
Perceived Barriers in Online Learning Between Nursing Faculty and Students in a Tertiary School in Quezon City*

Narciso P. Bautista Jr., Shara Nooreen D.O. Bhuiyan, Alexandra Jian B. Enclona, Ma. Sophia D. Enriquez, Antonette T. Estil, Noelyn G. Estremos, Chris Angeline M. Fermo, Chevrolet P. Frias; Jamie B. Gallego, Francheska Kyla Gomez, Jose Eusebio Gabriel E. Guerra, John Arman R. Javier and Tracy Ann R. Roco

ABSTRACT

The purpose of this study was to identify the barriers perceived in online learning by the Nursing students and faculty members of Far Eastern University - Dr. Nicanor Reyes Medical Foundation, a tertiary school in Quezon City. The study used cross-sectional research design to collate and compare different perceived barriers in online learning. The data were gathered online using an adapted survey questionnaire entitled "Identifying Barriers of E-learning Implementation" (2016, June) by M.Sc. students in Agricultural Faculty of Islamic Azad University, Ilam Branch. The weighted mean, percentage or frequency formula, and t-test were used to calculate the data. Individual sample t-tests were used to look for the highest in rank and differences between barriers. The findings show that the Nursing students have a perceived barrier in human skills with an average score of 1.70, while the Nursing faculty has a perceived barrier in human skills with an average score of 3.18. Overall, the Nursing students and faculty have perceived barriers in Human skills in online learning. The study revealed that there is a significant difference between barriers perceived by nursing faculty and students in online learning during the COVID-19 pandemic at a Tertiary School in Quezon City. With the purpose of obtaining the recommended outcomes of the data collected, this study used a survey questionnaire that was subsequently modified to fit in inside the current study. The research study by M.Sc. students in Agricultural Faculty of Islamic Azad University, Ilam Branch entitled "Identifying Barriers of E-learning Implementation" (2016, June)

Key words: Barriers, online learning, perceived barriers

The pandemic was declared globally in March 2020 which impacted people's lives. This has brought to light the vulnerability of educational institutions, even those that were previously seen as secured and substantial. Consequently, physical classroom learning is no longer feasible, and schools have resorted to online learning. The need for upgrades

in the education system was required; this prompted innovative approaches to online education. The shift from traditional to online is a significant advance in education, as the medium of instruction has changed from synchronous to asynchronous modes.

Online learning is a type of internet-based learning that allows students from different backgrounds and perspectives to connect with each other. It is also defined as the use of digital technology and media to transmit, support, and enhance both learning and teaching, as well as student-teacher collaboration through the utilization of pre-existing online

* From the School of Nursing

information. It has been recognized as an effective way for educators to teach students in recent years.¹ A learning management system (LMS) is now being used in higher education institutions to facilitate the learning of the students which increases their engagement by giving asynchronous or synchronous activities or sessions (Claudiu Coman, et al. 2020). Synchronous learning involves the exchanging of ideas and information within the same period with one or more participants (Higley, 2013; as cited in Ogbonna, et al. 2019), while asynchronous learning allows participants to engage in the exchanging of ideas and information without being confined in the same period of time (Safavi, 2008; as cited in Ogbonna, et al. 2019). With the use of technology, both phrases allude to the extent to which a course is constrained by place or time (Assareh & Hosseini Bidokht, 2010).

Faculty members encountered a range of barriers in their online teaching experiences. There have been difficulties in measuring students' learning and monitoring outputs online (Mulyanti, et al. 2020). One of the major problems is the rapid transition to online teaching while still continuing a minimal level of communication and support with the students' learning and growth. Educators must be aware of the barriers present, and address them by modifying, improving, and creating better learning experiences for the students (Pilar, et al. 2019).

Students have faced multiple barriers related to online classes, especially in the medical field where experiences of presentations and clinical rotations are a vital part of learning (Ferrel and Ryan, 2020). Limited technological experience, lack of motivation, challenging e-learning material, and inadequate support are among the topmost barriers to online learning (Kumari, 2020). Although online classes are not a replacement for traditional face-to-face classes, schools had to use web-based learning as their primary medium of curriculum delivery in order to sustain education.

According to Shirkhani, et al. (2016)², barriers are categorized as: (i) attitudinal, (ii) technical-expertise, (iii) human, and (iv) educational-skill. In the study, it was revealed that the attitudinal barrier's most significant factors were the low self-esteem and ability to participate in e-learning courses due to skepticism about its utility. While in technical-expertise barriers, its most significant factors were the low quality of used software and low-quality educational materials. In addition, human barriers have also been identified

as one of the most troublesome aspects of online learning for students, the most important of which are: a lack of technical assistance in using the electronic education system, as well as a low level of student feedback and response. Lastly, educational-skill barriers have also been observed as one of the issues with e-learning, and the following are the primary points: lack of computer and internet capabilities among education managers, as well as a shortage of human resources trained to start and protect e-learning systems.

The purpose of this research was to (i) identify the impediments to online learning that nursing professors and students perceive; and (ii) suggest necessary recommendations for the effective implementation of online teaching. It will be beneficial for the College of Nursing in a sense of modifying the methods of online learning to lessen the difficulties in these days of new normal. Discovering the differences between the Nursing Faculty and Students' perceived barriers would allow the institute to identify what barrier affects the teaching of the Nursing Faculty and learning of Nursing Students. In addition, this study will help raise awareness of the barriers encountered in online learning. It is necessary to understand opinions and experiences of teachers and students with online learning as it is crucial in order to properly address and emphasize areas in need of development and improvement.

This research study aimed to identify the barriers perceived by the Nursing faculty members in online teaching in a tertiary school in Quezon City in terms of attitudinal, technical expertise, human and educational skill barriers.

Significance of the Study

Through this study, significant findings will help formulate decisions in improving guidelines, policies, learning methodologies, and strategies geared towards the achievement of the institution's vision and mission regarding technological integrations on higher education. Moreover, this study will aid in increasing awareness regarding the barriers encountered in the platform of online education. Understanding the views and experiences of teachers and students about online learning is necessary in order to adequately address and highlight areas that need development and improvement.

The following will benefit from this study's findings:

Nursing Faculty. The study will raise awareness about existing barriers in online education caused by the pandemic to faculty members and students. This research will inform faculty members of the efficiency and effectiveness of their online teaching and develop or adjust their teaching strategies to adapt to the emerging innovations of the 21st-century learning environment.

Nursing Department. This study will inform the Nursing Department about the barriers to online learning among the Nursing faculty members and the students, assess its effectiveness in the online setting, and formulate policies, guidelines, or action plans to address these barriers.

Students. This study will guide the student body on existing barriers faced by members of the faculty. Consequently, the findings of this research may open dialogues for cooperation between faculty and students to achieve a more effective and efficient online learning experience.

Institution. This research will guide the academic institution on existing barriers identified by Nursing faculty members and students, and develop a suitable course of action to improve online learning.

Future Researchers. This study will guide future researchers who want to (i) develop interventions or recommendations to improve online learning among nursing faculty and students, and/or (ii) explore barriers to online learning covering a larger scope of study.

Scope and Limitation

The researchers gathered data from the Nursing faculty members and the Nursing students enrolled at the Far Eastern University - Dr. Nicanor Reyes Medical Foundation. The Nursing faculty members' criteria includes: (i) professors that teach only nursing subjects, (ii) are working full-time and part-time faculty members and excludes: (i) non-teaching staff in the Nursing Department, and (ii) staff that are a part of the IT department. Non-teaching staff have a distinct role that requires a different approach to online learning. They are focused more on administrative and departmental tasks in which the IT department has acquired expertise in regards to their skills in technological usage.

On the other hand, students' criteria includes: (i) all year levels from first year to fourth year, and (ii) are regular and irregular students.

This study acknowledges its limitations, and further research is necessary. First, there is insufficient local study and literature in online learning to understand possible barriers caused by the low prevalence of online learning in the Philippines. Second, the study relied on an online questionnaire and was only available to those with internet connection. Third, despite the fact that the study had a high sample size, it was limited to college students and teachers from a single Philippine university. Nonetheless, the findings of this study can be used to help build instructional programs as the institution adapts to the new normal in education.

A study by Shirvani (2016)² identified different kinds of barriers to e-learning implementation which explained 52.53 percent of the total variation. The most significant barriers affecting the implementation of e-learning, according to respondents from Islamic Azad University's Agricultural College, were insufficient financial investment, inadequate belief in e-usefulness, learning having a lot of quality education content, inadequate technical consultation on the electric education system, and inadequate basic knowledge of technology. Faculty members should be obligated to provide the appropriate attributes for preparing facilities and tools linked to e-learning in universities such as hardware (e.g., computer, laptop) and software (e.g., Microsoft Office, operating system), enhancing e-learning infrastructure, building telecommunications infrastructures, and access to local information networks. The private sectors' capacity and capabilities can be used to develop agricultural faculty infrastructure.

The study done by Mahyoob (2020)³ assessed students' new experiences with online learning and the viability of virtual educational techniques. This research used a descriptive statistical method, wherein 184 students took part in an online survey-based questionnaire. The respondents were subdivided into 85 male and 99 female learners. Online learning, particularly in higher education, was the ideal choice for continuing education throughout the epidemic, according to Mahyoob. Despite this, the majority of English as a Foreign Language (EFL) students are dissatisfied with their online learning since, according to the study's findings, they have not made the necessary progress in language acquisition.

Gaur, et al. (2020)⁴ surveyed 394 undergraduate nursing students using a cross-sectional descriptive survey approach. The majority of registrants (61%) said they have experienced challenges when taking online programs. The nursing students considered the following statements to be significant barriers: online classes lack control over the group, online classes require strong internet access, and online classes result in physical problems such as headaches, fatigue, and eye pain. Despite the fact that many students have grown up with online learning, some students reject participating in online courses. The outcomes of the study show that online nursing schools may have limited acceptance among undergraduate nursing students. Higher-ups must figure out how to make online education more user-friendly.

Gamdi and Samaraji (2016)⁵ investigated the possible barriers to the effective delivery of e-learning by faculty members. The faculty acceptance of technology is influenced by a number of elements, including personal factors (e.g., age, gender, beliefs, and attitudes), socio-cultural factors (e.g., economy and geography), and the amount of exposure (including training and assistance) to new technologies (Rogers, 2000). The study collected 214 questionnaires electronically at a Saudi university. Age is a demographic characteristic that is thought to impact educators' opinions of e-learning. Faculty members aged 45 and up were less likely to use online learning in their teaching practices. On the other hand, younger faculty members were stated to be more enthusiastic about integrating and adopting e-learning. Professional programs in e-learning and information and communications technology (ICT) that are appropriate and continuing should be made available as solutions. The rules must reinforce the IT service department that oversees and assists all IT transactions at the Harbin Electric International Company (HEI) and ensures that all staff members have access to up-to-date software and hardware.

Sahar El Turk and Isabelle Cherney (2016)⁶ conducted a study to identify the specific barriers to online learning encountered by the faculty and administrators in Lebanon at the School of Arts and Sciences of a U.S. university. The process includes preparing two sets of questionnaires consisting of six demographic variables (role, gender, age, rank, status, and work experience) and online survey tools for geographical and time barriers. They used a statistical package for the social sciences (SPSS) to verify the adequacy of the analysis through the Kaiser-

Meyer-Olkin (KMO) measure. Keeping the factors to tell how much variance there is, Varimax with Kaiser Normalization was done (Lloyd, et al. 2012). The study was only conducted at a private American university in Lebanon and was only administered to the School of Arts and Sciences. The slow internet connection was not a big factor for the administrators and faculty members, however, the lack of proper preparedness when it comes to creating a new curriculum and materials needed for online learning was perceived as a serious predicament for online education. It resulted in reformatting the syllabus to meet the learners' and educators' needs.

According to Olum et al. (2020)⁷, in developed countries with low-cost internet, online education has been accepted for a blended education system; but, in poor or emerging countries, insufficient resources such as a lack of infrastructure and qualified people have hampered the spread of e-learning. A cross-sectional study was conducted to review e-learning awareness, attitudes, preferences, and challenges among Bachelor of Medicine and Bachelor of Surgery (MBChB) and Bachelor of Nursing (B.NUR) students at Makerere University, Uganda. Of the 214 valid responses, e-learning, according to half of the students, lowers the quality of knowledge gained and is not an effective teaching approach. Current MBChB and B.NUR students aged 18 years or older constituted the study population. Knowledge and usage of e-learning platforms were high among 206 (96.3%) Bachelor of Surgery (MBChB) and 177 (82.7%) Bachelor of Nursing (B.NUR) respondents. Conversely, over 50% lacked skills in using the e-learning platform of Makerere University. Monthly income, internet connectivity issues, gadget ownership, and the frequency and rate of use of academic websites or applications had a substantial impact on attitudes about e-learning. Furthermore, 199 (93%) and 179 (84%) indicating the total participants of the research, students said that high internet charges and inadequate internet access were the most significant hurdles to e-learning. To increase the attitude and use of e-learning, students and teachers must be sensitized to it and trained on how to use existing learning platforms. The issues associated with the country's fluctuating internet connectivity would be handled by using a combination of online and offline downloadable learning resources.

An integrative review was conducted in the study of O'Doherty, et al. (2018).¹ To extract the data, The Cochrane Data Extraction Form and a modified

extraction tool were used to assess the literature on the barriers and solutions that educators face when creating and executing online learning programs for medical students and postgraduate trainees. Time constraints, a lack of technological skills, inadequate infrastructure, a lack of institutional standards and support, and negative attitudes among those involved are only a few of the major hurdles to the expansion of online learning in medical education. Inconsistent WiFi connectivity, limited computer access, and poor physical infrastructure, particularly in underdeveloped countries, might be barriers to e-learning. Professors also raised worries about the whole process of incorporating new technology into their classes, as well as a low tolerance for minor technical issues. Some of the solutions to these issues include enhanced educator abilities, incentives and rewards for time spent generating and providing online material, improved institutional strategies and support, and a positive attitude among all those involved in the development and delivery of online content.

A study by Regmi, et al. (2020)⁸ identified and summarized the drivers, facilitators, and challenges impacting e-learning in the field of health sciences. From 1980 to 2019, these variables were reported in the medical literature using the 'Textword' and 'Thesaurus' in MEDLINE, EMBASE, Allied & Complementary Medicine, DH-DATA, PsycINFO, CINAHL, and Global Health, using a systematic literature review (SLR) technique. Enablers or drivers of e-learning in health sciences education, as well as hurdles or challenges to e-learning in health sciences education, were discovered in the study. The hurdles and problems are divided into four categories: (i) lack of desire and expectations, (ii) resources, (iii) appropriateness for all disciplines/contents, and (iv) IT skills. Internal and external influences found to be the most prevalent. Emotional and psychological states are considered internal variables. The technological and educational framework are examples of external forces. As a result, learners should be put at the center of learning when instructional design, learning styles, and expectations are taken into account when incorporating e-learning into health science education curriculum and practice.

The study conducted by Nambiar (2020)⁹ in India found that the primary issues affecting e-learning are technical in nature. Thirty-nine (39%) of respondents believed that online education was not a safe or secure medium. Teachers, on the other hand, agreed that

being able to deliver classes online has increased their confidence and allowed them to test out new teaching methods. Attending online programs also revealed dissatisfaction with the workplace. Some have even alleged that their lack of computer skills stopped them from taking use of the online learning platform. Majority of teachers also expressed frustration with students' lack of interest and involvement. According to students, there are a multitude of reasons why they are unable to attend online classes including network issues, disconnectivity, and poor audio and video quality. It was impossible to tell whether students were giving legitimate justifications or simply skipping classes. Online education technology solutions are gaining traction in the face of the COVID-19 epidemic. In addition, the poll investigated which online platforms instructors liked for taking classes and assigning assignments. Overall, students and instructors preferred face-to-face communication.

The study done by Akram, et al. (2021)¹⁰ shows the challenges faced by teachers in the adaptation of educational technologies in teaching during pandemic. A mixed-method research approach was used in the study with 98 respondents filling out closed-ended survey questions, a five-point Likert scale, and 15 interviews with faculty members from public institutions in Karachi, Pakistan. The study yielded two significant findings. First, quantitative questionnaire responses revealed scores more than 3, which is higher than the mean: 3.90 for perceived ease of use, 3.79 for attitude toward usage, and 3.51 for perceived utility. These findings indicate that online teaching techniques are adapting at a good rate. The qualitative findings, on the other hand, identified seven major factors that reflect the challenges faced: inadequate class management, lack of supervision, underfunding, poor attendance, inadequate skills, miscommunication, and problems in assessment.

Implementation of e-learning in public universities in Benghazi, Libya brought about complicated factors. This included training, working conditions, technological background, skills, and other significant factors. Maatuk, et al. (2021)¹¹ focused on the challenges and major barriers that come with using e-learning systems. The five-point Likert scale questionnaire was employed in this study as part of a descriptive-analytical research strategy. Their responses were University of Benghazi IT faculty, undergraduate students, and instructional personnel. With averages of 3.44 and 3.59, students

and instructors equally approve of the scope and volume with which e-learning is implemented. With an average of 4.13 for students and 3.99 for professors, both students and faculty agreed on the benefits of online education. Students understand the disadvantages of e-learning with a mean of 3.78, however, the teaching staff's opinion is doubtful with a mean of 3.35. The students and teaching staff both experienced difficulties in accepting e-learning; both are in agreement that the means are 3.75 and 3.82. The study, however, found that it reduced faculty workload and increased students' workload. It also indicated that internet services of low quality made e-learning difficult. Despite the challenges, e-learning is perceived to contribute to student learning.

Zalat, et al. (2021)¹² conducted a cross-sectional study to estimate the experiences, challenges, and acceptance of online learning among the teaching staff at Zagazig University, Shakira Governorate in Egypt during the pandemic. The study included 346 medical staff members as participants. Those who refused participation included retired and on-leave staff. The medical staff's experiences and impediments were assessed using an electronic questionnaire split into four components. According to the findings, the most significant hurdles to online education faced by teachers were (i) intermittent internet access, (ii) inadequate computer laboratories, (iii) a shortage of computers/laptops, and (iv) technical issues. As a result, further research is needed to improve the acceptance of online education. It will assist in the development of a strategic plan to overcome the obstacles and ensure the successful implementation of e-learning, as well as the acceptance of technology as a positive step toward educational evolution and change.

A study by Amini, et al. (2021) which took place at Shiraz University of Medical Sciences, presents both obstacles and opportunities for medical education caused by COVID-19 pandemic. This qualitative study employed semi-structured interviews and field notes as a data gathering method, using a content analysis methodology. Faculty members in basic and clinical sciences, as well as medical students who are adjusting to cyber technology, and other instruments were the criterion for replies. Twelve (12) students and fourteen (14) faculty members were interviewed for a total of 26 interviews. Perception and standardization of the viability of e-learning, specialized teaching, networking, and multidisciplinary partnerships are all variables in the growth of e-learning,

according to the findings. Virtual classroom etiquette violations, insufficient interactions, time limits, and infrastructure flaws and challenges were divided into four categories. The study was able to demonstrate that the rapid replacement of education with e-learning, as well as other significant developments, will have ramifications for medical schools, students, and instructors.

The study conducted by Li, et al. (2021)¹³ aims to assess the quality of online medical and nursing education delivered to international students from low and middle-income nations (LMICs) in China, and to investigate how these factors affect the satisfaction and development of students and teaching staff with online education during their courses. A questionnaire-based study was done on students and their professors at Xuzhou Medical University to determine the causes and barriers that impact them in this regard. To match the study's goal, the questionnaires are separated into learner-related questions, course-related questions, instructor-related questions and crisis-related questions. A total of 230 students and 120 professors took part in the survey. The findings reveal that respondents are confronted with a variety of obstacles. The top 5 hurdles are: (i) the severity of the pandemic crisis, (ii) the uncertainty surrounding the university's opening date and arrangements, (iii) a sense of isolation, (iv) the lockdown, and (v) the severity of students' financial troubles. Furthermore, (i) a sense of distance, (ii) the lockdown, (iii) the severity of the COVID-19 problem, (iv) a severe burden for online teaching, and (v) a lack of practical lessons were revealed as factors influencing faculty satisfaction with online education.. Medical schools will be able to use this information to better the delivery of online training in the event of a future crisis, as well as to improve their educational outcomes for both students and teachers.

In a study by Moralista and Oducado (2020)¹⁴, a descriptive cross-sectional method was used to discover how the faculty at a Philippine state college perceive online education. The majority of instructors had intermediate computer skills and no experience in online teaching, with only a few having a very solid internet connection, according to the data. In comparison to face-to-face classes, online education produces more academic dishonesty and impersonality, and it is difficult to control technologically. Significantly, faculty members vary in their support for online education based on age, gender, college, educational attainment, years in the

classroom, academic rank, level taught, and work position.

An article by Cedeño, et al. (2021)¹⁵ discusses the online learning experiences of Centro Escolar University graduating medical students, especially the difficulties they experienced, and proposed a way to assist them to cope with the abrupt educational shift. A qualitative observational research design was utilized, citing various opinions and gathering facts based on the learner's experiences with online learning. The data gathered were used to identify the barriers perceived during online education, and from there, a solution to alleviate strain was developed. It was concluded that despite the willingness to undergo changes with the current educational setup, limitations will still be handed out particularly when skills are being tested and connectivity is a concern. The struggles were dealt with by reformatting the curriculum and syllabus, but these struggles were not completely addressed due to connectivity issues.

Aguinaldo (2021)¹⁶ explored the difficulties teachers faced when delivering virtual physical education in the midst of the COVID-19 pandemic, which is still ongoing. Professors used instructional films to deliver their lessons, but their students did not finish their activities correctly since teachers frequently struggle to provide fast feedback in front of the computer screen. Triangulation techniques were used to compare and cross-check the consistency of the information collected from the respondents. When directing an online class, the most significant technological problem that the respondents encountered seemed to be having an unstable internet connection. Teachers should have substantial experiences developing online courses and teaching online classes in their areas of specialization or subjects. Online education is much more equivalent to putting the actual classroom in the virtual world and making it function in the same way.

In a cross-sectional study by Oluyinka and Endozo (2019)¹⁷ on the factors influencing students' acceptance of web-based learning in the Philippines and Nigeria, the technology acceptance model (TAM) was used in this investigation. Technology acceptability is influenced by technical resources and perceived simplicity of use, according to respondents. Increased access to electricity could help encourage e-learning, as well as impressions of ease of use, technological resources, and utility. The conclusions of this study will help the Commissions for Higher Education in both nations identify the major aspects

of infrastructural facilities that are genuinely required to justify technological investment. Hence, the government should direct more funds for technological infrastructure improvement in both public and private universities. It is suggested that this study be replicated in order to improve the generalizability of the findings.

In the study of Fabito, et al. (2020)¹⁸, descriptive statistics is followed to assess the obstacles faced by computing students at a private institution in the Philippines during the period when the entire Luzon region was placed under the Enhanced Community Quarantine (ECQ) in response to the COVID-19 outbreak. Students' top three barriers and problems were difficulty in: (i) difficulty in clarifying issues or discussions with professors, (ii) lack of study or working area for conducting online activities, and (iii) lack of a decent internet connection for participating in online activities, according to the findings. Both students and staff members were unprepared to participate in full-fledged online learning. In an online learning environment, some faculty members may have failed to adjust to the needs of students. The study was able to identify gaps in students' perspectives on online learning, which can help management establish a holistic framework that incorporates both students and teachers for a positive online learning experience.

A study by Bahian, et al. (2020)¹⁹ had the goal of determining the online learning challenges that students at Eastern Visayas State University-Ormoc City Campus faced during the COVID-19 pandemic. Barriers were grouped into four categories based on the findings: personal, technical, institutional, and community. The most frequently encountered challenges were the responsibility to undertake obligations at home, the adaptation of learning methods, and a lack of study space. Respondents' judgments of online learning hurdles were not statistically significant based on age, gender, or year level, whereas students' evaluations of online learning ability were statistically significant based on demographic or technological variables. The students' internet access was also a source of contention. The findings of this research will aid in identifying and resolving implementation challenges connected to online course delivery. This research also provides administrators and professors with useful information for resolving problems in the online distribution process such as hurdles and criteria.

Local Study

Barrot, et al. (2021)²⁰ conducted research of the pandemic's context and students' online learning experiences in higher education. The researchers looked at the scope of the issues students were dealing with, the impact of the COVID-19 outbreak on their online learning, and the solutions they employed to overcome them. Two hundred (200) pupils from a private school in the Philippines were polled using a descriptive mixed-methods approach to assess the obstacles they faced and the techniques they used to overcome them. A retrospective self-report questionnaire was used in the data collection to characterize their subjective well-being or emotions in the past or in general and in a qualitative approach. The data show that the types and degree of online learning problems experienced by college students varied. Their greatest barrier stemmed from their home learning environment, while technical knowledge and competency posed the least significant challenge. The pandemic, in the opinion of the students, has aggravated their problems, particularly in terms of academic quality, mental health, money, interaction, and mobility. All in all, the difficulty level and tactics used by each student varied. As a result, they should be viewed as the product of multiple interconnected parts. Students' responses show that the resources accessible to them, their interactions with teachers and peers, and the school's present online learning policies and procedures influenced their online learning difficulties and techniques. The imposed lockdowns, as well as the pupils' socioeconomic status, exacerbated the difficulties that students experience throughout the pandemic.

Following the COVID-19 incident, an attempt was made to examine the issues of online learning for university students in the Philippines. The study of Rotas, et al. (2020) examined a pool of purposefully and conveniently selected students currently enrolled in a higher institution using a qualitative research design. Twelve (12) themes about distance learning challenges emerged from the findings: (i) unreliable internet connectivity; (ii) insufficient learning resources; (iii) power outages; (iv) ambiguous learning contents; (v) overloaded lesson activities; (vi) limited teacher scaffolds; (vii) poor peer communication; (viii) conflict with home responsibilities; (ix) poor learning environment; (x) financial issues; (xi) physical health compromises and (xii) mental health struggles. The study's findings

are contextually sensitive in the Philippines were polled using a descriptive mixed-methods approach to assess the obstacles they faced and the techniques they used to overcome them. A retrospective self-report questionnaire was used in the data collection to characterize their subjective well-being or emotions in the past or in general and in a qualitative approach. The data show that the types and degree of online learning problems experienced by college students varied. Their greatest barrier stemmed from their home learning environment, while technical knowledge and competency posed the least significant challenge. The pandemic, in the opinion of the students, has aggravated their problems, particularly in terms of academic quality, mental health, money, interaction, and mobility. All in all, the difficulty level and tactics used by each student varied. As a result, they should be viewed as the product of multiple interconnected parts. Students' responses show that the resources accessible to them, their interactions with teachers and peers, and the school's present online learning policies and procedures influenced their online learning difficulties and techniques. The imposed lockdowns, as well as the pupils' socioeconomic status, exacerbated the difficulties that students experience throughout the pandemic.

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With the study of Baticulon, et al. (2021)²¹, 3670 surveyed medical students from 54 institutions in the Philippines were polled to learn about the challenges they faced as they attempted to adjust to the rapid move. In the Philippines, traditional education has given way to an online curriculum. As a low to

middle-income Southeast Asian country, the economic effects of COVID-19 were being felt as changes in Philippine medical education were taking place. Technological, individual, personal, institutional, and communal obstacles were divided into five groups. Changes in learning methods, the need to perform responsibilities at home, and poor communication or a lack of clear instructions from teachers were the most common difficulties. Approximately, two-thirds of the respondents had to deal with these obstacles on a regular or practically daily basis. A smartphone was owned by 93 percent of medical students, and a laptop or desktop computer was owned by 83 percent. A postpaid internet connection was used by 79 percent, while prepaid mobile data was used by 19 percent. Under the current circumstances, only 1505 students (41%) believed they were physically and mentally capable of participating in online learning.

Ramirez (2020)²² researched into how HEIs keep quality assurance in the midst of the COVID-19 epidemic. The experience and comments of the University of Asia and Pacific were used to assess how an HEI demonstrates resilience in instructional delivery. Professors face several challenges, including: (i) selecting digital applications that match students' internet connection speed and quality; (ii) the time required to prepare for both asynchronous and synchronous activities, as well as to create effective and engaging content and materials for students; (iii) facilitating an interactive class, discussion, and question and answer; (iv) designing appropriate assessment and evaluation tools; and (v) tracking the veracity of the content. The findings indicate that among the 59 student participants, "the lack of understanding of the full functionality of Canvas by certain professors and students is the major hurdle to productive online classes." They are aware that they have professors who have "been thoroughly trained in utilizing Canvas and have effectively implemented it in class, providing students with the best possible online learning experience" (UA&P USG, 2020).

With the study conducted by Oducado and Soriano (2021)²³ in two nursing colleges in the Philippines, researchers investigated nursing students' e-learning views during the COVID-19 outbreak, following the unprecedented transition of classes to a digital platform and before the start of the semester. The study included 175 second-year nursing students from one public and one private nursing school for comparison purposes. They used a descriptive, cross-sectional study design with two-part questionnaires

to collect data. The participants' demographics, computer ownership and proficiency, internet usage and connection were all determined in the first portion. The participants' attitudes about e-learning were measured in the second phase. According to Indonesian study, obstacles at the student level, such as weak computer skills, devices, connectivity, access, and interest, have the largest impact on e-learning. Ways to overcome these difficulties must be identified and executed in order to fully realize the potential of e-revolutionary learning. Furthermore, academic nursing schools must address the drawbacks of e-learning, take the required steps to improve training, be ready to transition to an online format method, and strive to ensure that learning during pandemics stays positive and successful when these obstacles persist.

Research Design

A cross-sectional analytic study design was used as the research methodology. The researchers used a cross-sectional research methodology to collect and assess several perceived barriers in online learning during the COVID-19 pandemic. The use of electronic survey tools is practical in data collection as it (i) can be designed in a variety of programs, (ii) can generate more responses, (iii) requires less energy than long surveys, and (iv) can gather both quantitative and qualitative data (Andrews et al., 2003; as cited in Rotas et al., 2020). The survey identified the barriers that are being experienced by the Nursing faculty and students. A quantitative research design was used to recognize the perceived barriers in online learning of the Nursing faculty and the Nursing students enrolled at Far Eastern University - Dr. Nicanor Reyes Medical Foundation. The researchers used a quantitative research design to gather numerical data that could be used to confirm or reject a hypothesis, and administrators would be able to easily share that data with schools and universities. From the information collected, the researchers were able to address the concerns, and recommend strategic plans and training programs. This type of research design is suitable for the study because it aims to determine the barriers that may affect the Nursing faculty members' teaching strategies and techniques, and the nursing students' learning.

Locale and Population

The target population of this research study were the Nursing students and faculty members of

Far Eastern University - Dr. Nicanor Reyes Medical Foundation located at Regalado Avenue, West Fairview, Quezon City. Among the students there were: (i) three hundred seventy-one (371) first-year Nursing students, (ii) one hundred eighty-two (182) second-year nursing students, (iii) one hundred seventy-six (176) third-year Nursing students, and (iv) ninety-three (93) fourth-year Nursing students; which total to eight hundred and twenty-two (822) Nursing students. Of the population of the Nursing faculty members, there will be forty-two (42) which will be included in this research study.

Table 1. Respondents of the study.

Respondents	Sample Size	Percentage
Nursing faculty	38	12.06%
Nursing students	277	87.94%
Total	315	100%

Sampling Design and Technique

This study was conducted at a tertiary school in Quezon City that offers medical education. Through the nursing program, students are prepared for a career as a nurse by completing an intensive nursing practicum. The development of competencies up until the fourth year begins with professional courses in the first year.

Two groups of respondents were selected from the school: Nursing students and faculty members. The target population of the study were the first to fourth year Nursing students from the School of Nursing for the First Semester Academic Year 2021-2022. For the Nursing students, participants were selected through stratified random sampling techniques. The stratified random sampling technique subdivided the population elements into a homogenous group, then selected a simple random sample from within each stratum. Participants in this study were one hundred eighteen (118) first year students, fifty-eight (58) second year students, fifty-six (56) third year students, and thirty (30) fourth-year students.

Nursing faculty members with a teaching load for the First Semester Academic Year 2021-2022 were included in the study. The researchers used random sampling, which is a method of sampling where each sample has an equal chance of being selected. A sampling technique called random sampling enabled the randomization of sample selection. Each sample

had the same chance as other samples of being chosen to represent the full population. A sample of thirty-eight (38) chosen randomly is meant to be an unbiased representation of the total population of forty-two (42) faculty members. To conduct this type of sampling, the researchers used MS Excel and generated random numbers for each element in the sampling frame.

Determination of Sample Size

For calculating the sample size of the student population, this study used a finite sample size formula which was set at a 95% confidence level, a population proportion of 0.5, and an error of 0.05. This enumerated a sample size of two hundred sixty-two (262) Nursing students at Far Eastern University - Dr. Nicanor Reyes Medical Foundation.

As for the faculty members, the determination of sample size also used a finite sample size formula which was set at a 95% confidence level, a population proportion of 0.5, and an error of 0.05. This enumerated a sample size of 38 faculty members at Far Eastern University - Dr. Nicanor Reyes Medical Foundation.

Research Instrument

This research used an adapted survey questionnaire entitled "Identifying Barriers of E-learning Implementation" (2016, June) by M.Sc. Students in Agricultural Faculty of Islamic Azad University, Ilam Branch. The "Identifying Barriers of E-learning Implementation" tool was given to the researchers via email upon writing a formal letter asking permission from Shirkhani et al. The survey tool identified the Perceived Barriers in Online Learning between Nursing Faculty and Students in Far Eastern University - Nicanor Reyes Medical Foundation.

The questionnaire contained 16 items which consist of (4) categories: 4 questions in Attitudinal Barriers, 4 questions in Technical-Expertise Barriers, 4 questions in Human Barriers, and 4 questions in Educational-Skill Barriers.

This research instrument used a four-point Likert scale (1 = to a great extent, 2 = to a moderate extent, 3 = to a little extent, 4 = to no extent).

During the validation process, an expert panel confirmed the content and face validity of the questionnaire. A reliability evaluation of the questionnaire was performed using the Cronbach's alpha coefficient.

Validation of the Research Instrument

The research instrument used was validated by three experts. It had undergone face validation by a psychometrician, and the appropriateness was reviewed by a Nursing professor from the IT Department. The statistician examined the intent and purpose of the survey questionnaire, identified the variables of the study, and checked the appropriateness of the Likert scale. The research instrument has passed through careful examination and proven substantially useful for the study "Perceived Barriers in Online Learning Between Nursing Faculty and Students in a Tertiary School in Quezon City".

The researchers assessed the internal validity of the questionnaire using the standardized alpha coefficient of Cronbach (α). The pilot study lasted for two days and garnered 60 respondents composed of students and faculty members of the Nursing Department in Far Eastern University - Dr. Nicanor Reyes Medical Foundation. The total number of students was 52 and consisted of 17 first year, sixteen (16) second year, ten (10) third year, and nine (9) fourth year students. For the faculty members, there were a total of 8 respondents and consisted of 3 full time and 5 part-time educators. Results show that Cronbach's alpha score for the entire questionnaire was rated at 0.85 α coefficient, which indicates the tool as being good and reliable (Taber, 2016).

Data Collection and Procedure

1. The researchers sent electronic mails to the Dean of the School of Nursing requesting permission to perform the study and to the Data Protection Officer addressing the online consent forms and questionnaires with the goal of adhering to the data privacy requirements set forth.
2. To find the participants, the Telegram Helpline Group was used as it contains the list of the Nursing students and faculty members, and has the means to privately message the participants about the details and particularities of the research. From the list of names, years, and sections gathered, the researchers utilized MS Excel and generated random numbers which correspond to students and/or faculty members that were recruited for the study. The pieces of information that were gathered will be exclusively used for research purposes only.

3. Google Forms were sent to the participants who are two hundred and sixty-two (262) Nursing students, and thirty-eight (38) faculty members through their Telegram account that include a consent form and the survey questionnaire. In the informed consent portion, there were options whether to tick the box for the statement "I have read the study description above and AGREE to participate in the survey." or the box for the statement "I do NOT wish to participate in the survey." Once the respondents agreed to participate, they could begin the online survey. If they disagreed, they were redirected to the end of the form.
4. The respondents were given 72 hours to complete the survey from the time of sending out the form. The totality of the questionnaire consists of 16 questions. Those who were unsuccessful in submitting the surveys within the specified time frame upon sending were automatically excluded from the study. Furthermore, the students' and faculty's anonymity are guaranteed.
5. All participants were able to answer the survey questionnaire which means two hundred and sixty-two (262) questionnaires were retrieved. The data were carefully collected, processed, and interpreted by the researchers.

Table 2. Satisfactory rating legend for questionnaire.

Equivalent	Options	Verbal Interpretation
1.00 - 1.75	1	To a great extent
1.76 - 2.50	2	To a moderate extent
2.51 - 3.25	3	To a little extent
3.26 - 4.00	4	To no extent

Statistical Treatment of Data

The following statistical tools were applied to interpret the results according to the sub-problems.

1. **Percentage** is used as a descriptive measure to demonstrate the relationship of two or more magnitudes. This is determined by using the formula:

$$\% = \frac{f}{N} \times 100$$

2. **Weighted Mean** is a mean calculated by multiplying the weight (or probability) associated with a certain event or outcome by the quantitative outcome, then adding the results. The weighted mean differs from the arithmetic mean which can be used to calculate a theoretically expected outcome in which each event has its own probability.

$$Xwt = \frac{X1W1+X2W2..}{N}$$

$$Xwt = \frac{X1W1+X2W2+X3W3}{N}$$

3. **Unequal variance (Independent) t-test** is an inferential statistic that determines to see if two groups that are related in some way/s have significantly different means.

$$T\text{-value} = \frac{mean1 - mean2}{\sqrt{\left(\frac{var1}{n1} + \frac{var2}{n2}\right)}}$$

Sub-problem No.1: The barriers perceived by the Nursing faculty in online teaching in a tertiary school in Quezon City in terms of:

1.1. Attitudinal Barriers

Table 3 shows the attitudinal barriers to the Nursing faculty members' experience in online teaching. The leading result has a weighted mean of 3.26 and has an interpretation of "To no extent". Next in rank has a weighted mean of 3.29 which is interpreted as "To no extent". Sequentially, the following has a weighted mean of 3.39 interpreted as "To no extent", and the last one has a 3.47 weighted mean interpreted as "To no extent".

By computing the totality of the weighted means which resulted in a score of 3.35 and interpreted as "To no extent", this postulates that the Nursing faculty does not experience attitudinal-skills as barriers to online teaching.

1.2. Technical-Expertise Barriers

Table 4 shows the technical-expertise barriers to the Nursing faculty members' experience in online teaching. The leading result has a weighted mean of 3.11 and has an interpretation of "To a little extent". Next in rank is 3.16 which is interpreted as "To a little extent". Third in rank scored 3.18 which is interpreted as "to a little extent", and last in rank has a score of 3.32 with an interpretation of "To no extent".

By computing the totality of the weighted means which resulted in a score of 3.19 and interpreted as

Table 3. Attitudinal barriers to the Nursing faculty members' experience in online teaching.

Criteria	Weighted Mean	Interpretation	Rank
I believe that e-learning is useful.	3.39	TNE	3
I have self-confidence and the ability to take part in e-learning.	3.47	TNE	4
I am able to accept e-learning as a substitute for traditional classes.	3.26	TNE	1
There is an adequate change in teaching methods in e-learning.	3.29	TNE	2
Total	3.35	TNE	

Legend: TNE - To no extent

Table 4. Technical-expertise barriers to the Nursing faculty members' experience in online teaching.

Criteria	Weighted Mean	Interpretation	Rank
The quality of software applications I use is favorable and conducive for e-learning.	3.32	TNE	4
The quality of education is maintained in an e-learning setting.	3.11	TLE	1
I experience adequate access to different and suitable curriculum materials in e-learning.	3.16	TLE	2
There is an adequate adjustment to learning or teaching styles with the use of technology.	3.18	TLE	3
Total	3.19	TLE	

Legend: TNE - To no extent; TLE - To a little extent

“To a little extent”, this postulates that the Nursing faculty experiences technical-expertise as somewhat a barrier to online teaching.

1.3.Human Barriers

Table 5 in the previous page shows the human barriers to the Nursing faculty members’ experience in online teaching. The first in rank got a weighted mean of 3.05 which has an interpretation of “To a little extent”. Next in rank which is 3.11 is interpreted as “To a little extent”. The third in rank scored 3.18 which is interpreted as “To a little extent”, and the last in rank has a score of 3.37 with an interpretation of “To no extent”.

By computing the totality of the weighted means which resulted in a score of 3.18 and interpreted as “To a little extent”, this postulates that the Nursing faculty experience human skills as somewhat barriers to online teaching.

1.4.Educational-Skill Barriers

Table 6 in the previous page shows the educational-skill barriers to the Nursing faculty members’ experience in online teaching.

There are two barrier questions in the first rank as they both have a weighted mean of 3.24 and have an interpretation of “To a little extent”. Next in rank is 3.24 which is interpreted as “To a little extent”. Third in rank scored 3.26 which is interpreted as “To no extent”, and last in rank has a score of 3.61 with an interpretation of “To no extent”.

By computing the totality of the weighted means which resulted in a score of 3.34 and is interpreted as “To no extent”, this postulates that the Nursing faculty do not consider educational-skills as barriers to online teaching.

Table 7 shows the Summary table for the nursing faculty members’ response on the perceived barriers in online learning setup.

Table 5. Human barriers to the Nursing faculty members’ experience in online teaching.

Criteria	Weighted Mean	Interpretation	Rank
I experience adequate technical consultation on using the electronic education system	3.11	TLE	2
I have access to fast and accurately responding personnel when technical issues arise.	3.37	TNE	4
Effective communication is maintained between faculty and students.	3.18	TLE	3
I experience adequate social interaction in online learning.	3.05	TLE	1
Total	3.18	TLE	

Legend: TNE - To no extent; TLE - To a little extent

Table 6. Educational-skill barrier to Nursing faculty members’ experience in online teaching.

Criteria	Weighted Mean	Interpretation	Rank
I have adequate skill in using computers and the internet.	3.26	TNE	3
There is adequate training of skill in the use of educational technology.	3.24	TLE	1
There is a presence of IT support for the protection, maintenance, and use of e-learning systems.	3.61	TNE	4
There is sufficient administratively provided time/ support to learn technologies.	3.24	TLE	1
Total	3.34	TNE	

Legend: TNE - To no extent; TLE - To a little extent

Table 7. Summary table for barriers perceived by the Nursing faculty.

Average/Category	Average	Verbal Interpretation	Rank
Attitudinal Barriers	3.35	TNE	4
Technical-Expertise Barriers	3.19	TLE	2
Human Barriers	3.17	TLE	1
Educational-Skill Barriers	3.33	TNE	3
Total Barriers	3.26	TNE	

Legend: TNE - To no extent; TLE - To a little extent

The first in rank the Human barrier with verbal interpretation of 3.17 which has an interpretation of to a little extent. The next in rank is Technical-expertise barrier which has a verbal interpretation of “To a little extent” with a mean score of 3.19. The third in rank is Educational skill barrier which got a 3.33 mean score and verbally interpreted as to no extent. Attitudinal barrier in the last rank which got a 3.35 mean score and verbally interpreted as to no extent.

Faculty members can be considered as the designer of learning activities of students, given the understanding of the current pandemic situation with no means but to continue facilitating the learnings of students, consequently did not perceive online learning as a barrier, and yet, were able to accept online learning as a substitute for the traditional classes. The work from home setting that was implemented during the pandemic contributes to the less interaction experienced by the faculty members and difficulty in communication to its students.

Sub-problem No. 2: The barriers perceived by the Nursing students in online learning in a tertiary school in Quezon City in terms of:

2.1. Attitudinal Barriers

Table 8 on the next page shows the attitudinal barriers to Nursing students in their experience in

online learning. The first in rank got a weighted mean of 1.67 which has an interpretation of “To a great extent”. Next in rank, there are two barrier questions that got a 1.68 which is interpreted as “To a great extent”, and the last in rank has a score of 2.19 with an interpretation of “To a moderate extent”

By computing the totality of the weighted means which resulted in a score of 1.81 and is interpreted as “To a moderate extent”, this postulates that the Nursing students experience a significant attitudinal barrier in online learning.

2.2. Technical-Expertise Barriers

Table 9 on the next page shows the technical-expertise barriers the Nursing students have in online learning. The first in rank got a weighted mean of 1.53 which has an interpretation of “To a great extent”. Next in rank has a score of 1.64 which is interpreted as “To a moderate extent”. Third in rank scored 1.83 which is interpreted as “To a little extent”, and last in rank has a score of 1.90 with an interpretation of “To a moderate extent”.

By computing the totality of the weighted means which resulted in a score of 1.73 and is interpreted as “To a great extent”, this postulates that the Nursing students experience technical-expertise as a major barrier to online learning.

Table 8. Attitudinal barriers to the Nursing students in their experience in online learning.

Criteria	Weighted Mean	Interpretation	Rank
I believe that e-learning is useful.	1.68	TGE	2
I have self-confidence and the ability to take part in e-learning.	1.68	TGE	2
I am able to accept e-learning as a substitute for traditional classes.	1.67	TGE	1
There is an adequate change in teaching methods in e-learning.	2.19	TME	3
Total	1.81	TME	

Legend: TME - To a moderate extent; TGE - To a great extent

Table 9. Technical-expertise barriers to Nursing students in online learning.

Criteria	Weighted Mean	Interpretation	Rank
The quality of software applications I use is favorable and conducive for e-learning.	1.83	TME	3
The quality of education is maintained in an e-learning setting.	1.53	TGE	1
I experience adequate access to different and suitable curriculum materials in e-learning.	1.64	TGE	2
There is an adequate adjustment to learning or teaching styles with the use of technology.	1.90	TME	4
Total	1.73	TGE	

Legend: TME - To a moderate extent; TGE - To a great extent

2.3.Human Barriers

Table 10 on the next page shows the human barriers Nursing students experience in online learning. The first in rank got a weighted mean of 1.62 which has an interpretation of “To a great extent”. Next in rank is 1.66 which is interpreted as “To no extent”. Third in rank scored 1.71 which is interpreted as “To a great extent”, and last in rank has a scored of 1.81 with an interpretation of “To a moderate extent”

By computing the totality of the weighted means that resulted in a score of 1.70 which is interpreted as “To a great extent”, this postulates that the Nursing student experiences human skill as major barriers to online learning.

2.4.Educational-Skill Barriers

Table 11 on the next page shows the educational-skill barriers Nursing students experience in online

learning. The first in rank with a weighted mean of 1.57 which has an interpretation of “To a great extent”.

Next in rank is 1.62 which is interpreted as “To a great extent”. The third in rank scored 2.15 which is interpreted as “To a moderate extent”, and last in rank has a score of 2.25 with an interpretation of “To a moderate extent”

By computing the totality of the weighted means that resulted in a score of 1.90 which is interpreted as “To a moderate extent”, this postulates that the Nursing students experience educational-skills as significant barriers to online learning.

Table 12 on the next page shows the summary table for the nursing student’s response on the perceived barriers in online learning setup.

The results gathered from the nursing students show that the first in rank is the category Human barrier which has a mean score of 1.70 and verbally interpreted as to a great extent. The next in rank is the Technical-expertise barrier which got a

Table 10. Human barriers Nursing students' experience in online learning.

Criteria	Weighted Mean	Interpretation	Rank
I experience adequate technical consultation on using the electronic education system	1.71	TGE	3
I have access to fast and accurately responding personnel when technical issues arise.	1.81	TME	4
Effective communication is maintained between faculty and students.	1.66	TGE	2
I experience adequate social interaction in online learning.	1.62	TGE	1
Total	1.70	TGE	

Legend: TME - To a moderate extent; TGE - To a great extent

Table 11. Educational-skill barriers Nursing students experience in online learning.

Criteria	Weighted Mean	Interpretation	Rank
I have adequate skill in using computers and the internet.	2.15	TME	3
There is adequate training of skill in the use of educational technology.	1.62	TGE	2
There is a presence of IT support for the protection, maintenance, and use of e-learning systems.	2.25	TME	4
There is sufficient administratively provided time/ support to learn technologies.	1.57	TGE	1
Total	1.90	TME	

Legend: TME - To a moderate extent; TGE - To a great extent

Table 12. Summary table for barriers perceived by the Nursing students.

Average/Category	Average	Verbal Interpretation	Rank
Attitudinal Barriers	1.80	TME	3
Technical-Expertise Barriers	1.72	TGE	2
Human Barriers	1.70	TGE	1
Educational-Skill Barriers	1.89	TME	4
Total Barriers	1.77	TME	

Legend: TME - To a moderate extent; TGE - To a great extent

1.72 mean and verbally interpreted as to a great extent. The third in rank is the Attitudinal barrier which results in 1.80 mean score and is verbally interpreted as to a moderate extent. The last in rank is the Educational-skill barrier which got a mean score of 1.89 and verbally interpreted as to a moderate extent.

The students perceived barriers to online learning to a moderate extent. Students grew up with technology and can easily grasp technological changes, given the result of barriers to online learning the difficulty encountered by the students need to be explored fully. The abrupt shift to online learning and diminished human interaction greatly affects their perception of online learning. Students do not accept online learning as a substitute for traditional learning because they are more used to physical interactions with their professors and classmates, to which the online platform cannot provide. Lastly, in the Educational-skills barrier there was no sufficient administrative time and support given to the students to learn the technology they were about to use for their online learning.

Sub-problem No. 3: Significant difference in perceived barriers between the nursing faculty and students in online learning in a tertiary school in Quezon City.

Table 13 shows the summary table for the computed T-test results on the perceived barriers in online learning setup.

The computed results from the T-test show t-values that are less than the alpha value which is formulated as $\alpha = 0.05$ or 5%, indicating that the null hypothesis that states that there is no significant difference between barriers perceived by nursing faculty and students in online learning during the COVID-19 pandemic at a Tertiary School in Quezon City is rejected and the alternative hypothesis: which states the opposite, is accepted indicating that there is significant difference between barriers perceived by nursing faculty and students in online learning during the COVID-19 pandemic at a Tertiary School in Quezon City.

CONCLUSION AND RECOMMENDATION

Summary of Findings

Significant findings of the study are as follows:

1. On the barriers perceived by the Nursing faculty members in online teaching in a tertiary school in Quezon City in terms of:
 - 1.1. Attitudinal Barriers. The faculty members' attitudinal barriers got a total mean score of 3.35 which can be interpreted as To No Extent.
 - 1.2. Technical-Expertise Barriers. The faculty members' technical-expertise barriers got a total mean score of 3.19 which can be interpreted as To a Little Extent.
 - 1.3. Human Barriers. The faculty members' human barriers got a total mean score of 3.17 which can be interpreted as To a Little Extent.
 - 1.4. Educational-Skill Barriers. The faculty members' educational-skills barriers got a total mean score of 3.33 which can be interpreted as To No Extent.

Out of the four categories, Attitudinal Barriers got the highest average score of three point thirty-six (3.36) which indicates barriers perceived To No Extent (TNE). Meanwhile, Human Barriers got the least average score of three point nineteen (3.19) which indicates barriers perceived To a Little Extent (TLE). Overall, the grand mean is 3.26 which shows that the Nursing faculty members perceived these barriers to no extent in online teaching in a tertiary school in Quezon City (See Table 7, Page 38). Results show that upon assessment, the Nursing faculty members did not perceive consequential barriers that could affect quality of education being provided in an online setting.

2. On the barriers encountered by the Nursing students in online learning in a tertiary school in Quezon City in terms of:

Table 13. Significant differences between the faculty and students in perceived barriers.

Faculty Barriers	Student Barriers	P-value	Decision	Verbal Interpretation
3.26	1.77	0.0000005	Reject H0	Significant

- 2.1. Attitudinal Barriers. The Nursing students' attitudinal barriers got a total mean score of 1.80 which can be interpreted as To a Moderate Extent.
- 2.2. Technical-Expertise Barriers. The Nursing students' technical-expertise barriers got a total mean score of 1.72 which can be interpreted as To a Great Extent.
- 2.3. Human Barriers. The Nursing students' human barriers got a total mean score of 1.70 which can be interpreted as To a Great Extent.
- 2.4. Educational-Skill Barriers. The Nursing students' educational-skill barriers got a total mean score of 1.89 which can be interpreted as To a Moderate Extent.

Out of the four categories, Educational-Skill Barriers got the highest average score of one eighty-nine (1.89) which indicates barriers perceived To a Moderate Extent (TME). Meanwhile, Human Barriers got the least average score of one point seventy (1.70) which indicates barriers perceived To a Great Extent (TGE). Overall, the grand mean is 1.77 which shows that the Nursing students perceived these barriers to a great extent in online learning in a tertiary school in Quezon City (See Table 12, Page 44). Results show that upon assessment, Nursing students have encountered significant barriers such as inadequate consultation on how to use the electronic education system as well as miscommunication between faculty and students.

3. There were differences in barriers perceived by the Nursing faculty and students in online learning in a tertiary school in Quezon City. The computed results from the T-test show t-values that are less than the alpha value which is formulated as $\alpha = 0.05$ or 5%, indicating that the null hypothesis that states that there is no significant difference between barriers perceived by nursing faculty and students in online learning during the COVID-19 pandemic at a Tertiary School in Quezon City is rejected and the alternative hypothesis: which states the opposite, is accepted indicating that there is significant difference between barriers perceived by nursing faculty and students in online learning during the COVID-19 pandemic at a Tertiary School in Quezon City. (Table 13).

As a result, all categories of barriers perceived in online learning by the Nursing faculty and students during the pandemic in a tertiary school showed significant P-values. Therefore, attitudinal barriers, technical-expertise barriers, human barriers, and educational-skill barriers are significantly different in the perception of the Nursing faculty and the Nursing students in an online setting. Overall, the barriers perceived between the Nursing faculty and the Nursing students are significantly different as evidenced by varying acceptance of e-learning, access to quality technology, faculty-student miscommunication, and disparities in institutional support. All of these factors play a significant role in barriers perceived by the Nursing faculty and students.

Conclusions

The following conclusions are reached based on the study's significant findings:

1. The difficulties perceived by faculty members in online learning are present and are categorized into four categories: attitudinal barriers; technical-expertise barriers; human barriers; and educational-skill barriers. According to the findings, faculty members had more difficulty teaching in an online class in the category of attitudinal barriers. It had the highest score, indicating that faculty members encountered impediments when it came to assumptions, attitudes, and interactions when teaching. There is a problem with participants' lack of belief that online learning is truly helpful in providing quality education, which impacts their self-confidence.
2. When it comes to the barriers that the Nursing students experience in an online class setting with the same categories as faculty members, the findings indicate that they have high data findings on educational-skill barriers. This means that they struggle with technological and systemic skills, in which most students have limited knowledge of computer and internet skills, due to the abrupt shift from a face-to-face setting to an online class. Students were not given enough time to prepare and learn the use of technology and the internet when it comes to full time study utilizing technology in online classes, where it hinders their skills and habits in academic participation.

3. To conclude, there are perceived barriers that both the Nursing students and faculty members experience when studying and teaching through online setup. This is most likely due to the rapid transition of learning from face-to-face settings to online classes. Students are more familiar with face-to-face settings where they can easily access and be provided with all of the school equipment and facilities, and do actual interaction with school administrators in comparison to online learning, which has limited resources and time to train students and faculty members.

Recommendations

Based on the data and conclusions presented, the following recommendations are made:

Institution

1. Far Eastern University - Dr. Nicanor Reyes Medical Foundation is recommended to have an institutional strategy (e.g., webinar, video tutorial) that demonstrates how to use the software and programs correctly in order to prevent the students and faculty from experiencing barriers and have a successful online teaching and learning.

2. Regular and structured contact between the institution and faculty, as well as students, is essential for establishing connection and guidance throughout their experience. This entails reaching out to students at key moments in their journey, which is best accomplished through the creation of an institutional framework of interventions.

Administrators

1. It is essential for online learning administrators to be open to feedback and be willing to adjust, as well as to keep up with the developments on a regular basis by becoming knowledgeable about existing policies, identifying any that need to be changed, and building a continuous improvement and feedback framework for reviewing and changing policies as necessary.

2. It is recommended that administrators provide necessary training for students and faculty so that they can develop their skills and become more knowledgeable about the online learning tool as it also updates on a regular basis.

Nursing Faculty

1. The faculty should become more familiar with the programs they will be using the most (e.g., Moodle, Zoom, Google Docs, Microsoft Office) and know what support to look for when technical issues arise.

2. Faculty should be accessible at school hours to assist students who require assistance and are recommended to consider a useful course layout — this is another way that online learning may provide the individualized attention that many students want and expect from traditional learning, and it will also increase their motivation in regards to learning online.

3. Faculty is encouraged to give more interactive activities rather than just lectures throughout the course because it will increase the chances of students and faculty communicating effectively with one another, resulting in a more successful learning experience.

Nursing Students

1. Nursing students of FEU-NRMF are responsible for enhancing their skills in using the programs they will be using the most (e.g., Moodle, Zoom, Google Docs, Microsoft Office) and know what support to look for when technical issues arise.

2. Nursing students should utilize all available communication methods in the course (e.g., email, discussion boards, chat sections) to help them learn and complete projects, as student contact with peers and the teacher is just as vital in online learning as it is in traditional learning.

3. Nursing students can work in groups or collaborate online to complete tasks — this is another way for them to share their knowledge, discuss ideas with groupmates, experience adequate social interaction and become more engaged in online learning.

4. If a problem arises, students can seek assistance from the IT Department since there are many resources available if the students need them.

Future Researchers

Future researchers are recommended to further improve this study by broadening the target research

population in order to explore other barriers perceived in online learning since the respondents of this study were solely limited to the Nursing students and faculty of Far Eastern University - Dr. Nicanor Reyes Medical Foundation.

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