Mental and Technical Readiness of Freshmen Nursing Students in an Online Learning Modality

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Abstract

The Covid-19 pandemic opens more windows to online learning globally. With this, all countries have shifted their educational setup to online learning modalities due to this pandemic. This study assessed the level of mental and technical readiness in the online learning modality of freshmen nursing students in one of the catholic private institutions in the Philippines. The researchers made use of descriptive research. An adapted questionnaire was used as a data-gathering tool but subjected to a reliability test. Results revealed that most of the respondents were female, graduated from the STEM strand, and belong to poor families. It further disclosed that for the mental dimension, the students were ready, and for the technical dimension, they were only somewhat ready. Additionally, inferential statistics showed that among the student's profiles, the family's monthly income showed a significant difference specifically between the poor and the lower-middle-income group both in mental and technical dimensions. The proposed psycho-social programs were focused on the topmost indicators that obtained the lowest mean scores among indicators observed, such as the presence of distractions, spending 20-30 hours each week on an online course, and availability of reliable person around, lack of a printer, stable internet connection, and the student's device compatibility needed for online learning. Thus, the researchers highly recommend that the institution should intensify its orientation program on the use of the learning management system of an online learning modality and improve its program on mental health issues for both students, parents, and teachers.

Keywords: Mental readiness, Online learning modality, Online learning readiness scale, Technical readiness.

Introduction

Readiness in the students is one of the universal facts that is required during their transition from secondary to tertiary education, but since the start of the COVID-19 pandemic, the whole world has been stunned and underwent to rely upon online learning, including the aspect of education for health and safety purposes. According to UNICEF data, 90% of all the countries in the world have implemented online modality, but 31% can only reach this type of learning due to poverty and their location [1]. Even before the pandemic, a study from the British University and Helwan in Egypt shows that crucial factors in this adjustment depend on self-motivation and technological skills [2]. Also, according to Blaschke and Bedenlier, online learning is another type of education beyond face-to-face instruction that requires technological and

virtual implementation [3]. It shows that with this online modality, not only mental but also technical readiness is a challenge for the teachers, school staff, and, more importantly, the students. Those students who have graduated in secondary education are facing this transition adjustment just to continue their academic goal as every student aspire. As this pandemic continues with the practice of online learning, many studies have emerged to address this assessment for the readiness of students.

This COVID-19 pandemic affects education globally. In the Transylvania University and the West University of Timisoara in Romania, as they shifted to online learning, is shows that there are 65% of students have frequent technical problems occurrence [4]. Also, from the study from Georgia State University, they have found out that even in higher education, they recommend the need for reliable technologies and skills on how to use it [5].

In Asian countries such as China, they have also closed their schools immediately after the pandemic outbreak, but they never stop the education process by expanding their resources in online teaching that utilizes learning websites that are used in all levels of education (Yang, 2020). An article on Covid-19, an Education in Asia and Pacific, listed different strategies that describe Asian countries during online modality. One of them was cited from Jakarta Post in Indonesia, wherein after the restrictions of face-to-face education, they also develop technological upgrades. Additionally, in March 2020, they have developed a free e-learning platform that can give more access to educational applications, videos, and software to the public from early childhood to senior high school [6].

In the Philippines scenario, still included in said guidance note article, the Department of Education, in response to the Covid-19 extended quarantine period, allowed teachers to customize the teaching content by blending learning management system and modular concepts. According to the article, they have obtained Globe e-Library that gives free access to many textbooks in the core subjects. In the experience of the parents of their children's online learning, since the Philippines do not have an equal opportunity towards internet connectivity and the government doesn't have enough resources to cover all student's needs to continue their study, the adjustment in the new normal might not apply to everyone [7].

With this situation, the online learning situation in the Philippines usually emphasizes the area of technological aspects that cannot be equally achievable in some Filipinos due to poverty and even the availability of resources of all the schools and the students. This can give mental stress to become less ready, especially to the students that will enter college level. Given the scenario that students have different learning abilities, entering at a college level without preparation in online learning can cause certain inhibitions and a lot of struggles, especially if the students are enrolled in a course that requires hands-on learning experience like human health professional's courses. According to Phil Star Global News, as long the vaccinated Filipinos are still inadequate, and the COVID-19 case is still present, the practice of remote learning will probably continue as clearly commanded by President Rodrigo Duterte. This situation obliges most of the students to enroll in a college or university using an online modality with no choices available [8].

In other studies, connected with the impact of online learning due to COVID-19, they don't usually mention specific courses and backgrounds of the students from senior high school to college level. This study focused on freshmen nursing students with a different personal profile and who graduated from different strands in senior high schools. Since nursing course requires an authentic learning experience to acquire skills and fundamental knowledge that can only be available within the school institution, the researchers conducted a study to assess the level of mental and technical

readiness of the freshmen students enrolled in the nursing department at St. Anthony's College, San Jose, Antique, where they are currently implementing the full online modality. With this, the main purpose of the study was to determine the level of mental and technical readiness of freshmen nursing students to develop a psycho-social support program. Thus, this study aimed to determine the level of mental and technical readiness of enrolled freshmen nursing students in an online modality at Saint Anthony's College, San Jose, Antique.

Specifically, this sought to answer the following objectives: (1) Determine the personal profile of enrolled freshmen nursing students; (2) Determine the mental and technical readiness among freshmen nursing students; (3) Determine the significant difference in the level of mental and technical readiness among freshmen nursing students; (4) Propose a psycho-social program to address the mental and technical readiness of freshmen nursing students.

Materials and Methods

Research Design

The study used a descriptive survey using an adapted questionnaire as a data-gathering tool that measured the readiness level of freshmen nursing students in terms of mental and technical aspects.

Furthermore, it sought to investigate the significant difference in the level of mental and technical readiness of enrolled freshmen nursing students according to their profile in an online learning modality at Saint Anthony's College, San Jose, Antique. The study was done during the first semester of the school year 2021-2022.

Participants and Sampling Procedure

The study was participated in by the first-year nursing students at St. Anthony's College, San Jose, Antique. A sample size of 108 respondents was randomly chosen from a population of 174 freshmen nursing students. The researchers used the formula of David in computing the sample size with 95% reliability (Z), the proportion of 50% (p), and the 5% margin of sampling error (d). To get an equal representation from every each of the five (5) sections, the researchers used stratified random sampling based on the computed sample size [9].

Research Instrument and Collection of Data

The researchers adapted the survey questionnaire instrument called the online learning readiness assessment developed from Pennsylvania State University created although there was a modification of the instrument was done [10]. The adapted questionnaire was tested for its reliability using Cronbach's alpha value of 0.79 after the pilot study and proven to be a consistent instrument [11].

More so, the instrument is composed of four (4) parts: the first part determined the demographic profile of the respondents, the second part measured the level of online learning readiness of the students under mental and technical dimensions, the third part determined the significant difference in the level of mental and technical readiness among the students and last part determined the psycho-social programs developed from the item of the top three (3) lowest mean both in technical and mental dimensions. The instrument was sent to students using the Google form link via email or messenger account. The students were asked to answer a 3-point Likert scale as follows: 3 - Agree, 2 - Somewhat Agree, and 1- Disagree.

A request letter has been sent for approval to the president of the school and the dean of the nursing department at St. Anthony's College, San Jose, Antique, with the permission of the research professor. The request letter asks for the permission of the pilot study and the actual gathering of data from respondents. Also, informed consent with the purpose of the study

and the information to be gathered had been sent to the respondents before data gathering via Google form.

Statistical Analysis

In this study, the data gathered had been computed by Statistical Package for Social Sciences version 20.0.0 (SPSS). The researchers used frequency, percentage, mean, and standard deviation as descriptive statistics. Then, *t*-test for independent samples, One-Way Analysis of Variance (ANOVA), and Kruskal Wallis test were used to determine the significant differences in the level of mental and technical readiness of the students. Furthermore, after the data has been analyzed, the top three indicators in both dimensions that had the lowest mean served as the basis for the researchers to develop the proposed psycho-social support system.

Results and Discussion

Personal Profile of the Respondents

Table 1 presents the personal profiles of the 108 respondents of the study. Since nursing is a type of course that is dominated by a female [12], it revealed that 79% were female and only 21% are male. In terms of classification of schools, the respondents have graduated in their senior high, and it also showed they are almost equal in number, which is 49% from private and 51% from public schools. Further, using the family income framework of the Philippine Institute for Development Studies [13], the data disclosed that 55% of the respondents were classified under the population having a poor income, 32% were having a lower middle income, 8% are middle class, and only 5% are having an upper middle income. Additionally, almost all the respondents are products of K-12 education. Their senior-high-school record showed most of them are under academic tracks, which have 4 strands [14] (Ocampo, 2014). Among the four (4) strands, the majority (64%) of the respondents graduated from Science Technology Engineering and Mathematics (STEM), 26% are from Humanities and Social Sciences (HUMSS), 8% are from Accountancy Business and Management (ABM), and only 2% are from General Strand (GAS).

Table 1. Personal Profile of the Respondents (n=108)

Personal profile variables:	f	%
Sex		
Male	23	21%
Female	85	79%
Type of school graduated from		
Private	53	49%
Public	55	51%
Family's monthly income		
Below 10,000 pesos (poor income)	59	55%
10,001 – 40,000 pesos (lower middle income)	35	32%
40,001 – 70,000 pesos (middle income)	9	8%
Above 70, 001 pesos (upper middle income)	5	5%
Senior High-School strands graduated		
STEM	69	64%
HUMSS	28	26%
ABM	9	8%
GAS	2	2%

Level of Mental Readiness of Freshmen Nursing Students

Table 2. Level of Mental Readiness of the Respondents at St. Anthony's College (n=108)

Mental dimension indicators	Mean	Standard Deviation	Interpretation
I am good at setting goals and deadlines for myself.	2.30	0.57	Somewhat Ready
I have a really good reason for taking an online course.	2.37	0.54	Ready
I finish the projects I start.	2.47	0.60	Ready
I do not quit just because things get difficult.	2.66	0.51	Ready
I can keep myself on track and on time.	2.24	0.56	Ready
I learn fairly easily.	2.11	0.57	Somewhat Ready
I can learn from things I hear, like lectures, audio recordings, or podcasts.	2.28	0.59	Somewhat Ready
I have to read something to learn it best.	2.78	0.42	Ready
I have developed good ways to solve problems I run into.	2.43	0.53	Ready
I learn best when I figure things out for myself.	2.70	0.52	Ready
I like to learn equally well in a group or on my own.	2.69	0.49	Ready
I am willing to send e-mail to or have discussions with people I might never see.	2.40	0.61	Ready
I usually study in a place where I can read and work on assignments without distractions.	2.65	0.57	Ready
I can ignore distractions around me when I study.	1.81	0.67	Somewhat Ready
I am willing to spend 20-30 hours each week on an online course.	1.97	0.63	Somewhat Ready
I keep a record of what my assignments are and when they are due.	2.32	0.61	Somewhat Ready
I plan my work in advance so that I can turn in my assignments on time.	2.29	0.63	Somewhat Ready
When I study, people around me will help me work and not try to distract me.	1.99	0.65	Somewhat Ready
I am willing to use e-mail and other online tools to ask my classmates and instructors questions.	2.62	0.52	Ready
Overall	**2.37**	0.57	**Somewhat Ready**

Legend

Scale	Level	Interpretation
1.00-1.66	*Not ready*	*Most responses fall on disagree*
1.67-2.32	*Somewhat ready*	*Most responses fall on somewhat agree*
2.33-3.00	*Ready*	*Most responses fall on agree*

Level of Technical Readiness of the Respondents

Table 3. Level of Technical Readiness of the Respondents at St. Anthony's College (n=108)

Technical dimension Indicators	Mean	Standard Deviation	Interpretation
1.1. I am fairly good at using computer applications (Word, Excel, & PowerPoint)	2.31	0.56	Somewhat ready
2. I am comfortable surfing the Internet.	2.45	0.62	Ready
3. I am comfortable conducting searches, setting bookmarks, and downloading files.	2.32	0.59	Somewhat ready
4. I am comfortable installing software and exploring configuration settings on gadgets.	2.08	0.64	Somewhat ready
5. I know someone who can help me if I have computer problems.	2.18	0.76	Somewhat ready
6. My computer runs fairly and reliably on Windows or Mac OS (apple).	1.96	0.72	Somewhat ready
7. I have a printer.	1.57	0.87	Not ready
8. I am connected to the Internet with a fairly fast, reliable connection such as DSL or cable modem.	1.68	0.64	Somewhat ready
9. I have virus protection software running on my computer.	2.00	0.82	Somewhat ready
10. I have headphones or speakers and a camera to use if a class has a video conference.	2.33	0.71	Ready
11. My browser will play several common multimedia (video and audio) formats.	2.30	0.57	Somewhat ready
Overall	2.11	0.68	Somewhat ready

Legend

Scale	Level	Interpretation
1.00-1.66	*Not ready*	*Most responses fall on disagree*
1.67-2.32	*Somewhat ready*	*Most responses fall on somewhat agree*
2.33-3.00	*Ready*	*Most responses fall on agree*

Table 3 shows the technical readiness of respondents. Generally, the respondents are somewhat ready in terms of their technical skills. Additionally, the indicator that states "I am comfortable surfing the internet" obtained the highest mean among indicators and was interpreted as agreed. This reflects that the respondents are comfortable in using the internet. Since the respondents also graduated in modern times, it is expected that they are used to using the internet [15]. More so, the indicator that gained the lowest mean was "I have a printer". This connotes that most of the students don't have printers. Those students still must go outside of their home for printing, or they will study directly to their gadgets. This can affect their way of learning, which showed that in every learner, especially the students who prefer visual learning, their higher-order thinking skills can increase using appropriate tools that stimulate their visual senses in understanding [16].

Test of Significant Difference in the Level of Mental and Technical Readiness among Freshmen Nursing Students at St. Anthony's College

To test the normality of data and what specific statistical tool will be utilized, the researcher used Shapiro Wilk's test [17]. Table 4 revealed that in the mental dimension, the data under the personal profile such as sex (male p=0.15 and female p=0.27) and type of school graduated (private p=0.27 and public p=0.13) are normally distributed; therefore, it is treated with the parametrical test while the type of strands (HUMSS p=0.005) while the family's monthly income (upper-middle-income p=0.019) are not normally distributed therefore the Kruskal Wallis test was used. Additionally, in the technical dimension, it revealed that all the data in the students' profiles are normally distributed with p-values of more than 0.05; therefore, it is treated with the parametrical test.

Table 4. Differences in the Level of Mental and Technical Readiness among Freshmen Nursing Students at St. Anthony's College

Personal Profile Variables	Level of mental readiness		Level of technical readiness	
	p-value	Interpretation	p-value	Interpretation
Sex	0.940	Not Significant	0.927	Not Significant
Type of School graduated	0.482	Not Significant	0.070	Not Significant
Type of SHS strands	0.379	Not Significant	0.053	Not Significant
Monthly Income	**0.008**	**Highly Significant**	**0.000**	**Highly Significant**

Level of significance at 0.05

A closer view at Table 4 shows that there was a significant difference in both levels of mental readiness and technical readiness of the students in online learning when they were classified according to family's monthly income. These findings indicate that students' level of mental and technical readiness is different based on their family monthly earnings.

A post hoc test was analyzed to determine to which specific family's monthly income groups are significant. In the mental dimension, using the Dunns test, it was revealed that poor and lower middle income are significantly different among the other groups (p = 0.004). In the technical dimension using Scheffe's test, it revealed that the poor income and lower-middle-income groups are significantly different among the other groups (p = 0.003).

This might show that students within the lower middle and poor family income earners have encountered such disruptions in their learning environment, and too many numbers of hours studying might affect their mental readiness. These results were also cited in the study of Hermanto et al., that some students in online learning have difficulty in studying at home as their learning environment due to indirect access with the teachers [18]. On the technical side, those groups that lack printers cannot provide them with printed materials for their preferred way of learning, and the inconsistent internet connection could hinder their information and communication resources. This also reflects with other studies that most students in the Philippines don't have the convenience of focusing only on their studies due to incomplete learning materials and cannot afford high-speed internet in distance learning.

Proposed of Psycho-social Program

The proposed psycho-social support program is based on the three topmost least mean scores obtained from the result of the data. It was revealed that under the mental dimension, the indicator that gained the lowest average mean, "I can ignore distractions around me when I study," then the second-lowest average

indicator states that "I am willing to spend 20-30 hours each week on an online course" which reflected in a study that online learning distraction also came from the wrong usage of social media wherein most students cannot give more hours in studying due to irrelevant social media content like Facebook [19]. On the other hand, the third-lowest average mean came from the indicator of "when I study, people around me will help me work and not try to distract me". The study of Khan emphasized the proper learning environment and setup at home during online learning are important factors that should be considered [20].

Under the technical dimension, the indicator that had the lowest average mean states that "I have a printer", wherein they disagreed on having it at home, which can be a relevant tool in online learning as supported by the study that printed learning materials are more suitable to the vision of learners than studying directly in their gadgets [21]. While the indicators "I am connected to the Internet with a fairly fast, reliable connection such as DSL or cable modem" and "my computer runs fairly and reliably on Windows or Mac OS (Apple)," were got also the lowest mean scores from among the indicators. This connotes that the students have somewhat agreed only on the availability of their internet connection and devices at home. These findings also pointed out in the study of Rotas stated that one category in the problems of students in online learning is lack of learning resources such as internet access and proper devices that suit the learning modality of students [22].

Conclusion and Recommendation

The study concludes that under the students' profiles, nursing is one of the programs that has been chosen by mostly females. Most of the respondents were equally graduated from private and public secondary schools. Given that nursing is quite an expensive course, apparently, it still showed that most of the student's family monthly income was under the poor category and in fact, mostly half of the students were from poor families. The majority of the nursing students were graduated from the STEM track since nursing is more of a science-related profession. Moreover, the study revealed that the students evaluated themselves as mentally ready for the online learning modality, but as to the technical dimension, they were only somewhat ready. Among the personal profiles, only family monthly income had shown significant difference to online learning modality readiness. Thus, family income is a significant factor affecting the level of mental and technical readiness of freshmen nursing students learning online at St. Anthony's College. Finally, from the findings of the study, the researchers highly recommend that the school should conduct various psychosocial support programs like free webinars and virtual recreational programs that aim to emphasize the importance of education through online learning modality because of pandemic and conduct intensive orientation programs for the students and teachers the use of the learning management system for effective delivery of the new learning modality.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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