Barriers To Online Learning: A Students' Standpoint

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Abstract- *The Coronavirus pandemic overwhelmed the world. Worldwide, everything has halted. Ventures have been deferred, working environments shut, and schools closed. The world appears to have come to a standstill due to the novel coronavirus. The onset of this pandemic has indeed progressed the learning method in higher education institutions in the Philippines. Instructing and learning exercises typically completed with actual classroom settings have moved into the virtual setup in different internet learning applications and platforms. The objective of this study was to identify barriers that affect the online learning experience of students. Descriptive method of research was utilized in this study. Data gathering was done using a questionnaire that was developed using Google Forms and used Facebook Page to distribute the link to the respondents from the College of Information and Communications Technology-NEUST San Isidro Campus. The responses gathered in the questionnaire were tabulated based on frequency and percentage.*

Keywords- Bachelor of Science in Information Technology, COVID-19, Online Learning, Barriers

I. INTRODUCTION

The Coronavirus pandemic overwhelmed the world. Worldwide, everything has halted. Ventures have been deferred, working environments shut, and schools closed. The world appears to have come to a standstill due to the novel coronavirus. The onset of this pandemic has indeed progressed the learning method in higher education institutions in the Philippines. Instructing and learning exercises typically completed with actual classroom settings have moved into the virtual setup in different internet learning applications and platforms. This New Now in instruction required students and educators to participate in web-based education, a sort of schooling framework that permits students to learn about any particular course or subject from practically any place by just having access to a good internet connection and digital technology. This online learning depicts methods of directions, both synchronous and asynchronous.

Online learning is used to refer to web-based training, e-learning, distributed learning, Internet-based learning, web-based instruction, cyber learning, virtual learning, or net-based learning (Urdan & Weggen, 2000). Online learning is a subset of distance education and embraces a wide set of technology applications and learning processes including, computer-based learning, web-based learning, virtual classrooms, and digital collaborations (Urdan & Weggen, 2000).

Digital technology has already changed the way colleges and university's function, but no matter how significant those changes feel today, real transformation is just beginning. Online learning is taking place at just about every college and university in the nation. Students and faculty have embraced learning management systems to distribute digital content, access multimedia material from outside the institution, and facilitate student-to-student and teacher-to-student interaction (Bacow, L. S. et al. 2012). Educational institutions adopted technology-based learning by shifting from conventional teaching methods to the online teaching method. Institutions that employ ICT in the teaching and learning process will develop better e-communication between students and teachers besides the online teaching method (Aljaraideh, Y., & Al Bataineh, K. 2019).

The most obvious benefit of distance learning is the ability to learn from anywhere. Online and distance learning methods provide the convenience of time and space since students and teachers do not have to physically be in space and, depending on the method used, they do not have to be together in time as well (Srichanyachon, N. 2014). Another side of the coin is that learners confronted difficulties as they acquire advanced education through online learning modalities. A portion of these hindrances was web -based learning was troublesome and befuddling to acclimate to as they had not been set up through simulations or practices heretofore. Something else is that students partaking in web-based learning tracked down that the responsibility of online classes is more extensive than that of regular classes. A lack of social interaction was the most severe barrier as perceived by students overall, and social interaction is strongly related to online learning enjoyment, effectiveness of learning online, and the likelihood of taking another online class (Muilenburg and Berge 2005).

It is undeniable that in the age of the Covid-19 pandemic, online learning plays a crucial role in the education sector. Opting for online education or an online classroom is one of the means of continued learning. However, there are

different challenges or barriers which are faced by students while trying to study in an online classroom.

II. OBJECTIVES OF THE STUDY

The primary objective of the study was to identify barrier that affect online learning experience of BSIT Students of NEUST San Isidro Campus, specifically, this study aimed the following:

1. To identify the demographics of the respondents;
2. To explore and identify barriers encountered by the students;
3. To develop and intervention program that will beneficial to online learning experience of the students.

III. METHODOLOGY

Research Design. The research method that was used in the course of this study was descriptive method of research. Descriptive method of research involves the description, recording, analysis and interpretation of the present nature, composition or processes of phenomena which focuses on prevailing conditions, or how a person, group or thing behaves of functions in the present. It often involves some type of comparison or contrast. In other words, descriptive research maybe defined as a purposive process of gathering, analyzing, classifying and tabulating data about prevailing conditions, practices, beliefs, processes, trends and cause effect relationships and then making adequate and accurate interpretation about such data with or without the aid of statistical methods (Calderon, 2012).

Respondents of the Study. The respondents of the study were the BSIT students of NEUST San Isidro Campus. A total of four hundred sixty-two (462) students were reached out after the final examination of First Semester Academic Year 2020-2021.

Research Instrument. The researchers used a questionnaire that was based to the instrument used by Baticulon et. al (2020) which compared self-assessment of capacity for online learning and enumerate barriers of online learning categorized into technological, individual, domestic, institutional and community barriers. The instrument used a 4- point liker scale to select how respondents frequently encountered each barrier (never, sometimes, often, and always). An open-ended question was also provided for the respondents to mention other barriers.

The questionnaire was created with the use of Google Forms and was distributed by providing a link (https://tinyurl.com/barriers-online-learning) in the Facebook Page of all BSIT students of NEUST, San Isidro Campus. The collection of data was done also thru Google Forms and the respondents were given ample time to answer and to think about the questions.

Statistical Treatment of Data. Upon completion of the data gathering procedure, responses were tabulated to facilitate the analysis during the interpretation of data. The data gathered were tallied, analyzed, and interpreted. Descriptive statistics such as frequency counts and percentages.

IV. RESULTS

Table 1. Demographics of the Respondents

Category	Subgroup	Frequency (N=462)	Percentage
Age	16-18 Yrs. Old	60	12.99
	19-21 Yrs. Old	330	71.43%
	22-24 Yrs. Old	62	13.42%
	25-27 Yrs. Old	7	1.52%
	28-30 Yrs. Old	2	0.43%
	31-33 Yrs. Old	1	0.22%
	34-36 Yrs. Old	0	0.00%
Gender	Male	321	69.48%
	Female	139	30.09%
	Prefer not to say	2	0.43%
Family Relationships	Single	441	95.4%
	Married/Partnered (with Children)	11	2.38%
	Married/Partnered (without Children)	3	0.65%
	With Children	7	1.52%
Family Income	Rich	7	1.52%
	Upper Income but not Rich	9	1.95%
	Upper Middle Income	1	0.22%
	Middle Middle Class	18	3.90%
	Lower Middle Class	37	8.01%
	Low Income but not Poor	133	28.79%
	Poor	257	55.63%
Year Level	First Year	112	24.24%
	Second Year	199	43.07%
	Third Year	112	24.24%
	Fourth Year	39	8.44%
Self-Reported Academic Ranking	Highest 25%	32	6.93%
	Middle 50% in the Year Level	327	70.78%
	Lowest 25%	103	22.29%

Table 1 presents data for the respondent's demographic profile. Majority of the respondents were aged 19-21 years old or 71.93% of the total number of respondents. 321 or 69.48% were male while 139 or 30.09% were female and 2 or 0.43% prefer not to say their gender. Among the respondents, 441 or 95.4% were single, 11 or 2.38% were married/partnered with children, 3 or 0.65% were

married/partnered without children and 7 or 1.52% had children. Most of the respondents come from poor family with 257 or 55.63% of the total respondents. More respondents come from second year level with 199 or 43.07%, both first year level and third year level have 112 or 24.24% and fourth year level with 39 or 8.44%. Majority of the respondents were come from the middle or 50% in the year level with 327 or 70.78% of the total respondents.

Table 2. Technological Barriers

Barriers	Always		Often		Sometimes		Never	
	f	%	f	%	f	%	f	%
Lack of devices or limited access due to gadget sharing	40	9%	120	26%	262	57%	40	9%
Unreliable, slow, or no internet access	75	16%	119	26%	262	57%	6	1%
Lack of technical skills	21	5%	147	32%	261	56%	33	7%
Issues with online learning platforms	41	9%	139	30%	251	54%	31	7%

Table 2 shows technological barriers to respondents online learning. From lack of devices or limited access due to gadget sharing barrier, more than half of the respondents rarely experienced this (sometimes, 57%; never 9%) while the rest of the respondents frequently experienced this barrier (often, 26% and always 9%). In unreliable, slow, or no internet access barrier, it is uncommon to respondents to experience this barrier (sometimes, 57% and never, 1%) while the remaining of the respondents were often (26%) and always (16%) confronted with this barrier. Lack of technical skills were sometimes experienced by majority of the respondents (56%), 32% often experienced this barrier, 7% never experienced, and 5% always encountered this barrier. On issues with online learning platform, 54% responded that sometimes they have been affected by this barrier, 30% or 139 respondents often affected, 9% were always affected, and 7% were never affected by this barrier.

Table 3. Individual Barriers

Barriers	Always		Often		Sometimes		Never	
	f	%	f	%	f	%	f	%
Difficulty adjusting learning styles	79	17%	153	33%	213	46%	17	4%
Mental health issues	53	11%	128	28%	203	44%	78	17%
Physical health issues	35	8%	129	28%	221	48%	77	17%
Practical concerns	40	9%	139	30%	249	54%	34	7%

Table 3 presents data for the individual barriers of respondents on online learning. The data shows that from difficulty adjusting learning styles, half of the respondents hardly confronted with this barrier (sometimes-46%, never 4%) while the other half frequently affected by this barrier (often-33%, always-17%). On mental health issues, majority of the respondents were uncommonly encountered this barrier (sometimes-44%, never-17%) and the remaining of the respondents were frequently encountered this barrier (often-28%, always-11%). From physical health issues, more respondents rarely experienced this barrier (sometimes-48%, never-17%) while the rest of the respondents were common with this barrier (often-28%, always-9%). For barrier on practical concerns, more than half of the respondents sometimes (54%) or never (7%) encountered it in their online

learning while the remaining of the respondents often (30%) or always (9%) encountered the barrier.

Table 4. Domestic Barriers

Barriers	Always		Often		Sometimes		Never	
	f	%	f	%	f	%	f	%
Limited space conducive for studying	85	18%	137	30%	85	18%	137	30%
Need to fulfill responsibilities from home	147	32%	141	31%	147	32%	141	31%
Conflicts within the family	53	11%	113	24%	53	11%	113	24%
Financial distress within the household	65	14%	131	28%	65	14%	131	28%
Need to work for extra income	101	22%	115	25%	101	22%	115	25%
Lack of basic needs	64	14%	116	25%	64	14%	116	25%

Table 4 shows the data for domestic barriers of respondents on online learning. From limited space conducive for studying, 48% or 221 respondents experienced the barrier, 30% or 141 respondents were often affected, 85 or 18% respondents were always affected, and 19 or 4% respondents never experienced this barrier on online learning. For need to fulfill responsibilities from home, more than half of the respondents frequently encountered this barrier (always-32%, often-31%) while the remaining respondents rarely encountered this barrier (sometimes-37%, never-1%). In conflicts within the family, majority of the respondents sometimes (48%) or never (16%) confronted by this barrier. While the rest of the respondents often (24%) or always (11%) confronted by this barrier. Data from financial distress within the household shows that 50% or 231 of the respondents sometimes affected by this barrier, 28% or 115 respondents often affected, 14% or 65 respondents always affected, and 8% or 35 respondents never been affected by this barrier. In need to work for extra income, more than half of the respondents sometimes (40%) or never (13%) encountered by this barrier. The remaining respondents, often (25%) or always (22%) encountered this barrier. For lack of basic needs, majority of the respondents rarely experienced this barrier (sometimes-51%, never-10%) while the remaining respondents often (25%) or always (14%) experienced this barrier during their online learning.

Table 5. Institutional Barriers

Barriers	Always		Often		Sometimes		Never	
	f	%	f	%	f	%	f	%
Administrative issues and lack of organization	31	7%	122	26%	256	55%	53	11%
Poor communication between learners and educators	41	9%	134	29%	260	56%	27	6%
Inadequate skills of educators	24	5%	109	24%	253	55%	76	16%
Poor quality of learning materials	34	7%	122	26%	259	56%	47	10%
Gaps in knowledge and skills from current teaching methods	37	8%	137	30%	252	55%	36	8%
Excessive cognitive load	35	8%	137	30%	257	56%	33	7%
Limited opportunities to interact with peers	44	10%	129	28%	262	57%	27	6%
Policies and practices that neglect student welfare	31	7%	115	25%	276	60%	40	9%

Table 5 presents data for institutional barriers of the respondents on online learning. In administrative issues and lack of organization, 55% or 256 respondents sometimes been affected, 26% or 122 respondents often affected, 11% or 53 respondents never been affected, and 7% or 31 respondents always affected by this barrier. From poor communication between learners and educators, more than half of the respondents rarely encountered this barrier (sometimes-56%, never-6%), while the rest of the respondents frequently

encountered this barrier (often-29%, always-9%). Data from inadequate skills of educators shows that 256 or 55% of the respondents sometimes experienced, 109 or 24% of the respondents often experienced, 76 or 16% of the respondents never experienced, and 14 or 5% of the respondents always experienced this barrier in the course of their online learning. For poor quality of learning materials, majority of the respondents sometimes (56%) or never (10%) challenged by this barrier, while the remaining of the respondents often (26%) or always (7%) challenged by this barrier. From gaps in knowledge and skills from current teaching method, 55% or 252 respondents sometimes affected, 30% or 137 respondents often affected, 8% or 37 respondents always affected, and 8% or 36 respondents never affected by this barrier in their online learning. In excessive cognitive load, more than half of the respondents rarely challenged by this barrier (sometimes-56%, never-7%) while the remaining of the respondents frequently challenged by this barrier (often-30%, always-8%). From limited opportunities to interact with peers, 57% of the respondents sometimes encountered, 28% of the respondents often encountered, 10% of the respondents always encountered, and 6% of the respondents never encountered this barrier in online learning. For policies and practices that neglect student welfare, majority of the respondents sometimes (60%) or never (9%) experienced this barrier while the rest of the respondents often (25%) or always (7%) experienced this barrier.

Table 6. Domestic Barriers

Barriers	Always		Often		Sometimes		Never	
	f	%	f	%	f	%	f	%
Mobility restrictions due to community lockdown	67	15%	142	31%	67	15%	142	31%
Power interruptions	52	11%	132	29%	52	11%	132	29%
Socio political concerns	33	7%	119	26%	33	7%	119	26%

Table 6 shows the data for community barrier to respondents online learning. From mobility restrictions due to community lockdown, 52% of the respondents sometimes experienced, 31% often experienced, 15% always experienced, and 3% never experienced this barrier. For power interruptions, higher than half of the respondents sometimes (58%) or never (2%) encountered by this barrier while the rest of the respondents often (29%) or always (11%) encountered by this barrier. In socio political concerns, majority of the respondents rarely affected by this barrier (sometimes-59%, never-8%) while the remaining of the respondents frequently affected by this barrier (often-26%, always-7%).

V. DISCUSSIONS

This study, Barriers to Online Learning: A Students' Standpoint, shows that almost all students, in all walks of life, were being affected by several barriers in their pursuit of learning during online class. Meeting with these barriers have incapacitated some of the students while other tried to cope up in this new world of learning. Thru this study, a better approach will be given to those students that have difficulty in online learning.

Most well reason why students have difficulty adapting to online learning is because of the new technology. It is always an issue that online learning equates to technological considerations (Liang, et al 2012). A large part of online learning is the utilization of technology. In this study, more than half of the respondents do not have an issue regarding technology as their means to online learning. Students have different access or have other means to use computers. From the survey conducted by the Department of Information and Communications Technology in 2019, from 23,360,9060 households in the Philippines, 11,516,960 households have access to computers or devices either from school or work, thru relatives, friends or neighbors, and computer shops. A study conducted by Reyes and Gonzales (2020), majority of the BSIT students (463 out of 477 respondents), owned a smartphone. Respondents of the said study was also the subject of this study.

Promoting student readiness is essential for successful learning experiences. Students need to be prepared for changing demands related to online learning with respect to technology, learning management, pedagogical practice and social roles (Vonderwell, 2004). Based from this study, respondents were divided in terms of the difficulty adjusting learning styles. Many students are still adjusting when it comes to what learning styles should be applicable in online setup. Online learning for them is a new concept that requires much attention not only mentally but also physically and emotionally as well.

Online learning allows students to work at a time and a place that is compatible with their learning needs (Gilbert, 2015). The flexibility of online setup gives ample time to students to do other things. Although it is viewed as an advantage, home environment greatly influenced student's participation during online class. From this study alone, more than half of the respondents encountered the need to fulfill responsibilities from home during the course of their online class. In the study conducted by Henaku, 2020, participants of the study explained that home is not conducive for online learning. Because they have encountered different forms of distraction such as cooking for the family and taking care of younger siblings which in turn prevents them from participating in online lectures.

Another challenge that affects the online learning experience of the students are the readiness of the teachers and the institutions. Because of this pandemic, institutions implemented a sudden change in the education of the students from being face-to-face to online classroom. The transition to online learning becomes chaotic because the online learning has been not clearly defined (Singh and Thurman, 2019). And because of this, many teachers are struggling on how to teach the online concept. In this study, many of the institutional barriers were being encountered by the students. Since the online concept is new to both the teachers and the students, it is possible that many teachers are still learning on how to conduct online classroom and how it is to be implemented based on guidelines provided by the institution.

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