






## Higher education students' online class experiences during the COVID-19 pandemic

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### ABSTRACT

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Students' challenges.

This study explored the online class experiences of higher education students during the COVID-19 pandemic. Specifically, the study determined the online learning platforms, experiences, and strategies used to cope with the online learning challenges and proposed interventions to address the students' challenging experiences. The students' experiences were collected using a quantitative research design, employing questionnaires and Google Forms. For the open-ended questions, discourse analysis was used to analyze the students' shared experiences. Purposive sampling was used to select the respondents from one state university in Cebu City, Philippines. The results revealed that the students preferred an asynchronous mode of learning using cellular phones, Google tools such as Google Classroom, Zoom and Facebook messenger during their online classes. While learning, they encountered challenges such as poor connectivity, distraction from attending classes due to errands at home, and lack of study areas. To cope with these challenges, the students managed their time, took rests in between study hours, and making a checklist of the tasks to be accomplished. Hence, this study contributes to the developmental goals on education for sustainability through providing interventions based on the students' experiences, challenges and coping strategies shared during their online classes during the pandemic.

**Contribution/Originality:** This study provides baseline data on state university students' online class experiences, challenges and coping strategies that may serve as basis in creating intervention schemes to maximize students' learning experiences. Likewise, the results can be used as a reference in the development of hybrid and flexible instructional learning resources and in paving the way to policy related scaffolding.

## 1. INTRODUCTION

Higher education institutions around the world have been massively affected by the COVID-19 pandemic, even resulting in closures of some schools, and for the others it prompted the shift of educational delivery from in-person classes to distance or remote learning. Even though many schools and universities had already used remote learning before COVID-19, the practice of online learning was not mandatory and not directly focused on the entire teaching-learning process. During the outbreak, all of these learning institutions were closed. Because of this, teachers and students adapted to a new reality despite the online learning challenges they faced. The pandemic also brought organizational challenges in the teaching-learning process for universities worldwide (Cicha, Rizun, Rutecka, & Strzelecki, 2021). The pandemic caused schools to cancel face-to-face classes, affecting over 1.2 billion children in over 186 countries. In Denmark for instance, children up to age 11 went back to school through online

classes. In South Korea, children responded to roll calls from teachers online. This shift was imperative due to the threat of the virus. Such an educational shift has led people to think of the direction of online learning even after the pandemic and how it could affect the global education market (Li & Lalani, 2020).

In the Philippines, depending on the students' locations and the way in which each institution implements distance learning utilizing different learning management systems, online lessons delivered through the internet are of varying levels and styles. Most often, schools use a learning management system where students can access their classes allowing them to interact with their teachers and classmates. They can access their curriculum, do their assignments and examinations and track their academic progress. Massive Open Online Courses, or MOOCs, are examples of online courses. These courses are provided by companies such as edX, Coursera, and the University of the Philippines Open University (UPOU).

Because of the total shift from face-to-face classes to online learning due to the pandemic, the global educational landscape has inevitably changed. There is massive use of technology to facilitate the conduct of online classes. Since this mode of learning is novel to most schools across many countries, there is little information available on how to effectively deliver educational services and how difficulties related to digital learning can be overcome (Huber & Helm, 2020). Other related studies revealed that online learning differs from emergency remote teaching in that the latter will be more sustainable, whereas the former will become more hybrid, assuming that the difficulties encountered during this pandemic are thoroughly investigated and turned into opportunities (Adedoyin & Soykan, 2020). In China, distance learning was organized soon after the pandemic outbreak. Millions of academics have quickly transitioned to teaching in front of computers, requiring their pupils to remain at home and complete their coursework online. Many difficulties were observed despite government efforts. The infrastructure for online teaching was either missing or insufficient. Teachers had no experience in teaching via distance learning. The problem of distance learning was also influenced by the lack of clear information and the complexity of the work and study environment at home (Zhang, Wang, Yang, & Wang, 2020). The spread of COVID-19 across the world led to the implementation of online classes in over 61 countries as a consequence of enforced localized closures (UNESCO, 2020). The COVID-19 school lockout created a new and challenging environment for digital learning, and information must be made available to guide educational policy and practice. Natural disasters (such as earthquakes or floods) have shut down regional schools in some nations, although they did not always result in digital learning for a definite period of weeks.

The difficulty for educational institutions was adjusting to this shift while attempting to select the best tools and strategies for instructing and involving their pupils. Closing the campus and abruptly switching from in-person instruction to distance learning is the initial step in a long process of providing quality online education and efficient student and teacher support. After the pandemic, this might help forge better relationships between universities, online education providers, and technological corporations. For a seamless teaching-learning process, colleges must provide educators with the training and the technology they need. To improve teachers' capacity to educate, government agencies need to implement sustainable professional development initiatives that focus on online learning delivery. The pandemic has highlighted the weaknesses and vulnerabilities of the current educational systems and the significance of acquiring digital literacy for both developed and developing countries. Higher levels of digitalization in communication and educational services might become standard after the pandemic. The current situation has challenged long-held beliefs about the role of higher education institutions in providing high-quality education, the mode of delivery, accessibility, the importance of lifelong learning, and educators' perceptions of the types of learners.

This study examined the online learning experiences of higher education students during the COVID-19 pandemic in order to address the challenges and issues associated with the shift in the educational landscape and the paucity of data regarding online course delivery in third-world countries. By providing information on students' coping mechanisms to overcome the obstacles of the new educational normal, the study may help achieve

Sustainable Development Goal No. 4, Quality Education. The goal of this study is to fill in this research gap. Two frameworks that are pertinent to the Philippine context were employed in this study to categorize the difficulties that students faced when learning online during the COVID-19 pandemic. The first framework (Rasheed, Kamsin, & Abdullah, 2020) was divided into the following categories: (i) self-regulation, which is the set of behaviors students engage in to control their thoughts, feelings, and actions in order to achieve learning objectives; (ii) technological literacy and competency, which is a set of challenges regarding the students' ability to use technology for learning purposes; (iii) student isolation, which is the emotional discomfort students experience as a result of feeling alone and isolated from their peers; (iv) technological sufficiency, which refers to the challenges students encounter when they access available online technologies for learning, (v) technological complexity challenges pertaining to the challenges that students experience when they are exposed to complex and over-sufficient technologies for online learning. Additional categories were added [9] as follows: (vi) learning resource challenges, which are evident when the students have challenges in their use of library resources and instructional materials; and (vii) learning environment challenges, which relate to the students' experience in relation to their learning space which shapes their learning experience, beliefs and attitudes. These categories were used in the present study when coding the data on the challenges encountered by the students.

The following categories pertain to the strategies used to overcome the difficulties of online learning [11]: (i) searching for a suitable location and time; (ii) borrowing educational materials; (iii) asking peers for support; (iv) approaching teachers; (v) engaging in time management; (vi) completing learning tasks in advance; (vii) extending the time for learning tasks; (viii) focusing on other things; (ix) controlling oneself (also known as self-regulation); (x) taking on extra work; (xi) crying; and (xii) praying. These themes were applied to the analysis of the coping mechanisms used by students in higher education.

## 2. LITERATURE REVIEW

Flexible online learning platforms are handled using a variety of strategies and have been examined by many scholars from various angles. The influence of the global education lockdown was explored, and it was advocated that while the current global expansion of home schooling may initially be perceived favorably and likely to be successful, this position is often considered as a supplement to the input from school. Parents can enhance their children's math education by practicing counting with them or pointing out commonplace math problems, or they can add context to history lectures by taking them to significant sites such as museums or monuments (Burgess & Sievertsen, 2020).

Students' digital learning influenced their socio-emotional experience (Händel et al., 2020). They discovered that cluster membership had a significant impact on the socio-emotional experiences of students, including their perception of stress, their work-life balance, and their feelings of social and emotional isolation. The study thus emphasizes the need for higher education students to receive support in order to successfully navigate the difficulties of emergency remote studying.

Another study looked into the effects of COVID-19 on students, namely time spent on online classes and self-study, learning mediums, sleeping patterns, daily fitness routine, and the ensuing consequences on their weight, social life (how they interact with other individuals using different media platforms), and mental health, including their coping techniques, especially in dealing with stress and worry (Chaturvedi, Vishwakarma, & Singh, 2020). Their research recommends that government agencies should take all necessary steps to improve the educational experience of students by minimizing the drawbacks brought on by the COVID-19 pandemic.

For legislators, the impact of COVID-19 on education presents at least two significant difficulties. First, steps should be taken to make sure that children who are more vulnerable can make up for the learning loss they suffered during the lockdown. To avoid a situation like this leading to long-term economic injustice and inequities in

education, this should be done immediately and effectively. Second, teaching and learning delivery strategies could be put in place (Di Pietro, Biagi, Costa, Karpiński, & Mazza, 2020).

Further, a study was conducted on students' challenges during the COVID-19 pandemic in the Philippines. The data was gathered using self-administered questionnaires and interviews with 60 education students. The results demonstrated three major themes—slow internet connection, lack of economic capabilities, and an environment that is not conducive to learning. The results manifest how students in the Philippines cope with the online learning challenges which disrupt their studies. Instead of embracing more opportunities to engage in meaningful remote learning experiences, their learning is interrupted due to internet connectivity issues and economic and physical factors (Jaca, 2022).

With a dearth in current literature and studies on the third world countries' context of online class delivery, this study explored higher education students' online class experiences during the COVID-19 pandemic. This study can contribute to the attainment of Sustainable Development Goal No. 4, Quality Education, as it provides data on the coping strategies of students in dealing with the challenges of the new normal in education. This is the research gap that this study intends to address.

Hence, this study explores higher education students' online class experiences during the COVID-19 pandemic, specifically, the following questions are investigated:

- i) What online learning platforms were used by students during the COVID-19 pandemic?
- ii) What were the students' experiences during their online classes during the COVID-19 pandemic?
- iii) What strategies do they use to cope with the challenges they experience during their online classes?
- iv) What intervention program can be proposed to address the students' challenging experiences?

### 3. RESEARCH METHODOLOGY

This study used a quantitative research method. A questionnaire was developed to collect information regarding the students' experiences, and discourse analysis was used to analyze the responses. Purposive sampling was used to choose the respondents from Cebu Technological University in Cebu City.

Table 1 shows the age range of the undergraduate students in this study. The majority were 20–21 years of age, followed by the 22 and above age group.

Table 1. Age of the respondents.

N = 565		
Age	f	%
16–17	0	0
18–19	95	17
20–21	339	60
22 and above	131	23
Total	565	100

Table 2 shows that more than half of the respondents (52%) are females and 48% are males.

Table 2. Gender of the respondents.

N = 565		
Gender	f	%
Male	270	48
Female	295	52
Total	565	100

### 3.1. Gathering and Treatment of the Data

A questionnaire was created specifically for this study, which was validated, and it was used to collect information on the students' age, home address, and online resources used for online classes. The criteria used to select the participants are that they must be enrolled during the 2021–2022 academic year and they must be first year to fourth year students from any degree program offered by the university.

The treatment of data was done with the help of the research assistant who tallied and tabulated the data. The tallied and coded data was verified to establish inter-rater reliability.

Then, coding disagreements were resolved through discussions among the researchers and the inter-rater (arbiter).

The tabulated data was interpreted and analyzed. In the analysis, categories and classifications of the strategies in coping with challenges were used.

### 3.2. Ethical Consideration

Consent was sought to gather information from the participants, and a cover letter was included with the survey questionnaire using Google forms. The respondents were assigned codes for anonymity and security purposes.

The folders with the completed forms were kept safely and were only accessible to the researchers and their research assistant.

## 4. FINDINGS

This section shows the results involving students' preferred online modes of learning during their online classes. The challenges and strategies are also presented.

### 4.1. Online Learning Platforms

Table 3 presents the students' virtual modes of learning. Asynchronous (52%) predominated compared to the synchronous mode (48%).

Table 3. Preferred online mode of learning.

N = 565		
Preferred online mode of learning	f	%
Synchronous via either Zoom/Google meet/Microsoft teams	270	48
Asynchronous via either Google Classroom, Facebook, Messenger	295	52
Total	565	100

### 4.2. Speed of Internet Connection

Table 4 presents the students' internet connection speed during their online class, with most (336) reporting a normal speed.

Table 4. Level of internet connection in an online class.

N = 565		
Speed of internet connection in an online class	f	Rank
Very slow	19	3
Slow	173	31
Normal	336	59
Slightly fast	25	4
Fast	12	2
Total	565	100

#### 4.3. Gadgets Used

The data in Table 5 presents the gadgets used during online classes. The top 3 include cell phone (523), laptop (168) and desktop (50).

**Table 5.** Gadgets used during online classes.

N = 565		
Gadgets used during online classes	f	Rank
Cell phone	523	1
Laptop	168	2
Desktop	50	3
Tablet	10	4
Chromebook	1	5

**Note:** Multiple responses were allowed.

#### 4.4. Platforms Used

Table 6 demonstrates that most of the students used Google Meet (558) during their online classes. This is followed by Zoom (472) and Facebook Messenger (285).

**Table 6.** Teleconferencing platforms used during online classes.

N = 565		
Teleconferencing platforms used during online classes	f	Rank
Google meet	558	1
Zoom	472	2
Facebook Messenger	285	3
Facebook page	142	4
Microsoft teams	53	5
WhatsApp	1	6

**Note:** Multiple responses were allowed.

Table 7 displays the learning platforms used during the online classes with Google tools as the most frequently used (555), followed by Zoom (371) and Facebook (233).

**Table 7.** Learning platforms used during online classes.

N = 565		
Learning platforms used during online classes	f	Rank
Google tools (Google classroom, Google documents, Google forms, Google slides)	555	1
Zoom	371	2
Facebook	233	3
Canvas	95	4
Microsoft teams	49	5
University-subscribed LMS	14	6
Telegram	4	7

**Note:** Multiple responses were allowed.

#### 4.5. Students' Experiences with Online Classes during the Pandemic

Table 8 illustrates the challenges encountered by the students. The top 3 are technological and sufficiency challenges, e.g., poor connectivity, insufficient load, gadget used, and no electricity (1028), self-regulation (990), and learning environment challenges (885).

Table 8. Challenges encountered during online classes.

N = 565			
Challenges encountered during online classes	PT	Frequency	Rank
Technological and sufficiency challenges		1028	1
Poor connectivity	500		
Insufficient load	277		
Gadget used	248		
No electricity or brownout	3		
Self-regulation		990	2
Lack of interest and motivation	227		
Lack of money	1		
Anxiety	1		
Pressure of going to work while in class	1		
Lack of time	218		
Difficulty following instructions	211		
Submission of outputs and requirements	257		
Distraction from attending classes due to health	74		
Learning environment challenges		885	3
Distraction from attending classes attentively		569	
Noisy community	1		
Lack of a sufficient study area or study space	315		
Technological literacy and competency		306	4
Lack of technological skills	123		
Lack of content knowledge	108		
Lack of knowledge to navigate the learning platform	75		
Student isolation		1	5
Group activities are difficult to deal with	1		
Technological complexity		0	5
Learning resource challenges	0	0	1

Note: PT - total frequency of the subthemes.

Table 9. Strategies used to cope during online classes.

N = 565			
Strategies used in coping online classes	PT	Frequency	Rank
Regulating the self		1158	1
Taking rests in between	365		
Providing a checklist of the tasks accomplished	337		
Limiting one's time on social media	206		
Relaxing	191		
Journaling	57		
Cheering myself on, saying that I can do it	1		
Giving myself a reward every time I finish a task	1		
Seeking support from peers		604	2
Accomplishing tasks collaboratively	223		
Group study online	144		
Peer tutoring	137		
Working with a partner	100		
Practicing time management		396	3
Diverting attention		8	4
Painting	1		
Watching informative/Tutorial videos	3		
Reading books	1		
Exercising	1		
Listening to music	1		
Doing (My) hobbies	1		
Looking for a good space		0	5
Borrowing learning resources		0	5
Taking extra jobs		0	5
Extending time for learning tasks		0	5

Note: Multiple responses.

#### *4.6. Strategies Used to Cope with Online Classes*

Table 9 demonstrates the coping strategies used by the students. These include regulating oneself, i.e., taking rests in between, providing a checklist of the tasks accomplished, limiting one's time on social media (1158), seeking support from peers (604), and practicing time management (396).

### **5. DISCUSSION**

#### *5.1. Preferred Online Mode of Learning*

The preferred online mode of learning is the asynchronous mode due to lack of internet connectivity in their locality. Closer proximity to the wireless router helps to have a faster broadband connection (Cook, 2019). Thus, students prefer to have an asynchronous mode of learning and accomplish the tasks in their own time where instructions were already given in the course packs and learning management system. Online learning helps students to personally control learning through choosing a preferable time, place, and pace (Baru, Tenggara, & Mataram, 2020) this result is further explained by other researchers' findings. Connectivity and gadgets affect the students' choice of online learning mode (Qazi et al., 2020).

#### *5.2. Level of Internet Connection in an Online Class*

The majority of the respondents described their internet connectivity as normal. Only two of them considered their connectivity to be very fast. The data suggests that, oftentimes, the internet connection of the students is normal due to the free Wi-Fi kit given to students to aid online learning. However, there are still students whose locations do not have strong connectivity. At nighttime, the use of Wi-Fi could also avoid high volumes of traffic. In relation to the present study, students might find the connectivity for online classes slow due to the competition for bandwidth during the day.

#### *5.3. Gadgets Used During Online Classes*

The top 3 gadgets used are cell phones, laptops and desktops. Most of the students only used cell phones, especially smartphones, to attend online classes and complete tasks. Only a few students used tablets due to their cost and other gadgets that are more expensive compared to smartphones. In a study in the UK, the infrastructure was already in place before the COVID-19 pandemic due to previous investment in technological tools. In fact, all schools had previously practiced digital learning. Tablets or laptops were used by learners to accomplish class activities. Teachers also had laptops and received training and support in the use of digital resources (Bubb & Jones, 2020). Although free Wi-Fi kits were provided to the students and faculty in this study, the gadgets were insufficient and outdated, and not all students have smartphones.

#### *5.4. Teleconferencing Platforms Used During Online Classes*

The use of teleconferencing platforms suggests that the teachers align the use of teleconferencing platforms with the students' preference since Google Meet does not require much data compared to Zoom. In the university where the students are learning, Google tools are mostly used. However, Zoom is also used by some faculty members and students in their online classes. Among Asian countries, it was only observed that Facebook is commonly used in the Philippines. Some countries prefer Instagram, WhatsApp and YouTube for online classes and learning.

The data indicates that the majority of the students used Google tools during classes, followed by Zoom and Facebook. This implies that the university provides the Google suite for the teaching-learning process. Google tools are built into the Google Suite and are considered user-friendly. The results of the present study did not support a previous study conducted in India in terms of the preferred teleconferencing platform since students in the present study frequently used Google Meet. In India, the most common teleconference platform used was Zoom



(Bordoloi, Das, & Das, 2021). Google Classroom followed Zoom together with other platforms such as e-mail and WhatsApp. The data implies that citizens of countries worldwide have various preferences for effective tools for online learning. Also, the students preferred to use a learning management system that have a low internet connectivity cost (Barrera, Jaminal, & Arcilla, 2020). In higher education, especially state-funded institutions, most of the students used Google Meet and tools which are freely available in school due to affordability, unlike in Zoom, where strong internet connectivity and sufficient data loads are needed in online classes. However, a study conducted in the same university suggested a similar learning management system in the flexible learning system but mentioned some possible options, which include Moodle, Google Suite for Education or Edmodo (Cortes, 2020).

### *5.5. Challenges Encountered During Online Classes*

The data illustrates the challenges encountered by the students, namely technological and sufficiency challenges (e.g., poor connectivity, insufficient load, gadget used, no electricity), and self-regulation and learning environment challenges. Poor internet connection is a great challenge in the Philippines, especially for the students who live in rural areas and mountainous towns in Cebu province. Although most research has shown that the use of technology is a big challenge faced by learners during online classes, it is still different compared to developing countries such as the Philippines in times of a pandemic. Online learning was not effective in Afghanistan because some students were living in districts with poor internet connectivity (Noori, 2021). Other students are easily distracted while attending online classes due to multitasking when they have to do chores at home, such as when they are assigned to be in their store at the front of their residence. Lack of study areas at home with limited space can also disrupt the students' attention in online classes. This could also be attributed to personal and financial problems, meaning that they cannot buy enough data. During the lockdown, most of the citizens in the Philippines, who are the parents of students, were unemployed. This study confirms the reviewed study on the major problems faced by students and young professionals in relation to productivity, health and emotional problems. Poor mental conditions, such as being anxious, down and depressed, could be due to online learning (Li & Che, 2022). Both students and professionals were not exempt from the consequences of the pandemic in an academic setting. The implementation and assessment of the students' performance can be an obstacle to providing teachers with suitable training courses that can help them implement courses online (Toquero, 2020).

### *5.6. Strategies Used to Cope in Online Classes*

The students demonstrated their coping strategies. These include self-regulating (i.e., taking rests in between, making a checklist of the tasks to be accomplished and limiting one's time on social media), seeking support from peers, and practicing time management. Self-regulation is essential for students to maintain a balance between study and personal life and sustain their well-being and good mental health. In the context of this study, the learners painted, watched informative/tutorial videos, read books, exercised, listened to music, engaged in their hobbies and other activities to motivate themselves to keep on going despite the global health crisis. The anxiety of students also had to be addressed to ensure that they could actively and effectively engage in online learning (Bao, 2020). Collaborating with other students remotely is also essential to cope with the pandemic through group study, peer tutoring, pair work, and other group tasks. Collaboration is a 21<sup>st</sup>-century skill, especially in the midst of the pandemic where the students should be socially isolated. Moreover, Polish students chose problem-focused and emotion-focused strategies as a means of coping (Babicka-Wirkus, Wirkus, Stasiak, & Kozłowski, 2021). This implies that students during the pandemic need to manage their time well to avoid distractions. In addition, the Polish students and professionals found ways to distract themselves, such as with food, productivity, social media, reading, and music, which were also used by some of the respondents of this study (Wasil, Franzen, Gillespie, Steinberg, & Malhotra, 2021). Further, Chandra agrees in her study that students diverted their attention from the stress caused by the pandemic and online classes by engaging in creative activities and learning new technical skills

(Chandra, 2020). The results of the study suggest that the administrators, faculty and students should take part in online learning as a response to the pandemic. Hence, it is suggested that the stakeholders find ways to contribute to the readiness of the institution as a proactive response to the potential educational crises and uncertainties (Karakose, 2021).

## 6. CONCLUSION

The study highlighted the students' preference in the use of an asynchronous mode of learning using cellular phones, Google tools, Zoom and Facebook Messenger during their online classes. While learning, they encountered challenges such as poor connectivity, distraction from attending classes due to errands at home, and lack of a study area. To cope with these challenges, the students managed their time, took rests in between study hours, and made a checklist of the tasks to be accomplished. Hence, this study contributes to the developmental goals on education for sustainability through providing interventions based on the students' experiences, challenges and coping strategies shared during their online classes throughout the pandemic.

For education to be sustainable, it should reflect changes in character and resiliency on the different facets of learning. The experiential learning of students is manifested in their learning conditions. The online class experiences of the students provide opportunities to develop resilience in remote learning conditions. Providing interventions based on the students' experiences, challenges and coping strategies shared during their online classes allowed them to be responsible and resourceful lifelong learners.

## 7. PROPOSED INTERVENTION PROGRAMS

There are several proposed intervention programs to address the students' challenging experiences. First, a needs analysis of student services could be conducted. Second, learning enhancement platforms could also be organized through a series of webinars on modern Information Communication Technology tools, with emphasis on Google Suite. Lastly, webinars on mental health and well-being, financial literacy, entrepreneurial workshops, and time management could be organized.

This study will be beneficial in the following ways: First, it will provide awareness on the different learning experiences among the students. The results could be used as a reference to design online activities. Second, this study helps to understand where the students are and how scaffolding activities help them cope with the challenges and demands of online learning. Third, this study could be used as basis in creating action plans to help address issues in the implementation of flexible learning. Fourth, it will help school administrators create a support system for students to address their learning needs. This study can serve as a guide in crafting education policies that address students' needs, and it can benefit the government agencies responsible for crafting flexible learning education policies and designing modular/online learning materials that enhance student learning.

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**Transparency:** The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Competing Interests:** The authors declare that they have no competing interests.

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