

Lived Experiences of University Students with Limited Internet Connectivity in Online Distance Learning

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Abstract. The pandemic brought by the coronavirus has had a notable impact on people's lives. In this regard, a new educational norm was pushed as a learning continuity plan that compelled Higher Educational Institutions (HEIs) to engage in Online Distance Learning (ODL). However, there were problems that university students experienced due to the sudden transition of the learning modality; specifically, students faced difficulty accessing the internet. Hence, the current study explored and described the lived experiences of university students with limited internet connectivity in the ODL through qualitative research using a descriptive phenomenological approach. An in-depth interview with the participants using a researcher-made semi-structured interview guide was utilized. The study revealed that most students with limited internet connectivity experienced problematic access to online classes and defined that a student with limited access to the internet struggled hard in adapting to the new normal education. The study also perceived looking for good space and time as the major coping strategy of the students to ease their difficulty in accessing the internet. The findings also implied that students hoped for appropriate interventions to aid their need for a stable internet connection to provide them a better chance of survival in the new normal education. The study recommended further improvement of the current system for online distance learning, instructors' attitudes toward students, and replication of the study in other educational institutions.

Keywords: Limited connectivity; COVID-19; Online distance learning; University students; Lived-experiences.

1.0 Introduction

The Coronavirus Disease 2019 caused the pandemic and drastically changed people's lives. Indeed, it is a phenomenon that has an adverse effect on society and our daily life. Even though all schools and community learning centers were closed for the physical conduct of lessons, this pandemic caused significant obstacles in delivering education not just in the Philippines but around the globe. Given the situation, higher educational institutions (HEIs) are being led to engage in online distance learning (ODL). Online distance learning is a kind of remote learning that involves both instructors and students and requires the use of the Internet and digital technologies. It is also a type of education wherein the students learn via online meetings, video presentations, video conferencing, or other audio/visual technology. It enables people to have an education without being physically present in a classroom setting.

Students from states with a low level of digital preparedness may experience additional technological challenges. Recent findings conducted during the COVID-19 pandemic supported this theory. Basuony et al. (2020) said that just 13.9 percent of students in Egypt's capital city had internet connectivity problems. However, in rural places in Indonesia, more than two-thirds of students mentioned difficulties with unsteady internet, insufficient data subscription, and incompatible gadgets for learning are major concerns (Agung & Surtikanti, 2020). Access to appropriate technological devices, especially desktop or computer equipment, is another important factor in K-12 students' ability to adapt to online learning (Barbour et al., 2018). The majority of students, on the other hand, will most likely drop out because of low standards. Even in higher education, around 76 percent of students reported using incompatible devices for online learning, with only 15% using laptops and around 85% using smartphones (Agung & Surtikanti, 2020). Since they rely on their parents to provide access to appropriate learning devices, K-12 students are likely affected by this availability issue (Yan et al., 2021). The rapid development of electronic communication encourages technology-mediated involvement. Synchronous online learning is accomplished with electronic devices and an internet connection or without one. This learning style encourages both synchronous and asynchronous learning. The teaching approach can be either offline e-learning with the use of digital devices or online e-learning with the use of technology tools and an internet connection.

Education must go on because it was against the protocol for teachers and students to attend classes in person. The only practical option available at the moment is online learning, but each student in the school community needs to be prepared, which is a matter that requires serious consideration. Few, if any, educational institutions are fully equipped to offer online learning to all students instantly, even though some have tried to move forward and finish the semester online (Munoz, 2021). The Philippines is a developing country that lags far behind other nations, especially when technological adaptation is the topic. It is hard to convince students in the institution to engage in online learning because of the circumstances that it has. The version of online classes existed long before the abrupt discontinuation of traditional education caused by the coronavirus outbreak. Before this new jolt, online sessions have always served as a supplement to in-person education, where this takes place in a physical space. On the other hand, the coronavirus pandemic has forced education at all levels to shut down and go completely online learning for a prolonged period. Several recent research studies conducted in various countries about online distance learning show the advantages and disadvantages. Numerous research studies have addressed that online distance learning can be an effective learning modality. A beneficial effect is found when students' work is completed using information technology (Atadjanov, 2020). Online distance learning serves as the solution to the pandemic. Online distance learning was carried out to continue the academic learning and activities. Somehow, this learning mode benefits both the learners and the teachers.

As online learning becomes more popular, teachers and students with unstable internet connectivity face the greatest challenges in their teaching and learning process (Yeh & Tsai, 2022). If a student misses even two terms of study, their reading and numeracy skills decrease dramatically. Many students' academic futures are affected by a lack of internet connectivity in a world where quick, easy access to vital information is necessary to compete and survive. It also puts students in a position where they can no longer continue any education if they do not have access to the internet. Digital inequality arises from poor internet connectivity and negatively affects academic performance. Students are increasingly using online apps and simulations for educational purposes. They work with peers worldwide, do research utilizing massive data sets, and consult experts online. All of this was made feasible by high-speed internet access. It follows that a student who does not have internet access is clearly at a disadvantage, for they will not be able to participate in the thriving online learning environment.

Several investigations of students' experiences during online distance learning have been conducted in line with the phenomenon. According to Barrot et al. (2021), students perceived advantages, concerns, problems, and coping techniques when using online learning platforms. Many online students have little computer expertise when they begin their studies, but they quickly get immersed in utilizing technology for learning and communication. Mathew and Chung (2021) used a convenient sampling method to conduct a comparison study with 608 diploma and degree university students throughout Malaysia to examine viewpoints on ODL in the context of COVID-19. According to the results, some students have positive opinions about ODL deployment. On the other hand, others believe it should be discontinued in the future semester due to inadequate internet connectivity, budget constraints, and time management issues. When it comes to handling online classes, most Filipino students have serious internet connectivity issues in their localities, which prevents them from using the online synchronous

way of delivery (Pastor, 2020). Most Filipino students negatively perceive online learning and are unwilling to enroll in online programs due to inadequate connections (Baloran, 2020). Furthermore, limited learning areas and natural distractions at home make it difficult for students to create a conducive learning environment (Barrot et al., 2021).

There are several studies about lived experiences in online distance learning. However, the studies are general, and there is an apparent scarcity of evidence on students' experiences with limited internet connectivity. According to Belgica et al. (2021), students cited inadequate internet connectivity as one of the biggest issues with online distance learning. Afzal et al. (2023) concluded that the educational disparities and digital divide among students, which the implementation of online distance learning has intensified, are among the most glaring issues discovered. The results showed that in this type of setup, digital inequalities hindered students without stable internet connectivity from having equal access to learning opportunities. Moreover, Cullinan et al. (2021) suggested that Higher Education Institutions (HEIs) or relevant teaching staff should analyze the performance of students from communities with inadequate connectivity to assess differences in student engagement or performance compared to their better-connected classmates.

According to these findings, there are evident connections between students' struggles and challenges worldwide due to the major shift of classrooms to an online setting. Despite the minimal research on Filipino students' online learning experiences, it is evident that the problems that learners encounter contribute to the current disparities in the Philippine education system. If these issues are not properly addressed, they will continue to exist, affecting the quality of learning, education, and the quality of graduates to be produced, all of which will hurt the educational system. Kapasia et al. (2020) examined the impact of lockdowns on children's academic performance. Their findings showed major disruptions in students' learning due to the lockdown. Students also shared some of the challenges they faced when studying online. Students who are marginalized and from remote areas often experience increased levels of anxiety, depression, poor Internet connectivity, and a hostile home learning environment. The effects of the COVID-19 pandemic on online learning were investigated in Saudi Arabia. Barriers to online learning during the COVID-19 pandemic included time management, technophobia, communication, student assessment, technological tool use, online experience, and anxiety or stress associated with the pandemic (Rajab et al., 2020).

Participation barriers are commonly observed in group work activities. Since they are expected to be more adept at technology and knowledgeable than ever in addition to their regular academic duties, many academic staff members experience difficulties in the online platform. In this context, learning management systems (LMS) like Canvas, Edmodo, Schoology, Google Classroom, and the like are commonly used as online distance learning tools, as are video conferencing platforms like Zoom, Skype, and WebEx. According to Clark and Mayer (2016), a disorganized and hurried shift to online distance learning with little preparation, insufficient bandwidth, and little training will lead to a poor user experience in learning activities. Another study by Copeland et al. (2021) and Fawaz and Itani (2021) examined the effects of COVID-19 on college students' mental health and coping strategies. Student's behavioral and emotional functioning was affected by isolation, uncertainty, and the effects of the economy and health, particularly concerning attention and externalizing issues (i.e., mood and wellness behavior) (Copeland et al., 2021). Concerns regarding learning and assessment methods, an excessive workload, technological difficulties, and confinement were voiced by students (Fawaz et al., 2021).

Furthermore, pedagogical strategies could alleviate some students' concerns about online distance learning and benefit them. Ali (2020) proposes that students who use online distance learning during this pandemic feel compelled to study remotely because they lack suitable facilities and infrastructure at home. Students in this study have firsthand knowledge of online distance learning, and they are in the condition of the COVID-19 pandemic. The results of the investigation from students' experiences with online distance learning are recognized to be recommendations for lecturers and institutions in executing these activities to keep them running smoothly and optimally. Furthermore, numerous studies have already been conducted to explore students' lived experiences in online distance learning. However, exploring the experiences of online distance learning students with limited internet connectivity was not given focus. Hence, the researchers conducted this study to address and fill that gap. Hence, the researchers conducted the study entitled *Lived Experiences of University Students who Have Limited Internet Connectivity in Online Distance Learning* to deeply investigate the issues in the experiences of students,

which will provide reliable insights and recommendations to authorities or any concerned individuals about the challenges encountered and coping strategies developed by the students as well as the interventions they proposed to ease their struggle as they engaged in ODL amid Covid-19 pandemic.

As a result, this study explored the lived experiences of university students with limited internet connectivity and aims to answer the following questions: (1) What are the challenges experienced by university students who have limited internet connectivity in online distance learning?, (2) How do they cope with these challenges?, (3) What intervention may be proposed to address the challenges experienced by students who have limited internet connectivity in online distance learning? This study will help university administrators and staff understand how students cope with new learning modes and the challenges they face. The insights gained will guide decision-making and policy development. Instructors will benefit by identifying student issues in online learning and adapting teaching strategies accordingly. The study will primarily benefit students by addressing their real challenges and raising awareness among administrators and instructors. Additionally, future researchers will gain valuable information and insights for related studies.

This study is based on the communication model of Shannon-Weaver, which aims to improve communication between the sender and receiver, similar to students and teachers in online distance learning. The model explains how messages can be lost or distorted. According to Drew (2023), citing Shannon (1948), the main issue in communication is ensuring a message is accurately received as intended. The model highlights 'noise' as a disruptor, with two types: internal (errors in sending or receiving) and external (outside interferences). The goal is to identify and reduce noise to improve message quality. Examples of external noise include a poorly tuned radio, lost mail, interrupted broadcasts, or failed internet connections. While acknowledging the study's design, the Shannon-Weaver model of communication theory was pivotal since it provided a lens through which the researcher analyzed that limited internet connectivity is an internal noise in student and instructor communication in online distance learning. Furthermore, Shannon-Weaver's idea provided a theoretical basis within which the researchers could describe the experiences of university students with limited internet connectivity, wherein their difficulty in accessing a stable internet connection served as an internal noise or a barrier to accessing accurate information from the online learning platforms they were using.

2.0 Methodology

2.1 Research Design

This study was qualitative research. The researchers investigated the university students' lived experiences in online distance learning. The basic questions of social phenomena, such as how individuals perceive certain parts of their lives, behave and function, and how their interactions with others contribute to social connections, are understood through qualitative research (Teherani et al., 2015). Phenomenological qualitative research methodology was employed because the study focused on one's experience. This allowed the researchers to describe and evaluate the participants' lived experiences from their perspectives, which allowed them to look into the study's underlying problem. Moreover, this study utilized the descriptive phenomenological research design to describe the experience of university students with limited internet connectivity. Christensen and Barr (2017) stated that descriptive phenomenology is widely used in social science research to describe and explore people's lived experiences. A descriptive phenomenological research design was thus employed for this qualitative investigation.

2.2 Research Locale

This research was carried out at a University in Eastern Visayas located on Havana Street, San Miguel Tanauan, Leyte. The university wanted to be the finest in the state in terms of technological and professional education. It offers a wide range of academic degree programs in four departments, with specializations in business, engineering, education, and technology. That university strived to develop strong technological and professionally qualified personnel with the qualities necessary for long-term development.

2.3 Research Participants

The study participants were University students with limited internet connectivity across the four departments of the university who were officially enrolled during the second semester of SY 2021-2022. The total population of the study was 2,737 based on the master list from the responses of the university students with limited internet

connectivity. The sample size is 20 participants. According to Moser and Korstjens (2017), the sweet spot sample size for many qualitative research studies is 15 to 20 homogenous interview participants. The researchers also concluded that 20 participants were enough since the university offers 20 fields of specialization across the four departments with different courses. Random sampling via fishbowl was used to identify the year level and, after that, the study participants to fairly choose the participants from the population.

2.4 Research Instrument

The researchers understand the role of the researcher as the research instrument in qualitative research. As Lofland et al. (2022) put it, the researcher is the key instrument through which qualitative research is conducted through interviews. Qualitative interviews are sometimes called intensive or in-depth interviews. These interviews are considered semi-structured because the researcher has a particular topic for the participant. The questions on the instrument are open-ended and may not be asked in the same way or order to each participant. The researchers in the study conducted an in-depth interview to explore the authentic lived experiences of the participants. In an in-depth interview, the researchers usually develop a guide in advance that they can refer to during the interview or memorize when the interview takes place. An interview guide is a memory aid containing interview items the interviewer plans to cover (Magnusson & Marecek, 2015). It is a list of topics or questions that the interviewer hopes to cover during an interview. It also facilitates the conduct of conversation.

Moreover, the specified format of an interview guide might depend on personal style, experience, and level of comfort as an interviewer or with your topic. Hence, the researchers created a semi-structured interview guide to ensure that every topic is covered to gather the information necessary for the study. A semi-structured interview guide was designed to study the lived experiences of University Students with limited internet connectivity in online distance learning. It was pilot-tested on two students outside of the university and was examined by a panel of experts. Suggestions and comments are taken into account for the validity of the research instrument. This semi-structured interview guide is composed of two parts. Part 1 is the introductory, wherein the researchers introduce themselves, the title, and the purpose of the study. Moreover, the researcher discussed the flow of the interview. Part 2 is the interview proper, wherein the interviewer asks several questions that fall under these objectives: (1) introductory part; (2) What are the challenges experienced by university students who have limited internet connectivity in online distance learning; (3) How do they cope with these challenges; (4) What intervention may be proposed to address the challenges experienced by students who have limited internet connectivity in online distance learning; (5) What is the meaning of having limited internet connectivity on online distance learning. Each main objective is clustered with different sub-questions, such as objective 1 clustered with 4 questions, objectives 2 and 3 clustered with 3 questions, and objectives 4 and 5 clustered with 2 questions. To determine whether the questions effectively addressed the study's objectives, the comprehensive semi-structured interview guide was pilot-tested with three students outside of the university and approved by a panel of experts. Before the interview guide was utilized for the real interviews, it was revised based on the expert's informed opinion and the findings of the pilot test.

2.5 Data Gathering Procedure

In gathering the data, the course of action was done in line with the accomplishment of the data needed for the study. The researchers submitted a letter to the Department Head and Campus Director seeking approval of the research study. Upon approval of the study, the researchers applied for the confidentiality and non-disclosure agreement papers in the admin office of the Main Campus for the list of university students with limited internet connectivity enrolled in the satellite campus. Moreover, the researcher selected students based on the criteria and personally asked for consent to be the participants. The process was done politely and with the students' willingness. Before giving consent to the selected participants, the researchers thoroughly explained the data-gathering procedure and confidentiality. And voluntary participation. Upon approval of the request, the interview was conducted. The interview was held in a private area to ensure confidentiality. It was done via face-to-face interviews, and the responses were audio recorded. An interview guide is a memory aid that contains interview items that the interviewer designed and planned, according to Magnusson and Marecek (2015). The researchers created a semi-structured interview guide to ensure that every topic was covered and to gather the information necessary for the study. The instrument was verified, revised, and modified. After that, the interview of twenty participants followed.

2.6 Data Analysis

All the responses were considered and validated in alignment with the research problem during data analysis. The recorded interviews were transcribed, and the written texts were meticulously reviewed to gather the necessary data based on the participants' perspectives. The data were analyzed qualitatively using Colaizzi's descriptive phenomenological method, as detailed by Morrow et al. (2015). Colaizzi's method involves seven steps in qualitative data analysis. The first step is familiarization, where the researchers thoroughly read and reread the interview transcripts of all participants. The second step is identifying significant statements, where the researcher identifies statements in the transcripts related to the phenomenon under investigation. In the third step, the researchers extracted the meanings of the significant statements relevant to the phenomenon. Researchers ensured that preconceptions were set aside through reflexive "bracketing" to stay true to the participants' experiences. The fourth step involves clustering themes, where the researcher groups the identified meanings into common themes across all interviews. In the fifth step, the researcher composes a detailed and comprehensive description of the phenomenon, incorporating all the themes identified in the previous step. The sixth step involves distilling the comprehensive description into a concise statement that captures only the essential aspects of the phenomenon's structure. Finally, the seventh step is verifying the fundamental structure, where the researchers return to the participants to verify whether the condensed statement accurately represents their experiences of the phenomenon, a process known as member-checking, which is a crucial aspect of qualitative research.

2.7 Ethical Consideration

Before beginning the data collection process, the researchers ensured that all preliminary protocols were strictly followed and implemented. The study's conduct was confirmed in several key areas. Participant selection was based on random sampling, as detailed in the sampling procedure section. Participants were informed about the study's purpose and benefits. The research procedures were designed to avoid any activities that might cause psychological or emotional harm to the participants and were solely for research purposes as a degree requirement. In compliance with RA 10173, the Data Privacy Act of 2021, all personal and sensitive information collected through the questionnaire was used exclusively for the study. The principles of participant anonymity and response confidentiality were upheld throughout the study. No financial involvement or compensation was provided to the participants, as it was conducted for educational purposes, and participation was entirely voluntary without incentives. Participation was voluntary, without undue influence or coercion, and participants were not forced or threatened to be part of the study. All participation was done according to their free will and rights.

3.0 Results and Discussion

3.1 Challenges of University Students Who Have Limited Internet Connectivity During Online Distance Learning

This study explored and described university students' challenges with limited internet connectivity in online distance learning. Based on the transcripts of the interviews, data revealed several challenges for university students with limited internet connectivity in online distance learning. Eight (8) emergent themes were captured from the first-person perspectives of participants.

Problematic Access to Online Class Platforms

The first challenge university students encounter is maintaining a stable internet connection in online distance learning. Tariq and Fami (2020) similarly emphasized that a reliable internet connection is essential for attending online classes. Likewise, a study by Al-Amin et al. (2021) highlighted that a stable internet connection is an urgent necessity for students. According to them:

"I have mentioned earlier we are, sometimes our connectivity is not good, and then it affects my learning, my learning because during our class sometimes our internet is not that good." (P15)

"While the disadvantages will be, students will not learn well from class because they cannot focus on the topic if there is a weak signal because the voice is not clear." (P11)

Another participant stressed that difficulty in internet connectivity is one of the hindrances that disable students from learning well because they keep missing online meetings.

"Difficult for me, my experience is difficult, why? Because it is also one of the hindrances to learning for students because instead of that you will learn, you get left out of the class." (P2)

Also, a participant emphasized that the unstable internet connection is the major reason that there are instances he is absent during synchronous classes scheduled by his/her instructor. The participant said,

"So, with this, there are instances that I am not able to attend classes because the internet connectivity does not warrant me." (P3)

Limited Acquisition of Learning

Another distinct theme identified in the data analysis is the limited learning experienced by university students with poor internet connectivity. While half of the students in Oducado and Estoque's (2021) study demonstrated acceptable or fair academic performance, it is important to note that over one-third of the students reported poor academic outcomes. A study among undergraduate nursing students in the Philippines revealed that their academic performance declined as stress levels increased in 34 students (Llego & Corpus, 2018). This similar challenge was experienced by university students who had limited internet connectivity. According to the participants:

"The disadvantage is you lack knowledge from the lesson." (P17)

"For example, the effectiveness towards students is not enough, like not sufficient when it comes to online learning." (P16)

Also, the participants stated that they acquired limited learning due to their instructors' lack of discussion and resources. They uttered:

"There is limited learning on distance modality. What is likely happening now is self-learning. No further explanation from the teachers as they will give you a module or study guide like there is a limitation in learning." (P5)

"The new system for learning is difficult; there is no reliable way to learn securely for us because actually, we do not have a discussion even in Google Meet or virtual." (P1)

Another participant emphasized that they acquire inadequate learning, especially since their course requires the actual or hands-on performance of the activities, which they could not perform online due to the lack of materials. He said:

"Our learning is insufficient in terms of our program like tapings of wire because we do not handle actual equipment on hand." (P4)

Furthermore, the limited acquisition of knowledge in online distance learning led to poor academic performance, according to a participant:

"This also becomes the root cause of getting low grades because of the failure to submit on time." (P8)

Lack of Communication between Teacher and Student

Another challenge from the participants' data is the lack of communication between teacher and learner. Both teachers and students share equal responsibility for achieving better academic performance. When learners encounter difficulties in understanding concepts, they need to seek clarification from the instructor (Bangert et al., 2004). However, a news article by Panday (2020) noted that students struggled with maintaining attention during online classes and reported that they did not fully grasp the lessons through this new learning platform. The participants said:

"One of the disadvantages is lack of communication between teachers and students because there is a time that they have conflicts in time, which is why their concerns were not entertained right away." (P1)

Furthermore, a participant uttered that one of the challenges he experienced was:

"The lack of attention that our instructors are giving to us." (P14)

Other participants mentioned that the lessons that the instructors provide to the students are inadequately discussed, which made them resort to using online resources. However, they still emphasized that they need their instructors' insights on the activities that they do.

"Sometimes the teacher's discussion is not clear, and you do not know the exact idea and point of the teacher's discussion." (P9)

"Sometimes the teacher is not teaching, but we use Google, yet it is not advisable because there is right and wrong information, you are not sure if the teacher or instructor is telling the truth." (P10)

Scarcity of Digital Resources

The scarcity of digital resources is another important theme that the participants described as one of the challenges they experienced during ODL. Digital resources are a hypercritical need in online learning. These mobile devices will be used to access various online learning systems that the study of Abidah et al. (2020) discussed. They also mentioned that several platforms support online learning for free, are user-friendly, and can be accessed via smartphones. These include various discussion rooms like Google Classroom, WhatsApp, Kelas Cerdas, Zenius, Quipper, and Microsoft. In this regard, a participant in this study claimed that he/ she lacks digital devices to be used in online learning. The participant stated that:

"Also, I lack resources which I can use in this online distance learning." (P3)

Other participants revealed that there are tasks to be done, such as making PowerPoint presentations- that are difficult to create just by using a smartphone. The participant said:

"Then the difficulty also is when making PowerPoint that you do not have a laptop you have only a phone which is uncomfortable then there are instances that during the class you will be disconnected." (P13)

Moreover, another participant experienced that there are applications used as learning platforms in the ODL that cannot be installed or do not function on smartphones and are only accessible using laptops.

"Another disadvantage also is the internet connection and the resources that we students have; for example, there is an app that is not functioning on a cellphone, so we will look for another device like a laptop, which is another problem." (P19)

Lack of Knowledge in Utilizing Digital Tools

An equally important theme that emerged in the data analysis from the transcripts of the participants' interviews is the lack of knowledge in utilizing digital tools. Along with the sudden changes that occurred because of the pandemic and the changes in the education system, online learning involves using digital devices. However, insufficient literacy in operating these tools became a challenge for the participants of this study. The study by Agung and Surtikanti (2020) stated that the difficulties of online classes are grappling with a lack of digital literacy. According to the participants,

"Like I am not computer literate, and I do not know how to access new apps. That is why there are instances that I could not submit." (P5)

"Like at first, it is difficult because I do not know how to use an app like Gmail. I feel strange with that." (P7)

Impedes Self-regulated Learning

Self-regulated learning (SRL) is defined as a set of instructional strategies undertaken to learn, as mentioned in the study of Mammadov and Schroeder (2023). This term arose from participants' responses and became an emergent theme in this study. Self-regulated learning is a challenge experienced by university students with limited internet connectivity in ODL. According to them, learning in their own way is difficult, and no one is there to ask if they understand the lessons correctly. The participants stated:

"I think it becomes difficult for me when there are tasks because I cannot immediately ask from anyone." (P7)

Another participant argues that he/she has no choice but to learn on his/her own since the instructors do not have enough discussion of the lesson but are given only study guides instead. The participant stated:

"Like we are doing self-learning that is happening with no further explanation from the teacher as they will just only give a study guide." (P5)

However, based on another perspective, some participants regarded self-regulated learning as a positive description. These participants view self-learning as a sign of independence. They said:

"Online distance learning makes me independent in a way that I have to rely on myself in answering my activities." (P3)

"Having online learning means that you are doing the best thing to learn on your own, you are being independent." (P9)

Limited Teacher Accommodation

Another peculiar theme developed in the study was limited teacher accommodation, which, according to the participants, the guidance or instructions of some instructors were inadequate to make them learn what they needed to know. However, according to Wang et al. (2020), educators also faced challenges in navigating the system and in conducting online learning, thus making it difficult for students. The participants voiced out;

"If we ask questions from our instructors, our instructor will tell us to just do research, instead of explaining it." (P19)

"They can contribute if they will understand the student; that is how a teacher can help." (P20)

Some participants also expressed that they have difficulties dealing with instructors who are strict when it comes to late submission and instructors who give overloaded assignments. They said;

"Other teachers do not like late submission; they deduct points right away." (P2)

"There are many demanding instructors who give only one example but give one hundred item assignments." (P10)

Difficulty in Time Management

Additionally, poor time management emerged as a significant challenge in online distance learning (ODL) and was identified as a key theme in the study. Issues like improper time allocation or last-minute exam cramming contribute to stress and poor academic performance (Mukwevho, 2018). Another study by Seo (2012) revealed that 30% to 60% of undergraduate students frequently delay their academic responsibilities. In online distance learning platforms, there is still similar difficulty that university students have experienced. According to the participant, it is hard to manage his time doing his/her tasks. The participant stated,

"I have insufficient time; I lack in managing my time, and I do not know how I will do it." (P8)

Another participant shared that because of her poor time management, she sometimes does not attend classes and submits her activities late;

"Sometimes I did not attend my classes on time, I did not pass my activities on time." (P16)

Meanwhile, another participant had trouble managing her tasks at school and work since she had a part-time job. She stated,

"There are usually morning classes, and then I have work at 8:30-5:00 as a tutor, and then if I cannot attend my 7 Am class, I will automatically be deducted." (P13)

3.2 University Student's Meaning of Being a Student Who Has Limited Internet Connectivity in Online Distance Learning

University students have different perspectives on how they define being a student with limited internet access in online distance learning. The participants expressed their insights into how they understood the statement mentioned above, which were captured into themes based on the repetitive responses that were read during the analysis of the interview transcripts. The four (4) emergent themes were individually discussed below.

A Student who Struggles

The abrupt shift from traditional on-campus classes to remote learning has significantly disadvantaged students. One key theme that emerged from university students' experiences is students who struggle with online distance learning (ODL). This aligns with the findings of Rotas and Cahapay (2020), who noted that poor network connectivity is prevalent in developing countries with underdeveloped telecommunications and ICT infrastructure. The participants in this study voiced out that having a limited internet connection is a hassle, and the new normal mode of learning is difficult to cope with. According to them, being a student with limited internet connectivity is a real struggle.

"Online distance learning is such a hassle because limited internet connection is having a hard time in coping with the new normal of studying (P14)

"We students struggle hard." (P15)

Meanwhile, the participant's responses suggest that being in the ODL is difficult and affects her academic performance because of the weak internet connection. He uttered that:

"It is hard because it affects my performance in school, and it is hard for me to catch up in class." (P11)

Challenge to Conquer

Given the massive stress and problems that recent studies have shown (e.g., Rotas & Cahapay, 2020; Bozkurt & Sharma, 2020; Baticulon et al., 2021), students continue to discover silver linings in the hurdles they face in the practice of remote learning. University Students take the hindrance of having limited internet connectivity on the ODL as a motivation to reach their goals. According to the participants, they need to be responsible students who hold on to their dreams and conquer these challenges no matter what challenges arrive. They said;

"As a student, you have to become responsible because even what challenges may come, if you have dreams, you will grab the opportunity even if it is hard because it is your dream to be successful." (P18)

"As a student, you have to strive hard to achieve your goal, which is to finish." (P4)

A participant also stated that ODL was difficult at first, but along the way, she felt excited while adjusting to the new normal mode of education. The participant also stated that,

"At first it is not that easy, and you have to adjust, but along the way, the process becomes like exciting." (P7)

Emotional Distress

The participants reported that limited internet connectivity in online distance learning (ODL) can lead to an emotional crisis. Similarly, Copeland et al. (2021) found that factors such as isolation, economic and health impacts, and uncertainty significantly affected students' behavioral and emotional functioning, particularly regarding attention and externalizing issues (e.g., mood and wellness behaviors). Following the same process of data analysis, emotional distress was a theme that arose from the ideas that were mentioned during the interview with the participants. According to the participant, she was stressed because the ODL platform had many demands and struggles to overcome. They said,

"Stressful. If you are a student in a limited face-to-face, you will be stressed because there are a lot of demands and struggles." (P10)

Another participant claimed that having limited internet in ODL causes many students to suffer from anxiety attacks,

"Most of my classmates got anxiety." (P1)

Moreover, a participant mentioned that he feels alone in ODL. He described ODL as a room with only one door where students are kept inside without doing anything. The participant expressed;

"You are like placed in a room that only has one door; you have no choice but to stay there." (P19)

Blessing in Disguise

According to some of the participants' responses, they view online distance learning as a blessing in disguise that made them continue their education despite the pandemic. Hence, this theme emerged in this study. Despite the struggles of the unprecedented transition of the mode of education, some students view the new normal learning modality from a positive perspective. Similarly, related literature from the United Nations (2020) stated that students who view education as a worldwide common good strive to survive and display positive actions, attitudes, and outlooks to overcome the daily challenges of distance learning. The participants stated that;

"For me, it was like a blessing or miracle because still we can continue our study." (P7)

"It was like a life for me to pursue my goals." (P1)

3.3 Coping Mechanism of University Students with Limited Internet Connectivity in Online Distance Learning

If problems exist during online distance learning, university students have their coping strategies to resolve the issues of having limited internet connectivity. Their coping strategies are summarized in ten (10) themes.

Looking for Good Space and Time

One of the most repeated difficulties experienced by students in remote learning is unstable internet connectivity in different geographic locations (Rotas & Cahapay, 2020). One of the themes captured is looking for a good space and time to cope with the challenges faced by university students in remote areas and those with limited internet connectivity in the ODL. Some of the utterances are specified;

"I go to the town proper to have stable internet." (P4)

"I answer my task immediately, then during the night I go to the place where the internet is more stable then, I send it there." (P5)

"I look for a better connection either I go upstairs or go outside." (P11)

"I go to a place where there is a better connection, or I connect to a peso Wi-Fi to get a stronger signal." (P17)

Doing Learning Tasks Ahead

Completing tasks can be challenging and overwhelming, but this is where time management skills are essential. These skills enable students to plan and prioritize their upcoming assignments (Cyril, 2015). University students with limited internet connectivity in the ODL did the same practice to avoid cramming during class discussions. The participants said:

"If there are vacant days, I use that time to work on my activities in advance while the deadline is still far so that when the deadline comes, you will just need to pass it." (P6)

"I need to find a stable connection so that I can pass, or I find time with better connection, or after the teacher gives the task, I work on it immediately so I will not be late." (P7)

Moreover, another participant uttered that due to limited internet and unstable connectivity, he/she did her task early. The participant said:

"I do not get late; I pass ahead of time, and I spend all my time until I am done so I will not be late." (P10)

Seeking Support from Peers

The study conducted in a higher education setting showed that group students achieved a higher grade point average than those working individually in a control group (Gatfield, 1999). Similarly, Jurs and Špehte (2021) highlighted the importance of providing quality peer support in distance learning, as students have fewer opportunities to seek clarification from a tutor due to geographical distance. Another strategy university students employ is seeking peer support to overcome the challenges they experience as students with limited internet connectivity in ODL. According to some participants:

"I chat with one of my classmates and ask for updates." (P8)

"Overcome these challenges of having limited internet connectivity through asking my classmates about what our instructors discuss and if they have recorded the discussion." (P11)

"I asked my other classmates if they could give me screenshots of the lessons that I have missed." (P15)

Practicing Time Management

Effective time management results in better outcomes and increased efficiency. Individuals who set goals, establish priorities, and receive time management training are generally more inclined to plan effectively (Hellsten, 2009). As university students who have limited internet connectivity, they practice time management in doing their school tasks as a coping mechanism in the ODL. According to the participants:

"I overcome those challenges by managing my time and having a calm mind because it will lead us to be more attentive to what we are going to do even though there is limited internet connectivity in online distance learning." (P8)

"We need time management like you must be attentive to your class schedule and time and then what day you do not have class so that you will not waste your load for one day." (P12)

"You have to adjust yourself on time management." (P13)

"If there is a quiz that only takes five minutes to answer, I am going to answer it first before the other quizzes take a long time to answer." (P14)

Moreover, other participants practiced their time management by doing their tasks in the middle of the night. The participants uttered:

"I wake up at midnight just for me to submit activities on time." (P3)

"One time, I woke up at 4 am to pass my task, especially when I only depended on my cellular data connection." (P7)

Accepting Responsibility

Students who view learning as a personal responsibility tend to tackle challenging problems and demonstrate a strong eagerness to learn, even when faced with potential difficulties (Ayyildiz & Tarhan, 2015). Another coping strategy university students use is accepting the responsibility of being a learner with limited internet connectivity despite the difficulties. The participants said:

"As a student, I need to adjust, not that the teacher will adjust for me, so I find a way like a peso WIFI. For example, we have midterm exams, and then there is activity, so I connect on the peso WIFI to have a stable internet to avoid interruption." (P4)

"It takes time, but I do it because I want to learn." (P5)

"It is hard, but I do it also. It is my obligation as a student." (P7)

"I accept the circumstances because I do not have a choice but to take the risk." (P8)

Approaching Teachers

Achieving better academic performance requires equal responsibility from both teachers and students. When learners have difficulty comprehending concepts, they need to seek clarification from the instructor (Bangert et al., 2004). University students with limited internet connectivity acknowledge that communication and collaboration between teachers and students play a vital role in coping with the situation. They uttered:

"I asked my teachers about the other choices for me to complete the missing activities." (P7)

"I chat or message my teacher like on our drawing because I did not know that there was an exam, I just know it after." (P10)

"If there is no signal, I message my teacher, and I ask my classmates for screenshots of the lesson to catch up." (P18)

Seeking Social Support

Various studies have shown that the perceived availability of such support contributes to a stress-free, positive, and peaceful life for individuals (Vasuki et al., 2022). Another coping strategy university students use is seeking social support to overcome their challenges during the ODL. The participants:

"Through the support of my family, friends, loved ones and one thing is time for myself." (P7)

"Family and friends will truly help most especially at this time." (P5)

Moreover, another participant stated that he spent time talking with friends as a coping mechanism. The participant said:

"..... sharing and talking with friends." (P2)

Being Thrifty

In the study by Muda and Yee (2019), 44 out of 81 participants (54.3%) identified financial constraints as the most significant challenge they faced during online distance learning (ODL). University students with limited internet connectivity in ODL also face financial problems, and their coping mechanism is to practice being thrifty. They said;

"If there is still no class, I do not buy a load, and I message on our group chat to update me if there were classes so that my load will not be wasted." (P1)

"..... be attentive to your class schedule so your load will not be wasted in a day." (P13)

Developing Autonomy

In online distance learning, students often become self-directed learners who take the initiative in making decisions about their tasks, with or without the teacher's involvement (Sze-yeng & Hussain, 2010). Another coping strategy that university students use is to develop autonomy while having the ODL. The participants uttered:

"You must be independent in a way that all of you can contribute." (P20)

"... gather relevant information, and it is somewhat like you have to learn on your own like a self-learning also." (P15)

Seeking Informational Sources

Henaku's (2020) study confirms that insufficient learning resources are among the challenges students encounter. University students with limited internet connectivity in the ODL seek information online and offline sources to cope with the difficulty. The participants said:

"With the help of the internet, particularly in Google, it helps me in browsing the given modules, and most importantly, I gained some knowledge." (P1)

"We buy books because, in accounting, we need books." (P20)

3.4 Interventions Proposed to Address the Challenges Experienced by Students With Limited Internet Connectivity in Online Distance Learning

Based on the participants' responses in the study, different viable cues were identified. Following the same data analysis procedure, these viable cues were seen as inputs to positive interventions that will aid the crying need of university students with limited internet connectivity in the ODL. Six emergent responses were captured in the first theme of the participant perspectives.

Household Internet Access

Reviewed literature in the study of Azcarraga and Pena (2019) showed evidence that the Philippines is suffering from very slow internet connectivity. As suggested, an upgraded router helps with a faster internet connection and is a must for better delivery of teaching in Online Distance Learning. University students with limited internet connectivity suggested that better household internet access would greatly help solve their problem with assistance, Wi-Fi, or booster. The participants said:

"It will help if you have a stable internet connection that is unlimited, cannot be interrupted, and does not have sudden interruption and problems with the site. It is all I want for me or even in our house to have our Internet." (P1)

"They should give additional financial support to at least every barangay who should give WIFI for those in need." (P6)

"WIFI with booster" Participant 5 line 965

"Having WIFI is good because it can help online classes and it has a good signal that can let you attend classes." (P18)

"We need unlimited internet to have a good flow in your studies." (P20)

"School or maybe the government should provide WIFI for students to have internet connectivity." (P11)

Provision of Public Learning Centers with Stable Internet Connectivity

The university students stressed that the provision of public learning centers with stable internet connectivity will be of great help in aiding their needs in this new mode of learning, which has been emphasized in (Asio et al., 2021) the provision of pocket Wi-fi, Wi-Fi hotspots to certain locations where students can avail it for free in the

community like a plaza, barangay halls, and Barangay Police outposts, especially in far-flung areas. The participants outlined that a learning space will help them have a better learning environment and technological devices such as routers would greatly help enhance their internet connectivity problem. The participants uttered,

"I think the government should install or provide public WIFI or even give the students a free router." (P3)

"Barangay WIFI so far is weak; it is not that stable because many are connected." (P4)

"..... I guess booster or connectivity, booster free wi-fi." (P13)

"Free wi-fi in every barangay could be also." (P17)

"To have a project from the government or in our community, or even from SK youths to have a function hall with one WIFI there, then it is open anytime for all of us. That is the problem." (P1)

Alternative Learning Modality

Institutions have suspended face-to-face classes and shifted to alternative learning delivery, resulting in the abrupt implementation of emergency remote teaching (Ferri & Guzzo, 2020). According to the university students, another positive intervention that can be done is the alternative learning modality, which is modular learning, since they have limited internet connectivity in the ODL. The participants said:

"To include a modular type of learning so that students like me who have difficulty with the internet can still be able to learn conveniently." (P3)

"Should have face to face because it is okay to have online class not on the major subjects and major subjects should be face to face." (P9)

"Maybe the modular can help." (P13)

"So far, we have modular, so it is okay even without the internet." (P19)

"Globe telecommunication and PLDT or government and then the sim cards that we used like TNT, smart connection and then globe connection would improve every province, every barangay or every remote area and would have internet." (P13)

Financial Assistance

Financial issues have long been a concern for society, not just during the pandemic. Budgeting problems are particularly challenging, especially for students from marginalized families (Norazlan & Al-Majdhoub, 2020). Learners from low-income and disadvantaged backgrounds are especially vulnerable during online learning, as they may lack access to high-speed internet and necessary technical equipment. This exacerbates the disparity between privileged and underprivileged students (Hussin et al., 2023). Some of the university students suggested that at this time of the pandemic, they need financial assistance to support their studies in ODL. They said:

".....we also need financial support." (P5)

"Ahm, financial assistance." (P11)

Moreover, a participant highlighted that officials from barangay can also support students. The participant said:

"I think the barangay officials can help to assist the high school's students or college students to have an everyday load." (P6)

Similarly, participants said that they needed financial assistance for the load. The participants said,

"I guess giving data loads will do." (P2)

"Free internet or freeloader even if anything that will reach class." (P4)

"I think the expenses load internet data connection." (P9)

Availability of Peer Tutors and Mentors

Communication between students and between students and instructors was a significant issue. The lack of face-to-face interaction between students and instructors led to negative perceptions among many students. They felt unsure of their guidance when instructor feedback was delayed (Howland et al., 2002). The power availability of peer tutors and mentors is one of the assistances that the university students with limited internet connectivity need during the ODL. The participant said:

"More teaching or more time for the instructor and not teaching videos." (P10)

Another participant stated that besides financial assistance, he also needed physical assistance. The participant added:

"Financial assistance, physical assistance, and social interaction with others." (P7)

Provision of Digital Learning Tools

Students from low-income families and disadvantaged groups are particularly likely to struggle with online learning due to the lack of access to high-speed internet and necessary technical devices. This exacerbates the disparity between privileged and underprivileged learners. To support online learning and address this gap, government and educational institutions should implement policies to provide all students with free internet access and digital devices (Kumar et al., 2021). University students also addressed the fact that providing digital learning tools will help them be fully equipped and lessen their burden. They uttered:

"Giving flash drives then things that will be used in school for them not to worry and they will lose their burden." (P7)

"Give also gadgets to other students." (P2)

4.0 Conclusion

The study explored the lived experiences of university students with limited internet connectivity. The conclusion drawn from this finding is that students with limited internet have problematic access to online platforms, which hurts their academic performance, resulting in insufficient learning from lessons with inadequate discussion and instructions. Moreover, to overcome the challenges and difficulties perceived in this study, several varied coping strategies provided a better chance of overcoming and surviving the challenges that university students experienced. The findings showed that university students looked for good space and time to get reliable internet access while also creating a conducive learning environment where they could complete their tasks ahead of time, keeping them up to date with activity submissions and being notified about the online platforms they were using. Hence, the participants hoped that the government and the school, as capable institutions, would provide the necessary interventions to help them meet their need for stable internet connectivity, which is the most important resource they require to adapt to the online world, as the findings also revealed that being a student with limited internet connectivity is a real struggle.

5.0 Contributions of Authors

Christian S. Francisco led the development of the study, conducted the interviews, and revised the paper into a publishable format. Mary Ann C. Madalina was responsible for crafting the review of related literature, conducting the study, and formulating the theoretical framework. James R. Pedrera suggested the research design and methodology. All authors collaborated to finalize the study, reviewing, revising, approving, and finalizing the work.

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