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Challenges and Strategies in Online Learning: Perspective of Filipino Pre-Service Teachers amidst the COVID-19 Pandemic

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Abstract

The abrupt upsurge of the COVID-19 pandemic has indeed caused chaos in various educational institutions. As schools and universities suddenly migrated from traditional classes to online learning, unwanted challenges were experienced by both students and teachers. Thus, the search for effective strategies in this regard is deemed more than pivotal to survive this new paradigm shift. This present study basically aims to provide a nuanced understanding of the challenges and strategies employed by Filipino pre-service teachers in online learning. Furthermore, the research design utilized in this study was qualitative approach wherein the participants enrolled in Western Mindanao State University were purposively selected. The results of content analysis disclosed the following themes of their challenges in online learning: unstable internet connection, lack of concentration, role conflict, vague lesson instructions, unhealthy lifestyle, lower self-esteem, overloaded requirements, lack of needed device, poor learning environment, and insufficient learning references. On another note, the results of their strategies in online learning revealed the following themes: searching for a conducive environment, being self-prepared, being motivated, getting in touch with friends, asking help from classmates, making use of search engines, being organized, and being optimistic and relaxed. Based on these findings, compelling suggestions were then elaborated to help the participants cope with their struggles in online learning.

Introduction

The outbreak of the COVID-19 pandemic has undeniably placed the whole world in utter jeopardy. This novel coronavirus, known as (SARS-CoV-2), was first recognized in Wuhan City of China in the concluding part of December 2019 (Chen, et al., 2020; Karasmanak & Tsantopoulos, 2021). Consequently, the WHO announced its sudden upsurge in January 2020 as a public health emergency, concerning all people at large (World Health Organization, 2020a). Today, the whole world still continues to suffer from the unpredicted threat brought by this pandemic, regardless of the availability of vaccines (Kwok, et al., 2021; Lovelace, 2020; Mahase, 2020). Many people across the globe have still continued to struggle in dealing with their day-to-day lives. It is very sad to note that our once peaceful society has now truly begun to enter the verge of a serious fall down.

Through the years, the COVID-19 pandemic had taken its toll on many aspects of our existence. The chaos this virus has brought to our lives was so grandeur that it has managed to deteriorate our economic stability, health safety, and our way of living, all at once. Moreover, it is very unfortunate to note that our educational system was also halted by this unwanted phenomenon. As the number of COVID-19 cases remained increasing, our delivery of education was also negatively affected, forcing schools from both developed and developing countries to close in no time, while prompting the academic institutions to reach its ultimate plateau (UNESCO, 2020). Thus, a worldwide lockdown has been implemented to somehow help mitigate the disease. This was

basically done to reduce the spread of the virus from being transferred from one person to other.

Furthermore, the worldwide suspension of education caused by pandemic made the conduct of face-to-face (F2F) classes unrealistic and lawbreaking (Meulenbroeks, 2020). It was indicated that traditional classes were considered very risky, given that viruses could be easily transferred from one another in the physical context of the classroom. Boivin & Welby (2021) also declared that many students experienced a major transition in teaching and learning modality. As universities and schools collapsed, the decision to shift from traditional classes to online learning became a pivotal option (Martinez, 2020). The impact of the virus has indeed led to the proliferation of various means of learning, in hopes of saving the continuity of the delivery of education. Hence, the development of online learning has been immediately given priority to keep everyone safety, as with the existence of online learning, the continuity of social distancing remains steady (Means & Neisler, 2020). This means that the likelihood of spreading the viruses can be mitigated as students are offered the chance to learn even at home, without them physically interacting with their classmates and teachers in their schools.

Meanwhile, the silver lining in the implementation of online learning is that, it makes both students and teachers accustomed to technology-based learning. Since we are now in the era of digital age, it is high time for our educational communities to utilize their knowledge about the usage of technological tools relevant to education. Previous research has found that the interaction between teachers and learners amidst the COVID-19 pandemic was facilitated through the help of technology (Salsabila et al., 2020). The presence of technology also makes learning available to everyone at any place and time (Korucu & Alkan, 2011; Nursyifa et al., 2020). In contrary, the prelude of online learning also presents some notable drawbacks experienced by those who were already marginalized even long before the pandemic. Considering the fact that the Philippines is still a developing country, online learning may not be advisable for all Filipinos. In fact, Santos (2020) argued that the sudden shift of educational system discloses a digital divide in the Philippines. This suggests that there is a gap between those Filipinos who have access to technological tools essential for online learning and those who do not. As online learning becomes a trend, the underprivileged might be left behind in this situation as this will only favor those who are affluent, while setting barriers for those who cannot afford to buy relevant technologies. When this takes place, the existing inequalities faced by Filipinos will only continue to aggravate.

On a very serious note, the outbreak of the virus has indeed triggered the online learning of the students (Wotto, 2020). Their voices and negative stance towards the complexity of the educational shift were already heard around the world (Aguilera-Hermida, 2020; Bhagat & Kim, 2020; Meulenbroeks, 2020). In addition, this glaring issue has been in consonance with the current situation in the Philippines. Even long before the global crisis, most Filipinos were already disadvantaged. This only implies that the pandemic has even made the situation worse. To support this claim, it was reported in a cross sectional study conducted in the entire Philippines that out of 3, 670 Filipino medical students, thirty-two percent (32 %) of them were found to have difficulties in dealing with the new platform of learning since they were deprived of stable internet connection (Baticulon et al., 2020). Lack of technological tools, as well as living in a toxic environment may also exacerbate the issue. Possessing decent gadgets and getting strong internet connection are highly needed in these trying times. However, the sad truth is, most Filipinos are denied of these necessities needed to participate in online learning.

All things considered, it is therefore necessary to investigate the challenges of Filipinos in online learning. To narrow things down, this present study specifically aims to investigate the challenges Filipino pre-service teachers encountered amidst the pandemic. Likewise, discovering their strategies in online learning is deemed essential for this will provide educators with a nuanced understanding of how they managed to get through their hurdles in online learning. These are indeed the novels of this present study; to discover their challenges in online learning, as well as to highlight their resiliency in overcoming their struggles in online learning amidst this pandemic.

Review of Related Literature

Online Learning

Many schools of thought were disclosed to describe the notion of online learning. Gonzalez & St. Louis (2018) claimed that online learning has a similar concept with remote learning which requires internet connection to take place in the electronic devices such as cellphones, laptops, computers and the like. This suggests that it is an educational platform that mainly occurs in the internet world. Faize & Nawaz (2020, p.495) also argued that online learning requires a thorough utilization of technological tools. The delivery of learning instruction in this approach occurs in the realm of technology (Eichelberger & Leong, 2019; Jacinto & Alieto, 2020; Kearns, 2016).

Online learning is delivered either through synchronous or asynchronous meeting (Yeşilyurt, 2021). With regard to synchronous meeting, the students have the opportunity to engage in an authentic discussion, inquiry and reflections (Wart, Ni, Ready, Shayo, & Court, 2020). It is basically done through the utilization of web tools like the google meeting which lets the students and teachers to have a meaningful interactions and feedback, almost similar to face-to-face classes. Contrariwise, asynchronous meeting touches on the kind in which knowledge is 'transmitted intermittently rather than in a steady stream' (Javed, Ali, & Mahmood, 2018, p.67) which makes studying possible even on holidays or break time since the decision to learn greatly lies on the students (Glenn, 2016). Hence, the students can learn anytime they want so long as they feel comfortable or convenient.

Meanwhile, the different viewpoints of online learning have been carefully investigated in literature. However, it is crucial to note that it has both advantages and disadvantages. Those who have been using e-learning platforms believe that online learning can easily be ensured since the students may find it easy to talk to their teachers and access their teaching materials (Gautam, 2020; Mukhtar et al. 2020). The effort of going to school and the expenses of travel have also been lessened. Online learning, without a doubt, has significantly reduced the efforts of educational institutions, preparation, lectures and the number of classes. Furthermore, the presence of online learning provides avenue among students to express themselves and take part in school discussions even if they are far away from school (Francescato et al., 2006). It also increases the chance of teachers to create a meaningful interaction with their students (Fu, Lin, & Ting, 2015). Their propositions are indeed logical since communication in online learning is borderless.

Unfortunately, some drawbacks were also noted in online learning. Given that some students do not possess enough knowledge on how to use technology properly, it would be very difficult for them to access online learning. Their experiences in face-to-face learning would also be put on hold. When students are stressed after taking a difficult examination, for example, it would be difficult for them to talk with their friends or classmates for comfort. They would be doomed to experience academic breakdown alone since their closest circle of friends and classmates are no longer around. Online learning is indeed disadvantageous and demotivating for some. Moreover, other loopholes of online learning were also recorded. There are scholars who declared that slow internet connections and the need to enhance students' ICT skills were among the primary problems (see Alkhawaja & Abd Halim, 2019; Canals & Al-Rawashdeh, 2019). Those students who live in a place where internet connectivity has been unstable are prone to have troubles attending their online classes. Their unfamiliarity of the technological tools used in online learning also hinders them from participating.

Online learning has just indeed began a few years ago. It was done in haste due to the upsurge of crisis. Hence, there is still a need to have an in-depth analysis of it especially in a country like the Philippines where most students do not possess the needed technological tools to survive in this new paradigm shift of learning.

Challenges in Online Learning

The unprecedented shutdown of schools in 188 countries worldwide has disturbed more than 91% of the student population in the world (UNESCO, 2020). The COVID-19 outbreak has therefore

triggered the current online learning situation (Wotto, 2020). Specifically, since it was done in a haste, most students in the Philippines found trouble in dealing with their new method of learning. The immediate need of them to adjust is very crucial, since in the world of technology, online learning has become the innovative demand of knowledge acquisition in the educational practices (Cross, 2004; Rosenberg, 2001, pp. 31–32). Hence, it is apparent to note that the application of online learning has now become a popular trend.

On a serious note, along with the proliferation of online learning comes the onset of challenges experienced by the students. The term 'challenge' as a noun, refers to a situation in which a person is confronted with something that requires a lot of mental or physical effort to succeed, thereby testing his ability to finish a difficult tasks (Cambridge dictionary). Thus, it can therefore be inferred that challenges in online learning are known as struggles students face that may negatively affect their knowledge and academic performance if they are not determined enough to exert effort in online learning.

There is a plethora of published papers describing the challenges students encounter in online learning. On a positive side, the major benefit of facing these challenges is the fact that students will have the initiative to come up with ways to overcome their struggles in online learning. They will be provided with great opportunity to exhaust any means that can help them deal with online learning. The problems they experience in this new platform will probably make them critical thinkers. Robinson & Hullinger (2008) noticed that when students took classes in their computer-programmed classes, their skills in computer became better. A significant improvement in their skills in e-mailing, analyzing software, chitchatting, discussing posts and submitting assignments has been clearly noticed in their exposure to online learning. Those students involved in computer-mediated classes were shown to have improved their higher order thinking skills than those who were only exposed to face-to-face classes. Most students in online learning have also become more proficient in constructive criticism, examination, and application of their knowledge in real life situations (Chen, classes). Furthermore, it was declared that online learning can motivate students to utilize their critical thinking skills such as solving problem, cooperation and stimulation (Duderstadt, Atkins, and Houweling, 2002)

Nevertheless, the drawbacks therein seem to overpower the positive impacts of online learning. Willis et al. (2013) have identified known barriers impeding students from participating in online classes while encouraging them to choose traditional way of learning. These are considered as the absence of familiarity with the new environment of learning, lack of strategy and materials and also the lack of time. Furthermore, Becker et al. (2013) performed a study in relation to recognizing the challenges of adopting online learning and how it impacted the students. It was disclosed in the result of their study that the major struggles they faced in online learning were - the nature of learning in the new paradigm, the utilization of technology and the lack of time. In Zambia, teachers were faced with adversities in e-learning due to the absence of suitable devices, insufficient skills, behavioral problem, weak support services and different levels of experience and intellect (Konayuma, 2015). In Ghana, expensive cost, unsteady electricity, and poor delivery of courses and contents were the main culprit of struggle in accessing online learning (Adjabeng, 2017). The cultural influence, technicality in education, and financial state also worsen the struggles in the success of online learning in higher institution of education in Iran (Rezaei, 2009). The biggest troubles for e-learning in Sri Lanka were also found to be the lack of students' support system, inflexibility of the delivery of learning activities, poor attitude in the academe and the localization of learning materials (Andersson, 2008)

The challenges of students in online learning have truly impacted them in a profound way. It was shown clearly that they struggled a lot in dealing with the new paradigm shift. Thus, it is therefore the aim of this present study to provide more analysis through one-on-one interview since some studies on the same topic were mainly investigated through quantitative approach. Most related studies were also written in a whole paragraph where in fact they have to be done in a thematic form to supply focused discussion on the issues concerned. Looking into the students' online learning

challenges through the lenses of qualitative analysis will provide more concrete and truthful information from them since they are allowed to express themselves through words and expressions. Hence, the data they will share will not be limited in numbers.

Strategies in Online Learning

The immediate closure of schools due to the aforesaid predicament has encouraged the educational institutions to come up with strategies that can help realize the needs of the students and teachers (Muftahu, 2020). Since March 28, 2020, the COVID-19 pandemic has caused more than 1.6 billion youths to be away from school in 161 countries. This number is very close to 80% of the population of students who were enrolled in schools.

With an aim to cover up the possible lapses amidst the pandemic, a number of methods have been employed in the new paradigm shift of education. Now, more than ever, learning online has continued to grow as it has been proven to be not only safe for the health of students, but also effective in enhancing their problem solving skills, thereby making them excellent in their expertise by means of effective interaction (Gaytan, 2007; Larreamendy-Joerns Leinhardt, 2006 as cited in Dobbs et, al, 2009). However, arousing the students' engagement in online learning has sparked more questions than answers. The need to make them well-versed in the world of online learning should be the top priority. Hence, efficient strategies are truly needed in this aspect so that learning can be effectively provided among the students (Chen, et. al., 2010).

On another note, the term 'strategy' refers to a scheme of achieving goals amidst uncertainty (Wikipedia). It is similar to a plan of action designed to reach a common goal. Online learning strategies can therefore be understood as wise plans undertaken by students and teachers to attain success in learning amidst the global crisis. As online learning becomes the new calling of the educational system, coming up with an effective strategy to survive schooling is very much needed.

There were studies recorded designed to analyze the strategies employed in online learning. The study of Harrington & Debruler (2021) revealed that both full-time and part-time teachers in the United States usually employed numerous strategies to capture their students' interest in the online environment. These strategies were textual articles, video audio; setting a fixed schedule of meeting with their students for meaningful communication, posting inspiring quotes in their lessons, and making use of video or audio recordings of themselves in their virtual classes. Based on the study of Chen et al. (2018) on both quantitative and qualitative analyses, it was identified that Cooperative Learning (71%), Simulations & Gaming (68%), and Interactive Multimedia (64%) are the most productive strategies that can activate the students' learning. Furthermore, Oliver (2006) investigated numerous strategies to develop lively learning environments. He delivered a structure which identified the needed components for online learning: the course's content, the activities in learning and as well as support in learning. He made these components clear through practical examples how each of them can be exhausted to facilitate the process and outcomes of learning. There were also numerous solutions to combat the challenges in online learning, namely: building satellite centers so that printed and softcopies of learning materials could be provided among the students; giving academic advice; making use of the utilization of lighting sources; and guiding both teachers and students in the usage of technology (Chimpololo, 2010; Hill as cited by Chiome et al., 2011 & Spodick, 1996).

True enough, those mentioned strategies were very effective. Unfortunately, most related studies on strategies in online learning were mainly focused on the side of teachers. It may be true that some strategies of the students were also noted, but it cannot be denied that their perspectives on this matter have not yet been well expounded especially in the context of the Philippines. Meanwhile, to avoid confusion, pre-service teachers are those students enrolled in a teaching program who are soon to be teachers. This means that they are still considered students, not yet teachers, in college. In line with this, it is therefore the aim of this present study to provide a nuanced investigation on their online learning strategies so that the school administrators and faculty staffs

can further provide support and advice to them in these trying times.

Research Questions

In view of the previously mentioned concepts, this present study aimed to address the following research questions:
1. What are the encountered challenges of Filipino pre-service teachers in online learning?
2. What are the strategies of Filipino pre-service teachers in online learning?

Methodology

The methods utilized in this study are presented in this section. These include the research design, research locale, participants, data collection and data analysis. Each of them can be seen being discussed thoroughly below.

Research Design

This present study basically employed a qualitative descriptive research design. Denzin & Lincoln (1994) proposed that this method is based on investigation process in a common setting which involves explanation of phenomena to come up with an understanding of how people make meaning out of their life's experiences. Creswell (2013) pointed out that qualitative research is normally utilized in the investigation of any field of interest where only limited knowledge is known about. This method gives researchers the chance to conduct an open-ended interview questions which can be done one-on-one with the respondents in an attempt to describe their experiences in a certain phenomenon. Alieto & Omaga (2019) declared that this research design was adopted as this would provide "trustworthiness" of investigation and interpretation established from the data collected. Furthermore, the method in this present study facilitates the researcher to present detailed concepts of Filipino pre-service teachers' personal experiences on their challenges and struggles in online learning by conducting an interview in a natural context.
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Research Locale

This present study was conducted in Western Mindanao State University in Zamboanga City, Philippines where online learning was basically implemented in most places due to the outbreak of COVID-19 pandemic. The city government ordered this alternative to help lessen the spread of the viruses. The traditional classes were no longer put into practice, but rather, the said government had encouraged the Filipino pre-service teachers to shift their education through online learning.

Participants

This present study purposively selected 10 Filipino pre-service teachers enrolled in Western Mindanao State University during the school year 2021-2022. Purposive sampling was utilized to determine the aforementioned participants in this present study. Inclusion criteria were used to identify those participants who were qualified to carry out the goal of the study. They were chosen regardless of their age, gender, sex and year level, so long as they have attended online classes regularly since the beginning of the educational shift. Furthermore, they must be competent enough in both English and Filipino languages so that during the actual interview, they can freely express themselves and they would not find it difficult to describe their challenges and strategies in online learning. This would then help the researcher to secure the true data while preventing them from being polluted.

Data Collection

The data in this present study were collected through one-on-one interview in the month of

May 2022. But then, prior to that, pilot testing was done first to ensure the accuracy of the data. One-on-one interview, by the way, is a technique of data gathering which is considered as the most common and practical form of interview since it only requires the involvement of the interviewer and interviewee. Furthermore, in the final data gathering, the researcher conducted this one-on-one interview individually via phone call as it was convenient option in these trying times. Transcriptions of the participants' answers were then provided later wherein a thorough investigation was done to briefly examine their challenges and strategies in online learning.

Data Analysis

This present study utilized the so-called content analysis technique. The sources of data in this process are investigated through in-depth inspection which were formulated from a thorough accumulation of practices from numerous forms like written words or images (Jupp, 2006). The content analysis employed in this paper included phases of repetitive inspection of the data gathered. The downloaded transcription of the participants was first meticulously organized by the researcher. The investigation of the raw data resulted to initial recognition of the needed codes. The researcher continued assessing these codes, figuring out their resemblance in order to come up with their own group. Finally, the groups of similar codes had been identified and their themes had been developed and structured so that the questions raised in this present paper could be answered.

Results and Discussions

In this section, the responses of the participants were analyzed thematically. Presented below are the results and thorough discussions of the challenges and strategies of Filipino pre-service teachers in online learning.

Table 1. Challenges of Filipino pre-service teachers in online learning

Selected Codes	Themes
• *Based on my experiences in online learning for years, it was challenging since I was in our province when the pandemic started and I struggled with poor internet connection in our area.*	Unstable Internet Connection
• *The internet connection here in our location is really slow, and I even do my activities in the midnight just to have a fast internet.*	
• *I struggled to attend my online classes because I am only using mobile data.*	
• *I've actually encountered problems such as power interruption, slow internet connection, and interrupted Wi-Ficonnection.*	
• *Another struggle is when you have an activity wherein the reference is online and you need to have internet connection. Specifically, those activities require us, students, to view videos for the activity. It is really hard because the internet here in the Philippines is not that fast, same with the mobile data.*	
• *Internet access is one of the issues I've noticed that affects everyone. Our barangay is rather far from the Globe and SMART towers, thus we'll have to ride a motorcycle for at least 7-10 minutes to reach there. Yes, we have internet access, however it is quite slow. Yes, we have internet connection but it's really poor.*	
• *I can easily get distracted whenever I'm attending classes, although it's unintentionally, like for a minute I'm focused and then the next, I get lost in my thoughts.*	Lack of Concentration
• *One of the challenges that I've encountered in online learning was the difficulty in grasping the concepts fully. It is hard to focus and absorb the things being taught while merely sitting in front of the screen straining your eyes. As for experience, this made solving problems in Physics harder as I am not well-equipped with all the knowledge needed.*	
• *I'm not good at balancing things such as managing my time doing my responsibilities as a daughter, student, etc. I always procrastinate and I noticed that I became lazy when online classes started, like I don't really give my effort doing my requirements, unlike before. It's like the important thing for me right now is for the sake of passing it all.*	Role Conflict
• *Since we are in a pandemic right now, we are required to stay at home, and so we are expected to do our dual roles. Being at home, we have the responsibility as a son/daughter to help around the house, and with the addition of online learning, we also have to do our responsibilities as a student. Doing this*	

dual role only added an extra pressure for us.	
• *In terms of instructions, sometimes, the teacher does not give the instructions through the group chat, only during the class, and sometimes we can no longer ask for clarification because we don't have time left to ask for questions.* • *My struggle with comprehension and my memory gets in the way, even when I remind myself that I should write the instructions down, I easily forget that I was supposed to write them down. I hope it makes sense.*	Vague Lesson Instructions
• *My personal experience about online learning made me skinnier. When dealing with lots of school works, I loss my appetite which resulted to weight loss.* • *I don't take my breakfast or lunch because of being too busy on online classes. It was a challenging moment for me when I chose finishing all my school works over my health, or rather than resting myself for a while.*	Unhealthy Lifestyle
• *Oftentimes I doubted my capabilities and I sometimes compare myself to other students that I saw or met online and because of that my self-esteem or motivation decreases.* • *My body and mind succumb as a result. I don't know how to complete all of the requirements, my mind isn't working properly, and I'm on the verge of giving up. I sobbed uncontrollably because I believe I have failed my parents and everyone who have supported me.*	Lower Self-Esteem
• *What I don't like are the piles of homework due on the same day and because of using gadgets for more hours, my vision became more blurry and I oftentimes experienced headache.* • *The heavy workload and unrealistic standards set by the teachers are mentally deteriorating. Personally, I think online classes are a lot more demanding than the normal face-to-face setup as our time boundaries are being violated by the fact that we are "just sitting at home".*	Overloaded Requirements
• *My phone and other digital devices, I lack digital devices which help to make my learning convenient.* • *Logged of mobile phone, I think, this sort of struggle occurred because of the heat of continuous using of data connection and perhaps this could concern also with full storage of the phone that caused so much heat and logged.*	Lack of Needed Device
• *Another struggle is the environment, I live in squatter area and the houses are near to each other. The noises of the neighborhood, karaoke, cries of babies, the cry of the rooster and many more were heard.* • *I struggle having an inappropriate background or surroundings for online classes.*	Poor Learning Environment
• *I experienced that I find it difficult to do some of my laboratory activities in some lab subjects like biochemistry. Given that we cannot go to school to make the actual experiments, we sourced out and based our observations online, however, references are very limited.* • *Another struggle is when you have an activity wherein the reference is online and you need to have internet connection.*	Insufficient Learning References

The data analysis in Table 1 shows that there were 10 themes developed regarding the encountered challenges of Filipino pre-service teachers in online learning. Their individual discussion can be seen presented below:

Theme 1: Unstable Internet Connection

One of the most frequent challenges experienced by the pre-service teachers in online learning is unstable internet connection. Oftentimes, this trouble is due to the geographic location ("Based on my experiences in online learning for years, it was challenging since I was in our province when the pandemic started and I struggled with poor internet connection in our area." – Participant 2). Other participant had even sacrificed her sleep just to comply with her activities ("The internet connection here in our location is really slow, and I even do my activities in the midnight just to have a fast internet." – Participant 3). Another participant claimed that she even used to go places just to solve this matter ("Internet access is one of the issues I've noticed that affects everyone. Our barangay is rather far from the Globe and SMART towers, thus we'll have to ride a motorcycle for at least 7-10 minutes to reach there. Yes, we have internet access, however it is quite slow. Yes, we have internet connection but it's really poor." – Participant 9). In some cases, this was also due to poor data connection ("I struggled to attend my online classes because I am only using mobile data." – Participant 1.) and loss of electricity and Wi-Fi connections ("I've actually encountered problems

such as power interruption, slow internet connection, and interrupted Wi-Fi connection." – participant 5). The struggle in poor internet connection was further explained by this participant ("Another struggle is when you have an activity wherein the reference is online and you need to have internet connection. Specifically, those activities require us, students, to view videos for the activity. It is really hard because the internet here in the Philippines is not that fast, same with the mobile data."- Participant 8). This corroborates the findings of Castillo (2020) wherein he disclosed that their students also raised their concerns about electric power interruptions as a challenge in online learning and he argued that this issue was inevitable in the realm of virtual classroom. Similar results were gained from studies (e.g. Sarwar et al., 2020; Subedi et al., 2020; and Verawardina et al., 2020) wherein those students living in far-flung areas found it uneasy to attend their online classes due to lack of electricity. Moreover, the participants in this present study have asserted their concern about unstable internet connection as a major struggle they encountered in online learning. Although it is true that there are internet bundles in the Philippines, it must be noted that oftentimes, they do fluctuate and their speed and stability are not just designed equally in each region of the country (Amadora, 2020).

Theme 2: Lack of Concentration

Furthermore, since the participants were left unattended in online classes, most of them unintentionally got distracted when the classes were going on ("I can easily get distracted whenever I'm attending classes, although it's unintentionally, like for a minute I'm focused and then the next, I get lost in my thoughts." – Participant 1). In addition, other participant uncovered her concern of not being able to concentrate in Physics class ("One of the challenges that I've encountered in online learning was the difficulty in grasping the concepts fully. It is hard to focus and absorb the things being taught while merely sitting in front of the screen straining your eyes. As for experience, this made solving problems in Physics harder, as I am not well-equipped with all the knowledge needed." – Participant 7). Moreover, this supports the claim of Nguyen (2020) that online learning is far from being efficient due to the absence of interest of the students as well as considering the veracity that their attention may also be focused on other things relevant to their lives. This is probably due to fact that in online classes, when their cameras and microphones are turned off, they will feel like no one is keeping an eye on them. When this happens, they may find it boring to listen to the discussion of their teachers in synchronous meeting since they know that their teachers will not be notified of them not paying careful attention.

Theme 3: Role Conflict

Since online learning can be attended even if the person is only at home, responsibilities can sometimes get mixed. The participants of this present study found themselves not being able to properly manage their time at school and their responsibilities at home ("I'm not good at balancing things such as on managing my time doing my responsibilities as a daughter, student, etc. I always procrastinate and I noticed that I became lazy when online classes started like I don't really give my effort doing my requirements, unlike before. It's like the important thing for me right now is for the sake of passing it all." – Participant 2). In addition, their conflicted responsibilities can be further described in this convincing statement ("Since we are in a pandemic right now, we are required to stay at home, and so we are expected to do our dual roles. Being at home, we have the responsibility as a son/daughter to help around the house, and with the addition of online learning, we also have to do our responsibilities as a student. Doing this dual role only added an extra pressure for us." –

Participant 5). It is indeed very unfortunate to note that these findings might negatively affect the participants' academic performances as these have been already declared in previous studies where the household tasks of the students badly impacted their academic achievements in some other way (e.g. see Poncian, 2017; and Amali, Bello & Adeoye, 2018). It can therefore be inferred that when the participants were bothered by their household responsibilities, sometimes they could not focus on their school tasks, and this would deteriorate their performance in online learning if they could not manage to balance their many responsibilities at home and school.

Theme 4: Vague Lesson Instructions

Apparently, the difficulties in online learning also created vague instructions in the delivery of lessons and activities ("In terms of instructions, sometimes, the teacher does not give the instructions through the group chat, only during the class, and sometimes we can no longer ask for clarification because we don't have time left to ask for questions." – Participant 1). What was even worse was that, it resulted to poor comprehension ("My struggle with comprehension and my memory gets in the way, even when I remind myself that I should write the instructions down, I easily forget that I was supposed to write them down. I hope it makes sense." – Participant 1). This happened probably due to the lack of experiences of the teachers in online classes (Chen et al., 2020) but then, this could also be linked to the shortcomings of the participants in terms of being neophyte. This means that their lack of exposure to online learning platform has made them face troubles in understanding their teacher's instructions. Likewise, another reason to this is perhaps there is only a very limited interaction between the teachers and their students. When clarifications about the instructions are raised, perhaps the teachers cannot fathom them since there is really no physical communication, and perhaps unstable internet connection might get in the way time and time again.

Theme 5: Unhealthy Lifestyle

Furthermore, another serious concern, like unhealthy lifestyle, has also become a major problem among the Filipino pre-service teachers. They tend to spend so much time in online learning that they forgot to take care of themselves ("My personal experience about online learning made me skinnier. When dealing with lots of school works, I loss my appetite which resulted to weight loss." – Participant 2). The participants really struggled from online learning to the point that even their health was already compromised ("I don't take my breakfast or lunch because of being too busy on online classes. It was a challenging moment for me when I chose finishing all my school works over my health, or rather than resting myself for a while." – Participant 2). Moreover, this concern was similar to the findings of Sundarasen et al. (2020) wherein it was declared that Malaysian students attended 6-8 hours of online classes, and that made their stress level more serious and detrimental. Furthermore, not only were their mental health affected, they were also physically stressed out, sacrificing their physical health, just so they could comply with their requirements. This only suggests that online learning can be a major reason why most participants become unhealthy and inactive in most part of their lives.

Theme 6: Lower Self-Esteem

The difficulty experienced in online learning has also led to a decrease in self-esteem ("Oftentimes, I doubted my capabilities and I sometimes compare myself to other students that I saw or met online, and because of that, my self-esteem or motivation decreases." – Participant 2). A

serious type of self-doubt was also felt by this one (My body and mind succumb as a result. I don't know how to complete all of the requirements, my mind isn't working properly, and I'm on the verge of giving up. I sobbed uncontrollably because I believe I have failed my parents and everyone who have supported me." – Participant 9). Meanwhile, this corroborates the study conducted in APA Mental Health Premier asserting that the students in online learning were hesitant to do their best and to try new things. Also, they were prone to get frustrated more easily, denying their lack of self-confidence and fear of their virtual classes. This means that it has already been proven in many related studies that a major decrease in the students' self-esteem was found to be dominant in the realm of online learning. Fear of failure and the notion of not being good enough extremely made the participants lose hope. Their visions were skewed and they could not help but doubt themselves and their strength a lot in online learning.

Theme 7: Overloaded Requirements

Concerns regarding the participants' overloaded requirements such as assignments, activities etc. were also raised ("What I don't like are the piles of homework due on the same day, and because of using gadgets for more hours, my vision became more blurry, and I oftentimes experienced headache." – Participant 2). Overloaded requirements were truly experienced by them. They asserted that their teachers would give them lots of activities, home works, and assignments in a very limited amount of time. Concerns on heavy work load were then raised by this participant (The heavy workload and unrealistic standards set by the teachers are mentally deteriorating. Personally, I think online classes are a lot more demanding than the normal face-to-face setup as our time boundaries are being violated by the fact that we are "just sitting at home"." – Participant 7). It was indeed draining for them to do their requirements all at once and that was why it has caused them breakdowns and panic attacks. Furthermore, the study of Sundarasen et al., (2020) also corroborated this finding, claiming that most of their Malaysian students had expressed discomfort and stress about the number of activities given to them. They also proposed that this concern negatively impacted their students' level of anxiety and stress. It can therefore be deduced that online learning can be more stressful than face-to-face classes.

Theme 8: Lack of Needed Device

Since online learning resides in the realm of technology, devices like cellphones, laptop and the like are needed. Unfortunately, some participants had voiced out their shortcomings in this matter ("My phone and other digital devices, I lack digital devices which help to make my learning convenient." – Participant 3). The result of the study of Saavedra (2020) also verified that access to online learning devices such as laptops or computers has been very challenging among their students since most universities had already shifted to online learning amidst the global health crisis. Mobile phone logging was also taken into account ("Logged of mobile phone, I think, this sort of struggle occurred because of the heat of continuous using of data connection and perhaps this could concern also with full storage of the phone that caused so much heat and logged." – Participant 4). Perhaps the technological devices used by the participants in online learning were already outdated. This must be due to the lack of financial support. Considering the fact that the majority of Filipinos are poor, it becomes difficult for them to buy needed devices for online learning. Moreover, this is corroborated by the finding of (Matswetu et al., (2013) wherein the students enrolled in Zimbabwe were confronted by a serious financial problem in their online learning. As a result, some of them

could not afford to buy technological devices and this issue had caused them trouble, forcing them to be left behind in online learning discussions.

Theme 9. Poor Learning Environment

Other participants also expressed their concerns of how their online learning was distracted due to their stay in a poor learning environment ("Another struggle is the environment, I live in squatter area and the houses are near to each other. The noises of the neighborhood, karaoke, cries of babies, the cry of the rooster and many more were heard." – Participant 3). This problem was further explained in this statement ("I struggle having an inappropriate background or surroundings for online classes." – Participant 5). Furthermore, this difficulty has been mentioned many times in the responses of the participants, and it seems like they did not feel comfortable joining online classes while dealing with noises around their corners. The previous study of Barrot et al. (2021) revealed that the learning environment was the most dominant challenge encountered by the students, specifically the distractions found at home like the noises of the people and the scarcity of rooms and needed learning materials. This strongly suggests that most of the time, concentration in online learning is lost due to the uncontrolled noises around the participants.

Theme 10: Insufficient Learning References

The scarcity of learning references was also experienced by the participants especially during their laboratory classes ("I experienced that I find it difficult to do some of my laboratory activities in some lab subjects like biochemistry. Given that we cannot go to school to make the actual experiments, we sourced out and based our observations online, however, references are very limited." – Participant 7). It is very apparent that laboratory activities do require hands-on training. Unfortunately, these could not be done in online learning. On another note, poor internet connection comes into play again, forcing the participants to be in a serious trouble just so they could search for these limited references ("Another struggle is when you have an activity wherein the reference is online and you need to have internet connection." – Participant 8). Furthermore, these results (e.g. Coleman, 2011; and Henaku, 2020) support the findings of other studies in which problems with limited learning references were prominent among the students. Indeed, when resources are limited, gap in the students' participation and learning would probably arise.

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Table 2. Strategies of Filipino pre-service teachers in online learning

Selected Codes	Themes
• *My strategy in online learning is that, I try to find a quiet corner in our house to help me focus, especially during reporting and recitations.* • *Before the online class starts, I will check if the connectivity is okay in our home, but if it's not, I will seek out a location with a good signal.*	Searching for a Conducive Environment
• *I also try my best to get ready an hour before the class, just like how I used to get ready during face to face classes.* • *I would deal with my personal responsibilities first at hand so that, I'll be ready in time of class.*	Being Self-Prepared
• *I always try to motivate myself more.* • *The challenges can sometimes be overwhelming for me, that there are times I feel burned out and no longer have the energy to keep attending my classes. So, I have to constantly remind myself why I need to keep going.* • *Reading some motivational quotes on Pinterest to boost my self-esteem helps.* • *What I did was to keep myself motivated. I keep reminding myself not to give up, and always find time to relax, and just enjoy whatever comes around.*	Being Motivated

•I talked with my friends who also strugglein online learning like sharing each other's stories and experiences. • With regard to my deteriorating mental health, I find time to hangout with my family and friends venting out my frustrations as a coping mechanism.	Getting in Touch with Friends
• I usually ask some help from my classmates when having a difficulty on our homework and submitting my requirements. • I asked favor from my classmates to inform our professors about my situation when I'm not online or not able to attend class because of the internet connection. • We also make peer teaching or online group study sessions. • I established online relationships with other classmates so that I can seek assistance if necessary.	Asking Help from Classmates
• I always search on Google.com about things that I don't know or related to my activities, homework and such. • I've managed to overcome the challenges I've encountered by doing self-study with the help of YouTube tutorials.	Making Use of Search Engines
• In my case, being organized and having time management are the most effective strategies that work best for me in online learning because, being organized in a way that you keep a record of lectures and activities throughout the semester really comes in handy during final exams; I no longer had a hard time going over the lectures that had to be reviewed since all the lessons that have to be studied were already compiled specially those in major subjects. • At the same time, what's good in being organized is that I still have the opportunity to do other tasks and manage to use my time effectively which is also an effective strategy in online learning because, having time management and/or when you know how to manage your time effectively, you would be able to finish all the tasks given to you, and you would be able to pass them on time.	Being Organized
• I somehow manage the challenges in online learning by thinking positive and doing my best. • Ever since, I do not really pressure myself even if such struggles happen once again or repeatedly but rather, I just trust the flow and resolve them directly. • Though all the challenges I experienced always made me feel drained and frustrated, I always find time to relax and take breaks. • As for me, whenever I feel overwhelmed by my online class, I simply take a few moments to pray and go outside because our house is surrounded by trees.	Being Optimistic and Relaxed

The analysis of data in Table 2 reveals that there were 8 themes developed regarding the strategies of Filipino pre-service teachers in online learning. It can be seen below how they are being discussed individually:

Theme 1: Searching for a Conducive Environment

The struggles in online learning made the participants come up with their personal strategies to get through and cope with their many concerns. Some of them had announced that finding a conducive place is effective in this regard (My strategy in online learning is that, I try to find a quiet corner in our house to help me focus, especially during reporting and recitations." – Participant 1.). On another note, one participant made it to a point where she moved to a different location around her community just so she could have strong signal ("Before the online class starts, I will check if the connectivity is okay in our home, but if I it's not, I will seek out a location with a good signal." – Participant 9). Apparently, setting up a conducive learning environment has long been considered a hindrance in online learning especially for those underprivileged (Baticulon et al., 2020). If this issue is left unaddressed, the attention and focus of the students are at great danger (Chang & Fang, 2020). Fortunately, the participants have managed to look for conducive places when their online classes were about to start. It is indeed very significant to establish a new learning environment as it can develop the participants' skills in analysis, art of questioning, use of technology and knowledge formation (Atisabda, 2003). This will also allow them to concentrate carefully to their teachers.

Theme 2: Being Self-Prepared

Some other participants also declared that being self-prepared helped them a lot (I also try my best to get ready an hour before the class, just like how I used to get ready during face-to-face classes." – Participant 1.). In some cases, this strategy was basically done by means of manifesting self responsibility ("I would deal with my personal responsibilities first at hand so that, I'll be ready in time of class." – Participant 4). This corroborates the findings of previous studies claiming that learning is easily developed as individuals become prepared and responsible enough in their own studies even when faced with difficulties (Larmar & Lodge, 2014; Stupnisky, Renaud, Daniels, Haynes, & Perry, 2008). This suggests that the students' sense of responsibility can help them a lot in their learning and knowledge acquisition. Moreover, Tuntirojanawong (2013) also declared that the success of students whose learning styles are different lies on their ability to manifest qualities like determination and will to achieve excellence. When students are well prepared enough in online learning, there is no doubt they can get through their many challenges encountered in this new paradigm shift.

Theme 3: Being Motivated

Generally, motivation plays a very crucial role in the lives of the students. Hence, other participants proclaimed that their strategy in online learning was that, they looked for ways to stay motivated amidst learning in this global health crisis ("I always try to motivate myself more." – Participant 1). Other participants also asserted that it was a need for them to remind themselves why they should still keep learning ("The challenges can sometimes be overwhelming for me, that there are times I feel burned out and no longer have the energy to keep attending my classes. So, I have to constantly remind myself why I need to keep going." – Participant 1). Reading quotes and inspiring words were also significant for them ("Reading some motivational quotes on Pinterest to boost my self-esteem helps." – Participant 2). They also added ("What I did was to keep myself motivated. I keep reminding myself not to give up, and always find time to relax, and just enjoy whatever comes around." – Participant 5) Moreover, this mirrors the findings of Holmes & Gardner (2006, pp. 401–403) who declared that online learning is deemed personalized among students, hence, being self-disciplined, staying motivated and managing time very wisely are but skills needed in the success of online learning. This confirms the results of various studies claiming that truly motivated students possess higher chance of excellence, thereby decreasing their apprehension and increasing their learning engagement compared to those who are not truly motivated (Wigfield & Eccles, 2002; Wigfield & Waguer, 2005).

Theme 4: Getting in Touch with Friends

What is interesting about having friends is that, they are always there when they are needed the most. Hence, some participants declared that talking with their friends somehow eased their problems in online learning ("I talked with my friends who also struggle in online learning like sharing each other's stories and experiences." – Participant). The stress felt in online learning has indeed led to poor mental health, but thanks to the presence of family and friends, this participant has managed to overcome her struggle in this aspect ("With regard to my deteriorating mental health, I find time to hangout with my family and friends venting out my frustrations as a coping mechanism." – Participant 7). This is also true in the case of this one ("I occasionally hang out with friends, sharing our challenges with online learning with one another." – Participant 9). In addition,

this is in consonance with the claim of Atisabda et al. (2015) who argued that cooperation and connections with closest people are deemed essential amidst difficult times. This also mirrors the assertion that the limited physical contact during the COVID-19 pandemic has undeniably made the students feel more isolated and emotionally stressed (Brooks et al., 2020; Qiu et al., 2020). More than ever, close friendships have played an indispensable role in helping each other to get through the many challenges of life. Furthermore, this is true based on the previous findings regarding the unique psychological role of friendships (Sherman et al., 2000) wherein it was suggested that keeping in touch with friends can be a fruitful strategy to mitigate the feeling of being distressed amidst the global health crisis. As participants got overwhelmed by online classes, one way of encouraging themselves to keep going was when they allowed their friends to listen to their many concerns.

Theme 5: Asking Help from Classmates

The findings of this present study also revealed that asking help from classmates helped the participants a lot ("I usually ask some help from my classmates when having a difficulty on our homework and submitting my requirements." – Participant 2). Moreover, it also kept them updated ("I asked favor from my classmates to inform our professors about my situation when I'm not online or not able to attend class because of the internet connection." – Participant 2). The difficulties in online learning then opened the door for strong connections with the participant's classmates ("I established online relationships with other classmates so that I can seek assistance if necessary." - Participant 10). Helping each other was also manifested in this statement ("We also make peer teaching or online group study sessions." – Participant 6). This mirrors the findings of Room (2015) who claimed that enthusiastic students who were willing to help amidst the COVID-19 pandemic were basically the best. This means that these students are truly needed for they had the propensity to initiate meaningful discussions even in the realm of technology. They could manifest certain behaviors that are revered by many. This stood to reason why the participants of this present study asked help from their generous classmates as this could help them understand vague concepts discussed by their teachers in online learning.

Theme 6: Making Use of Search Engines

Search engines have long been considered helpful to the academic performance of the students for they provide a variety of information needed even in online learning. Thus, the participants did not hesitate to make use of them ("I always search on Google.com about things that I don't know or related to my activities, homework and such." – Participant 2). In other scenarios, self-preparation was done through the help of YouTube search engine ("I've managed to overcome the challenges I've encountered by doing self-study with the help of YouTube tutorials." – Participant 7). This does mirror the findings of Salehi, S., Du, J.T. & Ashman, H. (2018) who stated that search engines play a very crucial role in the academic performance of the students for these are considered powerful tools providing valuable learning resources. This is definitely the reason why most of the participants made use of search engines like Google and YouTube as these can help them to understand advanced or difficult lectures they had in online learning.

Theme 7: Being Organized

Living up to one's responsibilities has always been considered pivotal in the realization of success. The participants announced that their strategy in online learning was that, they made themselves organized in online learning ("In my case, being organized and having time management are the most effective strategies that work best for me in online learning because, being organized in a way that you keep a record of lectures and activities throughout the semester really comes in handy during final exams; I no longer had a hard time going over the lectures that had to be reviewed since all the lessons that have to be studied were already compiled specially those in major subjects." – participant 5). The participant also declared ("At the same time, what's good in being organized is that, I still have the opportunity to do other tasks and manage to use my time effectively which is also an effective strategy in online learning because, having time management and/or when you know how to manage your time effectively, you would be able to finish all the tasks given to you, and you would be able to pass them on time."). This is in consonance with the findings of Macaskill & Denovan (2013) who claimed that being personally responsible and organized can manifest a positive effect on learning. This means that when things were in order, the participants could focus more on their online learning.

Theme 8: Being Optimistic and Relaxed

It goes without saying that online learning has had a huge impact on the lives of the participants. It has indeed challenged their persistence to learn and being optimistic has been proven effective in getting through their struggles ("I somehow manage the challenges in online learning by thinking positive and doing my best." – Participant 3). In addition, staying calm and relaxed also made a major impact ("Ever since, I do not really pressure myself even if such struggles happen once again or repeatedly but rather, I just trust the flow and resolve them directly." – Participant 4). Relaxation really did help the participant a lot ("Though all the challenges I experienced always made me feel drained and frustrated, I always find time to relax and take breaks." – Participant 6). Other participant also took some time praying for the better while relaxing outside ("As for me, whenever I feel overwhelmed by my online class, I simply take a few moments to pray and go outside because our house is surrounded by trees" – Participant 9). Moreover, this mirrors the beliefs of Carver et. al., (2010) who asserted that optimism is a kind of positive mindset that would eventually result to positive outcomes. This means that if the participants are optimistic enough in their online learning, regardless of the hurdles, they would be able to succeed and make good in their academic performance as well.

Conclusion

The unprecedented migration of educational system from traditional classes to online learning has tremendously changed the way students would learn. Although some universities have managed to help their students overcome their challenges, it cannot be denied that some schools in the Philippines are still struggling in this new educational shift. What is even unfortunate is the fact that when the researcher exhausted the related literature, it was found that the pre-service teachers' strategies in online learning were almost not given emphasis. Hence, this present paper is driven by its purpose to provide a nuanced understanding of the challenges as well as the strategies Filipino pre-service teachers employed in online learning amidst the COVID-19 pandemic.

The results of this present study showed that there were 10 themes developed regarding the participants' challenges in online learning; namely: unstable internet connection, lack of concentration, role conflict, vague lesson instructions, unhealthy lifestyle, lower self-esteem, overloaded requirements, lack of needed device, poor learning environment, and insufficient learning references. In addition, the findings also revealed 8 themes of their employed strategies in online learning, namely: searching for a conducive environment, being self-prepared, being motivated, getting in touch with friends, asking help from classmates, making use of search engines, being organized, and being optimistic and relaxed.

The foregoing results provided detailed evidences on the many challenges of Filipino pre-service teachers in online learning as well as their employed strategies to survive this educational shift. By and large, it is very much recommended that these results must be carefully examined by the Filipino teachers as these would provide a strong foundation in the enhancement of the current Philippine educational system. Meanwhile, the government officials must take the lead in this advocacy. The noted challenges of Filipino pre-service teachers should not be taken lightly, but rather, they must be absolutely taken into account. The school administrators must also take time to hear their voices amidst this crisis. Moreover, the employed strategies of the participants must be strongly supported so that their struggles in online learning would somehow become bearable. The provision of needed technological devices in online learning should be made accessible especially to those who live in areas where internet connection has only little chance of being stable. Likewise, as online classes become more stressful, there is a greater need for teachers to show their sincere concern among the participants. These teachers must be patient enough in dealing with their students' concerns. In as much as education is important, taking care of their mental health is also deemed pivotal. If their teachers are emphatic enough, they would probably somehow feel that they are not alone in their struggle in this new paradigm shift, thereby making them feel motivated and optimistic. This would also boost their morale, and their resilience would get stronger as they get to face the many challenges therein online learning. True enough, motivation, encouragement and genuine support will serve as strong foundations in coping with challenges not just in online learning, but also in other aspects of the participants' lives.

All things considered, those suggestions are indeed very crucial for the success and growth of the participants. Likewise, other researchers may decide to also further investigate their students' challenges and coping mechanisms in online learning knowing that this is still a very timely and relevant topic for most schools and universities nowadays. It is very much anticipated that if this present study gets conducted in other settings, more breakthroughs can be discovered. Thus, this would serve as an apparent avenue for other participants to have their voices amplified, thereby rekindling their will to learn despite their noted challenges. The thorough inspection of this matter would definitely be of great help in the success of both teachers and their students in online learning amidst the COVID-19 pandemic

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