for the universities, especially small private universities that depend their budget on the students' enrolment.

The new students enrolling for the 2020-2021 academic year is another example of the negative impact of pandemic on students. They have never experienced the university life physically. They never know the atmosphere of classroom and the campus in general. They also never meet their classmates and faculty members directly. Instead, they stay at home and learn all classes online. This condition raises a question, how the students experience education that is totally different from their expectation as they are actually students, but they must study at home. Attending all classes, meeting classmates, and looking for resources for the assignments are all done through the screens of their laptops or desktops. Some even use only mobile phones to study online. This paper tries to find out how online learning is conducted.

### **Indonesia: The population and Information and Communication Technology**

Indonesia is a country with more than 17,000 islands in which the biggest include Sumatra, Borneo, Papua, Sulawesi, and Java. Currently the number of populations is 271.349.889 million (Gischa, 2020). The population is actually the fourth biggest in the world. Most population live in Java (55.94%) and therefore, Java is the most densely populated, although Java is actually just one third of the size of Sumatra Island. Other areas of Indonesia have less population, such as Sumatra (21.73%), Sulawesi (7.43%), Borneo or Kalimantan (6.13%), Bali and Nusa Tenggara (5.57%), Papua (2.02%), and Maluku (1.17%).

The population of Indonesia consists mostly young people and the number of productive-age people are bigger than the older ones. According to Badan Pusat Statistik (BPS) (2021), the population can be categorized as follows (fig. 1):



Fig. 1: Number of population of Indonesia. Source: Badan Pusat Statistik 2021.

<https://www.bps.go.id/website/images/Hasil-SP2020-ind.jpg>

As seen from the above figure 1, the number of young generations—millennials, Gen Z, and alpha or post Gen Z (65.69%)—is higher than the older generation of Gen X and the older generation (34.31%). This actually means that many Indonesians are actually generations who live in the modern time where information technology has already been more advanced. Therefore, there are more Indonesians who are familiar with information technology. The decision makers, faculty, teachers, and some other professions, however, consists mostly of Gen X, and they are digital immigrants. In other words, in general people are more advanced in information technology than the decision makers. This may raise a gap in decision making relating to the use of information technology.

In Indonesia, the Internet speed is not as fast as the young generation expected. According to *We are Social*, the highest Internet speed is United Emirate Arab with 177.52 Mbps, followed by South Korea and China in the second and third level respectively (see fig. 2). In average, the Internet speed in Indonesia is 17.36 Mbps or about one tenth of the speed of Internet in United Arab Emirate. The speed of 17.36 Mbps is the average, but actually the highest speed of Internet in Indonesia is in Java and Sumatra, followed by Borneo, Bali, and Sulawesi. That is why often time some students in the eastern part of Indonesia cannot access the Internet better compared to those in the western part. However, although Java has the highest speed, actually that is also not well-distributed. Some areas in Java sometimes still have problem of Internet access.

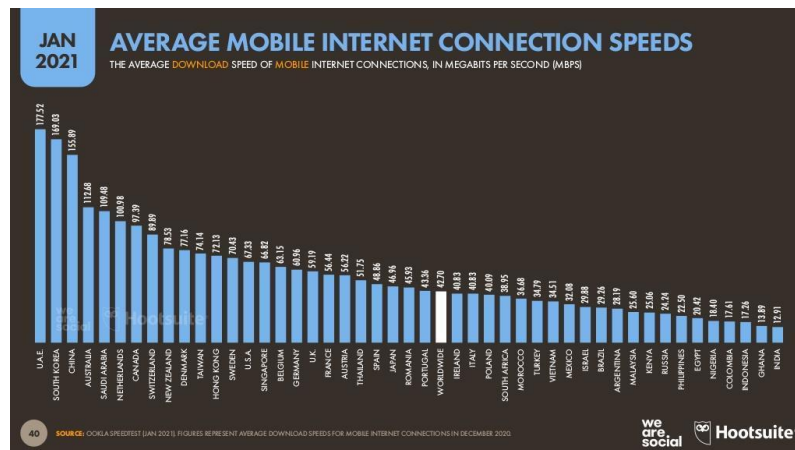


Fig. 2: Internet speed in the world. Data obtained from Hootsuite. Digital 2021: Global Overview Report — DataReportal – Global Digital Insights. <https://wearesocial.com/digital-2021>

### Indonesian academic education before pandemic

Learning atmosphere during the normal condition before the pandemic of COVID-19 shows that it was always conducted in the classrooms. The face-to-face interaction between a lecturer and students did exist in the formal learning classes, and students usually waited for their time to ask or respond to their lecturer. During the class, students first listened to their lecturer and when the lecturer finished his or her teaching, students would be allowed to ask a question. As like other countries in Asia, the teaching and learning in Indonesia adopts that of Confucian heritage culture. In this culture, the lecturers are viewed as the most prominent, experienced, and trustworthy in the classroom (Yang, Badger, and Yu 2006), and therefore, students always respect their lecturers and value what the lecturers say to them. However, nowadays, in order to foster learning, lecturers usually create more interactive activities, such as group presentations, reviews and presentations. Students may also be asked to do a survey or visit, and the result is presented in the classroom. For the presentation, the lecturer usually invites other students to ask questions to the student who is presenting in the classroom. Group assignments enhance the students to interact with one another; while the question and answer during the presentation in the classroom make the classroom activities more interactive, although the lecturer is still the center of the classroom.

### Library and Information Science in Indonesia

Priyanto (2016) stated that LIS education has now been more than 60 years long history. Library and information science (LIS) education in Indonesia has grown significantly since it was established and now the LIS schools have been available in some universities. The growth of LIS education is in line with the recent needs of the expertise of the graduates. Although LIS education has been in existence in the Indonesian education history for some

decades, the names of the department vary, and the organizational structures are under various schools or departments. "The Library and Information Department at the University of Indonesia was established in 1961" (Zen, 2009) in the form of vocational school and in 1964, it became an undergraduate program of LIS (Priyanto, 2016). This LIS program at University of Indonesia is considered as the oldest LIS program in Indonesia. LIS at University of Indonesia has graduated many students who then became librarians in various institutions. Other reputable LIS programs are Graduate school of Library and Information Management, Universitas Gadjah Mada, Department of Information and Library Studies, Padjadjaran University, Library and Information Science, Airlangga University, Library Studies, Diponegoro University, and Library Science at Brawijaya which are all located in big cities in the Java Island.

Currently there are 33 universities that offer LIS undergraduate study programs, while there are 4 graduate programs, namely Universitas Indonesia (UI), Padjadjaran University (UNPAD), Universitas Gadjah Mada (UGM) and Sunan Kalijaga Islamic Public University (UINSUKA) in Yogyakarta. In other words, there are two LIS graduate schools in the State of Yogyakarta.

The State of Yogyakarta or the Special Region of Yogyakarta is located in the southern part of Central Java and in which the northern border is the province of Central Java, and the southern border is the Indian Ocean. Ruled by the Sultan of Yogyakarta, this region is the only officially recognized monarchy within the Indonesian government. At the city's center is the Sultan's palace called the Kraton. The city of Yogyakarta is a popular tourist destination and cultural center. It is also known as the center of classical Javanese fine art and culture such as batik, ballet, drama, music, poetry, and puppet show (wikipedia, 2021).

Yogyakarta is the home of more than 100 institutions of higher education. In addition, Yogyakarta is also known as "Kota Pelajar" (The city of students) and it is also the home of the first established state university in Indonesia, Gadjah Mada University (UGM).

In 1992, UGM opened the department of Library and Information Management (formerly Library Science) in the diploma level, but it was closed in 2005 because it lack faculty members. Meanwhile in 1996, UGM also founded Magister Perpustakaan (Master of Library Science) in the Faculty of Social and Political Sciences and in 2003, it changed its name to the Department of Library and Information Management. In 2007, this master's program of Library and Information Management was moved from the faculty of social and political sciences to the Graduate School Office due to its interdisciplinarity. UGM only offers Master's degree and is planning to open the doctorate program in the near future.

Meanwhile another university that offers master's program in Library science is Sunan Kalijaga State Islamic University (UIN). This university offers both undergraduate and

postgraduate programs under the department of Islamic studies. Recently UIN opens for doctoral program in LIS under the same department.

## **Literature Review**

A study by Dhawan (2020) shows that COVID-19 has made the growth of Educational Technology Start-ups. Meanwhile a study by Adedoyin and Soykan (2020) shows that pandemic has forced global lockdown of various activities including educational ones. The learning process in the educational institutions has shifted from onsite to online. According to Biber at all, (2021) COVID-19 pandemic has caused students to face challenges especially in their different approach and adaptation to learning. Students missed personal contact with their lecturers and other students, and they have less collaboration and motivation. This study however, tried to find out how students of LIS education faced the pandemic of COVID-19, especially their learning experience.

## **Academic education during pandemic**

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus and this is the fifth pandemic after the 1918 flu pandemic. Until now, the first reports and subsequent outbreaks of a cluster of new human pneumonia cases in Wuhan City, China, since the end of December 2019 (C. Huang, Y. Wang, X. Li, L. Ren, J. Zhao, Y. Hu, *et al.* 2020).

The COVID-19 pandemic in Indonesia is part of the ongoing worldwide pandemic of COVID-19 which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was confirmed that COVID-19 spread to Indonesia around 2 March 2020. By 9 April 2020, the pandemic had spread to all 34 provinces in the country. Jakarta, West Java, and East Java are the worst-hit provinces and the three provinces altogether account for more than half of the national total cases (*Jakarta Globe*,2020). As of 29 April 2021, Indonesia has reported 1,662,868 cases, with 45,334 deaths, Indonesia ranks 18th in the world (worldmeter, 2021).

Like the other sectors, education was also struck by the emergence of pandemic of COVID-19 in the middle of March 2020 in Indonesia. All universities had to stop their activities in the campuses and the universities shifted to online learning during the rest of 2020 and still continues this year. This sudden change has impacted on both faculty and students socially and psychologically. The students who began their study in the early 2020 found that they could not interact with their classmates and lecturers physically anymore. They had to accept the condition and changed their ways of learning and interaction. All lecturers could no longer go to the campus due to the closure of the universities. More painful was the students who started their study in the middle of 2020 and early 2021 as they have completely been studying online. The closures have made the Learning process, academic administration, and all educational communication has changed considerably since mid-March 2020. Classrooms that were usually full of students turned into empty

spaces. Classes changed, the students could study only at home, the lecturers no longer came to school or campus to deliver the material. The lecturers were simply at home or in a place where it is possible to give lectures to students. The main facilities of lecturers and students for their teaching and learning process were the learning technological media, in the forms of cellphones or computers/laptops, and data packages as the basis for internet networks.

Most universities now are still not opening their campuses yet and the learning and teaching activities are still held online now. However, they are considering the opening of classes, either partially or in a hybrid format.

### **Objective and Method**

This study is aimed at understanding the students majoring in Library and Information Science (LIS) in Indonesia view the condition of online learning due to the pandemic of COVID-19; how they adapt to the situation; and what problems they face when they study completely online unlike their previous expectation.

This quantitative study on students' perception and expectation of online learning due to the pandemic of COVID-19 was conducted in the State of Yogyakarta where there were two (2) educational institutions, namely, UIN (Public Islamic University) Sunan Kalijaga and Universitas Gadjah Mada, that have LIS departments at the graduate level (Master's degree). The survey is designed through the Google form and in the form of questionnaires with multiple choice answers. To get better understanding, the questionnaire is also supported by open ended questions to accommodate additional information from the respondents. The questions are related to (1) difference of onsite and online learning experience according to students, (2) barriers of attending online, (3) interaction between students and lecturers and among students themselves, (4) students' perception of IT skills among lecturers, (5) expectation of students for future learning possibilities that are suitable and appropriate for both students and lecturers.

The survey was distributed on 29 March 2021 and was collected on 31 March 2021. The data were then analyzed manually. Active LIS students at both universities were contacted via whatsapp to ensure that they responded the invitation of the survey. The population of both universities is 50 students and 46 responded to the questionnaires. According to Krejcie and Morgan (1970) if the number of populations is 50 the sample should be at least 44, and so the number of samples was fulfilled.

### **RESULTS**

Entering the academic year 2020 all of the classes were conducted online. Currently in Indonesia, many universities have to implement policies for teaching and learning activities from distance and online classes. This is actually not a problem for universities



that already have an online academic system. However, it will be a good lesson for universities that do not yet implement an online academic system. The result of the survey shows 46 responses from students who are fully studying online.

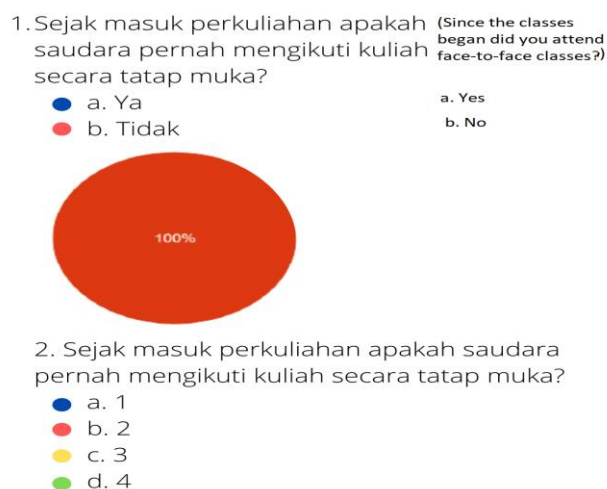


Fig. 3: Informants of the survey

#### A. Online learning and obstacle

The pandemic has changed the learning process that can be done online and conducted anywhere and at any time instead of being in the campus at certain schedules. Online learning not only is implemented in higher education institutions but also in pre-schools to high schools in Indonesia. It shows that entering the academic year of 2020-2021 all of the classes are conducted online for all new students. It means that the students have different views on today's learning. Thirty-one LIS students are more comfortable to attend the face-to-face classes rather than online, however 15 students enjoyed participating in the online classes, although they also prefer face-to-face classes. The students experience different ways of learning at this time. While students expect to attend classes in the campus, the situation is not conducive and look and feel very different. From the academic and library orientation to classes and exams, the programs are held online. Therefore, the students do not experience the physical campus life.

There are some obstacles that 44 out of 46 students experienced for the online classes during the pandemic. One of the factors is the unreliable internet connections. In Indonesia the speed of internet connection varied. Indonesian Internet Service Providers Association (APJII) has released report that Java has the highest speed, although it is not well-distributed. Some areas in Java sometimes still experience problems of Internet access. That is why, inequality of internet access is still one of the issues of online learning during pandemic. Sometimes students experience a problem of technological advances in which the laptop do not support the software for online learning. The disturbance from the surrounding environment and unconducive environment for learning are two other factors influencing the quality of online classes. Twenty-one students have jobs in some institutions and libraries, so they attend online classes while they are in the office or

libraries. The obstacles that often occur during the online classes include office work and the atmosphere that do not support their online class attendance.

## **B. Interaction and communication**

The change in the learning process—from onsite to online—has an impact on various aspects, from the reduced intensity of interaction among students and interaction between students and lecturers; boredom due to the number of online classes; passive participation among students in the discussion during the online class.

The survey shows that noise is the most distracting problem during online classes. Indeed, the teaching and learning process will be more effective, productive, and interactive if there is no noise, but noise is often unavoidable. Noise refers to anything that interferes with the communication process between the lecturer and students. Noise can be external (physical sound) or internal (mental disturbance), and it may interfere with the communication process at any time during the class. The survey shows that there are 3 types of noises:

### **1. Physical Noise**

Physical noise is interference in our environments, such as noises made by other people, unconducive environment, vehicles sound, unavoidable sound of rain or thunderstorms, temperatures, and crowded conditions, and so on.

Some students who attend the online classes from home are sometimes distracted by the noise in their home such as a kid who is playing with other kids or another family member talk to one another, or even to the students themselves. Those students who attend the online class from the office are sometimes distracted by the conversation among other staff, a staff to the student, and other noise from any devices or natural environment (for example rain and thunder). This sort of noise does not only distract them; sometimes, when they open their microphone, other students who attend the online class also hear the sound or voice, and therefore, the noise distract the class too.

### **2. Physiological Noise**

Physiological noise is a barrier created from the communicator's physical condition. Physical illness and weakness may usually produce physical noise and this noise becomes a barrier to the effectiveness of the class communication. Apart from that sort of noise, online classes require students to be able to adapt to the use of digital technology. This increases the intensity of the use of laptops, computers, or other devices. The use of gadgets requires students to stare at the small screen longer than usual lectures and use a headset. Some students also mention that they spend hours on their laptops for their assignments besides attending classes and thus, indeed, it impacts on their health. According to the informants, they experience dizziness, headache, boredom, eye constrain, and other physical pain symptoms which is usually called "*cybersickness*" (Sherren, 2021).

### **3. Semantic Noise**

Semantic noise is a communication barrier created from the confusion over the meaning of words. Semantic noise occurred because of the different meanings of the message between the sender and receiver (Kobiruzzaman, M. M. 2021).

Some students do not understand well about the material that is presented through online classes especially due to the noise resulted from the technological problem such as poor or unstable Internet connection, low bandwidth, etc. This technological noise leads to confusion or misinterpretation of the message. This can be a disadvantage for students, that impact on the level of students' understanding of the materials of the class.

#### **C. The role of technology and policy**

The COVID-19 pandemic has changed the educational life, with the dramatic change in the way the education is held. This can be seen for example, the classes are suddenly held online, the library offers online services, and administration is conducted online. Students cannot go to the campus physically due to the pandemic and this change the way students interact with other students and the lecturers. This raises the need of the institution to issue policies regarding the use of technology, for example, the applications, e-learning systems, and Internet bandwidth both for students, lecturers, and other staff in the academic institutions.

With regards to the future of education and the process of teaching and learning, students state that actually they prefer to study onsite so that they can interact with other students and lecturers face to face in the campus. However, they also mention that they have been familiar with the online classes, so they can accept the blended learning and adapt to academic life both online and offline. This idea is in line with a separate survey conducted by Gadjah Mada University.

In the survey conducted by UGM, most respondents (54.2%) apparently wanted Teaching and Learning Activities to be carried out in a blended learning model, namely a mixture of online and offline. Furthermore, blended teaching and learning activities are found to be the most comfortable to support the achievement of competencies and skills compared to the other two options, which is either online or offline according to the survey. Fifty-four point 2 per cent students choose blended learning, while 45.8 per cent respondents choose either online or offline classes, in which students who choose online classes reached 34.2%, while those who choose offline were only 11.6%

## **CONCLUSION**

The COVID-19 pandemic has brought a significant impact on most sectors of life from family, social institutions, businesses, and industries, and also the education sector, especially the learning activities. The pandemic has disrupted the education process in

which students usually could study face to face with their lecturers, but they had to shift to online, therefore, both the students and lecturers need to adapt and adjust to the situation. Adjustment and adaptation to the next normal is unavoidable.

Most students actually still prefer to attend the offline classes because they find it easier to participate actively in the classrooms. They have no problem with access to faculty members if they are onsite (in the campus), but they cannot pay attention well when studying online due to the unsupportive physical environment. Regretly, students of the 2020-2021 enrolment have never experienced campus life since they became students for the first time.

With regards to the speed of internet connection in Indonesia, until now, the Internet access is good, but in some remote areas it is still slow and sometimes not stable depending on the region where the students access to the Internet. The online learning system still lack a clear and established policy regarding to the mechanism of online classes and teaching procedures. In addition, according to the students, some senior lecturers, who are from Baby Boomers generation, lack of technical skills in running the applications, especially the applications for online classes.

In the future, in post-COVID-19 pandemic, students expect to study both online and onsite (blended learning) so that they may experience both real campus and virtual life. Both onsite and online experience are necessary for students, as they are mostly digital natives who live in both virtual and real lives.

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