

ORIGINAL ARTICLE

# Barriers to online learning amid COVID-19 pandemic and beyond: National survey of occupational therapy students in the Philippines

Paolo Miguel P. Bulan\*, Jeza Kirstin B. Valleser, and Janice A. Rojas

Department of Occupational Therapy, Velez College, F. Ramos St., Cebu City 6000 Philippines

## ABSTRACT

**Objective:** This study aimed to describe the perceived barriers to online learning encountered by Filipino occupational therapy students (OT) amid the COVID-19 pandemic and beyond.

**Methodology:** An electronic survey comprising multiple-choice questions, Likert scale assessments, and open-ended questions was disseminated among OT students across the Philippines. Statistical analysis involved the Chi-Square test to evaluate associations among variables.

**Results:** A total of 161 responses were gathered, highlighting barriers faced by OT students in online learning. These included challenges such as physical and mental health issues, difficulties adapting to online learning styles, household responsibilities, and limited conducive study space. Additionally, an association was observed between internet connectivity types and speeds, and the encountered barriers.

**Conclusion:** Findings underscore the significant hurdles experienced by OT students in online learning. As educational platforms increasingly adopt online modalities, there is a need to apply an occupational perspective in crafting strategies and interventions aimed at mitigating these barriers. However, considering the limitations identified, particularly regarding the development of practical skills and the importance of social interaction, a hybrid learning approach that merges the flexibility of online learning with the irreplaceable benefits of classroom-based instruction emerges as a promising solution. This study's insights provide valuable guidance for higher education institutions (HEIs) to develop and implement such hybrid models, ultimately enhancing support mechanisms for OT practice-based teaching and learning, particularly in the post-pandemic landscape.

## Introduction

The COVID-19 pandemic brought the world to a standstill in 2020, dramatically affecting everyday activities and having a significant impact on a variety of industries, including education. Worldwide, schools have hastily transitioned to online learning to retain academic continuity and comply with public health regulations. This shift was especially challenging for allied health fields like occupational therapy (OT), where hands-on practice and interactive learning are crucial components of the curriculum [1-4].

OT educators and students expressed concerns about the transition to online learning, thinking that it would affect the quality of education and training. According to reports, students had varied degrees of difficulty adapting to this new method of learning, while instructors attempted to modify existing curricula to match online delivery [5,6]. In the Philippines, the pandemic heightened feelings of uncertainty among students, further complicating the transition to online learning [7,8]. The initial suspension of classes and the subsequent transition to flexible learning modalities were mandated to safeguard educational continuity, but challenges persisted [9].

The paradigm shift in education caused significant disruptions, particularly in higher education institutions (HEIs). The Commission on Higher Education (CHED) and the Department of Health (DOH) in the Philippines responded by issuing guidelines to resume restricted face-to-face classes for select health-related programs. However, OT was not included in these early recommendations, necessitating specific research on the challenges that OT students experience with online learning [10].

Online learning, which is described as the use of electronic technology and media to provide, support, and enhance both learning and instruction [11], became popular during the pandemic. However, its implementation presented serious challenges, particularly in areas with limited access to reliable internet and digital resources. In the Philippines, socioeconomic differences worsened these challenges, limiting students' ability to participate in online learning [12].

Research has identified several barriers to online learning, including technological limitations, personal and household barriers, and institutional

restrictions. Hardware, software, and internet connectivity issues are all examples of technological limitations. Personal barriers include students' learning styles and mental health, whereas household barriers include responsibilities at home and financial constraints. Institutional restrictions include administrative issues and a lack of resources [13,14].

The pandemic had a substantial impact on the students' mental health, with studies revealing high levels of stress, anxiety, and depression among online learners [2,3]. The sudden transition to online education has also had an impact on students' attitudes toward learning, affecting their educational experiences [15]. These findings highlight the need of knowing and resolving the specific barriers that OT students face to improve their online learning experience and ensure the quality of their education during and after the pandemic [16].

This study is relevant because it tackles the specific barriers to online learning faced by Filipino OT students, who were previously not included from national directives for limited face-to-face learning. By identifying these barriers, this study aims to provide evidence-based recommendations for improving educational practices and support networks for OT students, assuring their academic performance and well-being amid health crises. This study fills a gap in the current literature by focusing on the specific issues of OT education in the Philippines during the COVID-19 pandemic.

This study aimed to address the following research objectives:

- (1) Describe the sociodemographic profile of Filipino OT students studying in Philippine HEIs offering entry-level OT education.
- (2) Describe the perceived barriers to online learning encountered by Filipino OT students amid the COVID-19 pandemic.

### Corresponding author's email address:

pmpbulan@velezcollege.com

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- (3) Determine the association between the sociodemographic profile of Filipino OT students and the perceived barriers to online learning.
- (4) Propose possible protocols, guidelines, and/or interventions for HEIs to minimize the identified barriers.

## Methodology

### 2.1 Design

This study followed a cross-sectional correlational design using an online survey method [17] in identifying the perceived barriers to online learning among OT students in the Philippines. Statistical inferences about the population of interest were determined and associations between subgroups within the population and perceived barriers to online learning were presented.

### 2.2 Respondents and Sampling

Respondents of this study were OT students from first year to fourth year (18 years old and above) who were enrolled in the academic year 2021-2022 from the different HEIs offering entry-level OT (BSOT) education in the Philippines. Recruitment was done through the Occupational Therapy Students Assembly, Philippines (OTSA), the official student arm of the Philippine Academy of Occupational Therapists, Inc. (PAOT) by sending a blast email to all members and through a call for respondents on Facebook. Survey links were also posted through other social media platforms such as Instagram. Participation in the study was entirely voluntary, and respondents could end the survey at any point. An introductory page on the survey form explained the study and asked for the respondents' consent before proceeding to the survey proper.

Convenience sampling was utilized in the study as information regarding the survey was primarily distributed through the different OT program heads and then through the OTSA. A sample size of 278 was determined following a 95% confidence interval and a 5% margin of error.

A total of 165 entries were gathered, with four entries (2%) excluded due to ineligibility. The remaining 161 entries were used for analysis. The low response rate may be attributed to how the survey was distributed to the students in their respective HEIs. After the surveys were approved for distribution by the HEIs, these were sent as blast emails to the students by respective student help desks or offices. Additionally, one HEI had been non-operational since 2019.

### 2.3 Research Instrument

The survey 'Medical Education in the Philippines During the COVID-19' [1] (See Appendix A) was adapted for OT and utilized in this study. The survey was pilot tested for reliability and validity. It underwent content validation and was revised based on the feedback of experts in the field of OT and education. Using content validity index analysis, the questionnaire achieved a satisfactory level of scale-content validity index (S-CVI = 1.00). For the pilot testing, 55 OT students enrolled in the authors' HEI served as the respondents and yielded acceptable reliability ( $\alpha = 0.74$ ).

The survey is a 13-item questionnaire which collected the respondents' (1) sociodemographic details through multiple choice questions in terms of personal characteristics, access to technological devices, and current living conditions [items 1-10], and (2) perceived barriers to online learning [item 11]. A 4-point Likert scale (never, sometimes, often, always) was used to ask the respondents frequency as to how often they experience the 13 listed barriers. A set of open-ended questions [items 12-13] was used to probe for additional perceived barriers experienced by the respondents, and for their input for any proposed interventions from their perspective.

### 2.4 Data Collection

Following ethical approval, a transmittal letter was emailed to the OT program heads of the various HEIs in the Philippines, requesting permission to conduct the study and distribute the survey link to their students. The recruitment process began on March 17, 2022, when OT program heads distributed the link to the online survey via blast email to their students. Additionally, the Occupational Therapy Students Assembly, Philippines (OTSA), the official student arm of the Philippine Academy of Occupational Therapists, Inc. (PAOT), was contacted on March 18, 2022, to request their

assistance in disseminating the survey via email and social media to its members. Permission was coursed through the PAOT Research Committee, and the request was approved on April 19, 2022. The call for respondents were also posted by the Central Visayas and Mindanao Chapters of the PAOT. To ensure maximal participation, survey links were also posted by the researchers on social media platforms such as Facebook and Instagram.

Follow-up emails were sent to the program heads every two weeks as reminders to distribute the survey to their students. Despite these efforts, three HEIs in Luzon did not respond to the request. The survey ran from March 2022 to May 2022, and responses were collected using Microsoft Forms (Microsoft Corp., Redmond, Washington).

### 2.5 Data Analysis

De-identified data was exported to Microsoft® Excel® for Microsoft 365 (Version 2204) for analysis. In the sociodemographic section, mean of the responses for each subgroup per category was taken. Likert scale items were analyzed using frequencies and percentages. Chi-square was used to determine the association between the sociodemographic profile of the population and the perceived barriers. A  $p$  value of .05 was followed.

### 2.6 Ethical Considerations

Approval of the study was given by the Velez College Ethics Review Committee (VCERC-2022-COT-002). Participation in the study was entirely voluntary. Respondents may end the survey at any point. By answering the survey, the respondents consented to provide their personal information to the researchers. An introductory page on the form explains the study and asks for the respondent's consent. Anonymity and confidentiality of the respondents were ensured by the exclusion of any personal identifiers.

## Results

### 3.1 Sociodemographic Profile of Filipino OT students

Table 1 summarizes sociodemographic profile of OT students in terms of personal characteristics, access to technological devices, and current living conditions. Most OT students belong in the 20-21 years old age bracket with 88 respondents (55%). Majority are female ( $n = 132$ , 82%). OT students are mostly second years ( $n = 51$ , 32%) and third years ( $n = 49$ , 30%). For self-reported class standing, majority report that they are in the middle 50% ( $n = 93$ , 58%). The majority ( $n = 102$ , 63%) have two gadgets available. In terms of the type of the available gadget used, majority ( $n = 108$ , 67%) have a smartphone. For the type and speed of internet connection, it was common among OT students ( $n = 76$ , 47%) to have a postpaid subscription but report that the connection is slow and/or unreliable. Majority ( $n = 131$ , 81%) of the OT students are not in a financial scholarship. In terms of the place they are staying during the pandemic, all ( $n = 161$ , 100%) are staying at home with their family. In terms of their family's annual income, majority ( $n = 79$ , 49%) have an annual income of PHP 250,000 or less.

### 3.2 Perceived barriers to online learning among OT students in the Philippines

As shown in Table 2, among the barriers to online learning, physical incapability to study, mental health difficulties, difficulty adjusting to learning styles, the need to fulfil responsibilities at home, and limited space conducive for learning were often encountered by OT students amid the COVID-19 pandemic. It is also important to note that among the barriers mentioned in the survey, OT students never encountered limitations in accessible devices, the need to work for extra income, and the lack of basic needs. All in all, OT students report that they sometimes ( $M = 2.21$ ) encounter the perceived barriers to online learning.

Analysis of free-text responses for additional barriers not mentioned in the survey yielded no new significant information. All the responses fall under the category of mental health difficulties ("inability to focus, burnout"), and limited space conducive for learning ("My home can be a barrier because of unstoppable noise; My neighbors lack sensitivity when I have class in the afternoon").

### 3.3 Association between the sociodemographic profile of the OT students and perceived barriers on online learning

Table 3 shows the association between the OT students' personal characteristics based on their age, gender, year level, and self-reported class

**Table 1.** Summary of Personal Characteristics of OT Students

	Category	Subgroup	Number of students and percentage (N = 161)	
			Frequency	Percentage
Summary of Personal Characteristics of OT Students	Age	18-19 Years Old	31	19
		20-21 Years Old	88	55
		≥ 22 Years Old	42	26
	Gender	Female	132	82
		Male	25	16
		Non-binary	4	2
	Year Level	First Year	34	21
		Second Year	51	32
		Third Year	49	30
		Fourth Year	27	17
	Self-reported class standing	Among the highest 25%	23	14
		In the middle 50%	93	58
		Among the lowest 25%	9	6
Unsure		36	22	
Summary of Access to Technological Resources	Number of available gadgets	1	6	4
		2	102	63
		3	47	29
		4	6	4
	Type	Desktop Computer	4	2
		iPad or tablet	11	7
		Laptop	38	24
		Smartphone	108	67
	Type and speed of internet connection	Postpaid subscription service (e.g., broadband, DSL...) and the connection is fast and reliable	56	35
		Postpaid subscription service (e.g., broadband, DSL...) but the connection is slow and/or unreliable	76	47
		Prepaid mobile data (e.g., phone, pocket Wi-Fi...) and the connection is fast and reliable	8	5
		Prepaid mobile data (e.g., phone, pocket Wi-Fi...) but the connection is slow and/or unreliable	21	13
	Summary of Current Living Conditions	Financial scholarship	Yes	30
No			131	81
Places of stay during the pandemic		Home with Family	161	100
		Dormitory or apartment near school	0	0
		Residence of friend or other relatives	0	0
Family's annual income		PHP 250,000 or less	79	49
		Between PHP 250,000 and PHP 1 million	66	41
		Between PHP 1 million and PHP 2 million	13	8
	More than PHP 2 million	3	2	

standing, and their assessment on the perceived barriers on online learning. A Chi-Square test of independence was performed following a p value of .05. Results indicate that there is no association between the personal characteristics of OT students and the perceived barriers to online learning.

Table 4 shows the association between OT students' access to technological resources based on the number and type of gadgets available, type of gadgets, and type and speed of internet connection, and the perceived barriers on online learning. A Chi-Square test of independence was performed following a p value of .05. Results indicate that there is only an association between the perceived barriers and the OT student's type and speed of internet connection  $\chi^2(8, N = 160) = 18.276, p = .006$ .

Table 5 shows the association between the OT students' current living conditions based on their financial scholarship, place of stay during the pandemic, and family's annual income, and their assessment on the perceived barriers on online learning. A Chi-Square test of independence was performed using a p value of .05. Results indicate that there is no association between the current living conditions of OT students and the perceived barriers to online learning. Specifically for the place of stay during the pandemic, no association can be established since all (N = 161) indicated that they are staying at home with their parents.

**Table 2.** Perceived barriers to online learning among OT students in the Philippines

Indicators	Weighted Mean	SD	Description
Mental health difficulties (e.g. stress, anxiety and feelings of uncertainty)	3.17	0.75	Often
Need to fulfill responsibilities at home	2.99	0.86	Often
Physical incapability to study subjects online (e.g. eye strain, headache)	2.68	0.71	Often
Inability to adjust learning style (e.g. poor time management, lack of discipline)	2.62	0.91	Often
Limited space conducive for studying	2.53	1.07	Often
Unreliable or no internet access (e.g. power interruption)	2.47	0.79	Sometimes
Difficulty in communication or lack of clear direction from educators	2.34	0.78	Sometimes
Lack of teachers' resources and skills necessary to teach our courses online	2.29	0.88	Sometimes
Incapability of school's infrastructure and resources to support online teaching	1.99	0.90	Sometimes
Lack of technical skills (e.g. difficulty using word processing programs for school assignments, difficulty using teleconferencing apps for synchronous sessions)	1.77	0.71	Sometimes
Need to work for extra income	1.48	0.82	Never
No smartphone or computer, or limited access due to gadget sharing with others	1.22	0.47	Never
Lack of basic needs (i.e. food, water, medicine and security)	1.17	0.43	Never
<i>Average</i>	<i>2.21</i>		<i>Sometimes</i>

Legend: Never (1.00 - 1.74), Sometimes (1.75 - 2.49), Often (2.50 - 3.24), Always (3.25 - 4.00)

**Table 3.** Chi-Square Results for Association between Personal Characteristics and Perceived Barriers

Category	Subgroup	Never		Sometimes		Often		$\chi^2$	<i>p</i> *
		n	%	n	%	n	%		
Age	18-19 Years Old	6	3.73	18	11.18	7	4.35	3.6257	.459
	20-21 Years Old	9	5.59	62	38.51	15	10.56		
	≥ 22 Years Old	4	2.48	26	16.15	12	7.45		
Gender	Female	16	9.94	89	55.28	27	16.77	1.5337	.464
	Male & Non - Binary	3	1.86	17	10.56	9	5.59		
Year Level	First Year	8	4.97	20	12.42	6	3.73	6.0656	.416
	Second Year	5	3.11	35	21.74	11	6.83		
	Third Year	4	2.48	33	20.50	12	7.45		
	Fourth Year	2	1.24	18	11.18	7	4.35		
Self-reported class standing	Among the highest 25%	3	1.86	11	6.83	9	5.59	8.9368	.177
	In the middle 50%	9	5.59	64	39.75	20	12.42		
	Among the lowest 25%	1	0.62	5	3.11	3	1.86		
	Unsure	7	4.35	25	15.53	4	2.48		

\**p* < .05

### 3.4 Recommendations for HEIs offering BSOT

Appendix B shows examples of Filipino OT students' responses to the question, "What programs or interventions would you suggest to your OT school to help you maximize learning during this pandemic period and prepare adequately for the next academic year" alongside the recommendations in the discussion section.

## Discussion

This study aimed to identify the barriers faced by Filipino OT students in online learning. Key results revealed that mental health difficulties ( $M = 3.17$ ) and household responsibilities ( $M = 2.99$ ) were significant barriers. Additionally, students reported physical incapability to study subjects online ( $M = 2.68$ ), difficulties adjusting their learning styles ( $M = 2.62$ ) and limited conducive study spaces ( $M = 2.53$ ) as notable challenges. An association was



**Table 4.** Chi-Square Results for Association between Access to Technological Resources and Perceived Barriers

Category	Subgroup	Never		Sometimes		Often		$\chi^2$	p*
		n	%	n	%	n	%		
Number of available gadgets	1	1	0.62	3	1.86	2	1.24	2.8941	.576
	2	11	6.83	65	40.37	26	16.15		
	3 and 4	7	4.35	38	23.60	8	4.97		
Type of Gadgets	Desktop Computer & iPad or tablet	3	1.86	6	3.73	6	3.73	4.9354	.294
	Laptop	4	2.48	26	16.15	8	4.97		
	Smartphone	12	7.45	74	45.96	22	13.66		
Type and speed of internet connection	Postpaid subscription service (e.g., broadband, DSL...) and the connection is fast and reliable	14	8.70	35	21.74	7	4.35	18.276	.006
	Postpaid subscription service (e.g., broadband, DSL...) but the connection is slow and/or unreliable	3	1.86	54	33.54	19	11.80		
	Prepaid mobile data (e.g., phone, pocket Wi-Fi...) and the connection is fast and reliable	2	1.24	3	1.86	3	1.86		
	Prepaid mobile data (e.g., phone, pocket Wi-Fi...) but the connection is slow and/or unreliable	2	1.24	12	7.45	7	4.35		

\*p &lt; .05

**Table 5.** Chi-Square Results for Association between Current Living Conditions and Perceived Barriers

Category	Subgroup	Never		Sometimes		Often		$\chi^2$	p*
		n	%	n	%	n	%		
Financial Scholarship	Yes	2	1.24	18	11.18	10	6.21	3.0000	.223
	No	17	10.56	88	54.66	26	16.15		
Family's Annual Income	PHP 250,000 or less	7	4.35	48	29.81	24	14.91	9.1391	.058
	Between PHP 250,000 and Php 1 million	9	5.59	46	28.57	11	6.83		
	More than PHP 1 million	5	3.11	8	4.97	3	1.86		

\*p &lt; .05

found between internet connectivity types and speeds and the encountered barriers ( $X^2(8, N = 160) = 18.276, p = .006$ ). However, no significant association was observed between personal characteristics or current living conditions and perceived barriers to online learning.

These findings are consistent with previous research showing the health problems and changes students faced because of the pandemic and the shift to online learning [18,19]. Restrictions on activities and gatherings reduced students' options for physical activity and socialization, resulting in negative emotions such as anxiety, frustration, and depression [20].

The findings highlight the need to address both mental and physical health challenges in OT education. To promote students' mental health, it is critical to encourage the creation of social groups that include family members, roommates, and close friends who can discuss their experiences and offer support [19,20]. Maintaining frequent touch with students via social networking sites might also help to reduce social isolation [20].

Scheduling a combination of synchronous and asynchronous sessions can help relieve physical and mental pressures associated with online learning [21]. Studies indicate that many students prefer this hybrid program, which

may be maintained after the semester, with in-person sessions reserved for skills training and patient care [22,23]. Educators can consider implementing strategies that facilitate a good fit between online learning and students' needs, while decreasing negative experiences through occupational adaptation.

Filipino OT students also reported problems in altering their learning methods ( $M = 2.62$ ). Classes are frequently delivered online using pre-recorded lectures or reading materials, which benefits visual and auditory learners over those who learn best kinesthetically or in a physical context. Likewise, this finding reinforces Knowles' factors that adult learning involves internal motivations [24]. The shift to online learning affected students' motivation due to the change in the medium, impacting how they perform in learning according to the premise of occupational adaptation. Addressing diverse learning styles is critical since they have a major impact on academic success [25]. If face-to-face sessions are restricted, educators are encouraged to create other methods for hands-on activities. Using household members as 'cases' may be an alternative for developing patient handling skills.

The pandemic profoundly disrupted daily routines and habits. Students had a reasonable time and habit management prior the pandemic, but the transition online learning challenged their ability to manage time and study habits [26]. Educators should facilitate students in developing class and session schedules, as well as reestablishing disrupted routines and habits. A flexible schedule might troubleshoot issues such as internet access.

Finally, household responsibilities posed as a considerable barrier to online learning ( $M = 2.99$ ). Younger or more educated family members frequently have to care for other family members [1,27], which could interfere with school-related responsibilities and create a non-conducive learning environment. Despite taking online classes from home, this setting did not result in increased time for schoolwork [1,20]. In typical Filipino families, family concerns in shared spaces distracted students and took away time and space for schoolwork [28].

#### 4.1 Limitations

Efforts to obtain the required sample size through incentives and regional representation were not achieved, resulting in a sample that may not accurately represent all OT students in the Philippines. Caution is advised when generalizing the data, particularly for responses on total annual family income, which may have been underreported. Selection bias may be evident because data collection was based primarily on an online survey, potentially excluding students seriously affected by the pandemic and resulting in an underreporting of concerns linked to access to technology resources. Furthermore, the reference utilized to calculate the sample size was out of date, based on data from the WFOT's Human Resource Project 2020, which may not adequately reflect the current student population.

#### 4.2 Implications for Future Research

Future research should focus on longitudinal studies to examine the long-term effects of online learning on OT students. Furthermore, researching the effectiveness of specific interventions, such as mental health support programs and technological advancements, might provide useful information for enhancing educational results. Obtaining current demographic data and broadening data gathering methods beyond online surveys might improve the validity and inclusiveness of future research.

## Conclusion

OT students often encounter barriers to online learning such as physical incapability to study, mental health difficulties, difficulty adjusting to learning styles, the need to fulfill responsibilities at home, and limited space conducive for learning which calls for HEIs to regularly monitor the number of tasks assigned to students. This can be done through proper coordination of academic coordinators for examinations given, projects assigned, and hours for lectures on a weekly basis. Moreover, OT educators are encouraged to be mindful of these barriers and be proactive in minimizing them.

A proposed action plan (See Appendix C) for establishing an in-house psychosocial support (PSS) program for students may help HEIs. The said action plan will cover the preparations in identifying key persons from each department to be part of the PSS program headed by the Guidance Office or

Student Support Office. This action plan is aimed at addressing the mental health concerns of students in relation to their learning experience even in post-pandemic period. Another proposed action plan (See Appendix C) for the capacity-building of faculty in preparation for the hybrid model of teaching may help HEIs. This action plan will cover identifying key persons in the training of the faculty in integrating the combination of synchronous/asynchronous learning tasks with face-to-face sessions to address the difficulties of students in adjusting their learning styles while observing mandated health protocols.

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No potential conflict of interest was reported by the author(s).

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**Appendix**  
**Appendix A. Survey Questionnaire**

OCCUPATIONAL THERAPY EDUCATION IN THE PHILIPPINES AMID COVID-19  
[Adapted from Baticulon *et al.* (2021)]

This is a survey on the impact of COVID-19 on occupational therapy education in the Philippines, from the perspective of occupational therapy students. Specifically, this study aims to identify perceived barriers to online learning, in order to help occupational therapy schools implement programs that will bridge gaps in knowledge and skills during the pandemic period.

The survey is open to all 1st year to 4th year occupational therapy students in the Philippines, whose classes and/or clinical rotations have been disrupted due to COVID-19. The entire survey will only take 5 to 10 minutes to complete. Participation in this survey is voluntary. You may end the survey at any point. By answering the survey, you consent to providing your personal information to the study investigators. The researchers will maintain the confidentiality of data and all data will be de-identified prior to analysis.

For questions, or if you wish to withdraw your response, you may email the primary investigator [REDACTED]. Thank you in advance for your participation!  
\*The following will be indicated in the succeeding section after the consent form for monitoring purposes only.  
By agreeing to the terms of the study, kindly provide the following information. These will only be used for verification purposes of your enrollment in an occupational therapy school in the Philippines. These won't be part of data analysis.

1. Indicate your student or ID number
2. In which occupational therapy school are you currently enrolled? \*  
(Dropdown list of occupational therapy schools in the Philippines)

\*Required questions

**SOCIODEMOGRAPHIC PROFILE**

• **PERSONAL CHARACTERISTICS**

1. What is your age? \*
2. What is your gender? \*
  - o Male
  - o Female
  - o Non-binary
  - o Prefer not to say
3. What is your year level in occupational therapy school (i.e., internship proper)? \*
  - o First year
  - o Second year
  - o Third year
  - o Fourth year
4. Based on your performance last semester or academic year, your grades will fall under which of the following? \*
  - o Among the highest 25%
  - o In the middle 50%
  - o Among the lowest 25%
  - o Unsure

• **ACCESS TO TECHNOLOGICAL DEVICES**

5. Which of the following devices do you own? Pick all that apply.
  - o Smartphone
  - o iPad or tablet
  - o Laptop computer
  - o Desktop computer
  - o Others: \_\_\_\_\_
6. Which statement best describes your Internet access at home or where you are currently staying?
  - o I don't have Internet access and I have to go somewhere else
  - o Prepaid mobile data (e.g., phone, pocket Wi-Fi...) but the connection is slow and/or unreliable
  - o Prepaid mobile data (e.g., phone, pocket Wi-Fi...) and the connection is fast and reliable
  - o Postpaid subscription service (e.g., broadband, DSL...) but the connection is slow and/or unreliable
  - o Postpaid subscription service (e.g., broadband, DSL...) and the connection is fast and reliable

• **CURRENT LIVING CONDITIONS**

7. Are you on any financial scholarship (i.e., based on financial need)?
  - o Yes
  - o No
8. Where have you spent most of your time during the COVID-19 pandemic thus far?
  - o Home with family
  - o Dormitory or apartment near school
  - o Residence of friends or other relatives
  - o Others: \_\_\_\_\_
9. What is your family's total annual income?
  - o Php 250,000 or less
  - o Between Php 250,000 and Php 1 million
  - o Between Php 1 million and Php 2 million
  - o More than Php 2 million

• **PERCEIVED BARRIERS TO ONLINE LEARNING**

10. The following may be considered perceived barriers to online learning for occupational therapy students. For each item, indicate how often YOU have encountered these problems during this pandemic period. \*

	Never	Sometimes	Often	Always
Physical incapability to study subjects online (e.g. eye strain, headache)				
Mental health difficulties (e.g. stress, anxiety and feelings of uncertainty)				
Lack of teachers' resources and skills necessary to teach our courses online				
Incapability of school's infrastructure and resources to support online teaching				
Inability to adjust learning style (e.g. poor time management, lack of discipline)				
Need to fulfill responsibilities at home				
Lack of technical skills (e.g. difficulty using word processing programs for school assignments, difficulty using teleconferencing apps for synchronous sessions)				
Difficulty in communication or lack of clear direction from educators				
Limited space conducive for studying				
Unreliable or no internet access (e.g. power interruption)				
No smartphone or computer, or limited access due to gadget sharing with others				
Need to work for extra income				
Lack of basic needs (i.e. food, water, medicine and security)				

11. If there are other barriers that you currently experience or have experienced, please enumerate them here:
12. What programs or interventions would you suggest to your occupational therapy school to help you maximize learning during this pandemic period and prepare adequately for the next academic year?



**Appendix**  
**Appendix B. Recommendations for HEIS offering BSOT**

The table below shows examples of Filipino occupational therapy students' responses to the question, "What programs or interventions would you suggest to your occupational therapy school to help you maximize learning during this pandemic period and prepare adequately for the next academic year" alongside the recommendations in the discussion section.

*Summary of Proposed Interventions*

<b>Recommendation</b>	<b>Proposed Intervention from Students</b>
Promoting clear and open lines of communication between the administration, faculty, and students	<ul style="list-style-type: none"> <li>● "Maintaining constant communication with students through a single platform"</li> <li>● "Communicate more with the students, and understanding the situation of these students since not all of us have similar learning environment during online classes"</li> <li>● "Frequent orientation programs regarding the academic plans of the university"</li> </ul>
Integrating synchronous and asynchronous sessions with limited face-to-face sessions for the upcoming school year.	<ul style="list-style-type: none"> <li>● "[Our school] should follow blended learning, having a mix of asynchronous, synchronous and face to face classes."</li> <li>● "I'm hoping that in the next semester we will be able to access the laboratories at school and conduct face to face classes so we will be able to further assess our capabilities and skills acquired from online class, in that sense there will be improvement."</li> <li>● "Blended learning wherein some classes can be done through online means and face - to-face especially laboratory classes or clinic visits that my batch never got to experience since the first year."</li> <li>● "For long lectures (4 -6 hours), always consider 2 -5 minutes break every hour, or do some exercises with the students"</li> </ul>
Dedicating an online repository to promote ease of access to shared coursework and course materials for students.	<ul style="list-style-type: none"> <li>● "A shared free site that aims to provide list of reference/sources of different OT topics, similar to [REDACTED]. It's really hard to keep up on topics in online class setting since references are not shared often and instructors allow us to freely search online which most of the time we don't know if it's right or not."</li> <li>● "My main suggestion would be offering recorded lectures for students who can't attend class due to technical or internet issues."</li> <li>● "Making all recordings of synchronous sessions available for the whole semester"</li> </ul>
Establishing a peer support system in the classroom to promote connectedness in the virtual classroom.	<ul style="list-style-type: none"> <li>● "I would suggest that professors should create more peer support programs to encourage connectedness to help students minimize their workload since students assist and learn from each other."</li> <li>● "Encourage students to interact with their classmates"</li> </ul>
Scheduling online or virtual social gatherings or events for faculty and students.	<ul style="list-style-type: none"> <li>● "To involve students in activities such as online 'Kamustahan' once a week or once a year"</li> <li>● "Try to reach out to each student individually, such as assisting them with their academics, whether in a face -to-face or online setting."</li> </ul>
Creating student support services catering to their mental health such as telehealth and psychosocial support services	<ul style="list-style-type: none"> <li>● "Mental Health Programs and Interventions"</li> <li>● "Weekly mental health consultation especially for those who are struggling on their major subjects"</li> <li>● "Programs about academic motivation and resiliency"</li> </ul>

**Appendix**  
**Appendix C. Action Plan For Heis Offering OT Education**

ACTION PLAN FOR HEIS OFFERING OT EDUCATION  
Summary of Proposed Interventions

**Table 1.** Action Plan for Establishing In-house PSS

<b>Activity</b>	<b>Objectives</b>	<b>Time Frame</b>	<b>Persons Involved</b>	<b>Expected Outcomes</b>	<b>Budget Allocation</b>	<b>Sources of Fund</b>	<b>Success Indicators</b>
Meet with person(s)-in-charge for student support services	To conduct a meeting regarding the plan in providing student psychosocial support (PSS) services amid the pandemic	1 month	Admin, Council of Deans, OSSA, Guidance Counselor	The teachers will be informed about the plan and ideas will be solicited from the teachers.	Php 1000	Faculty Development Funds	95% of the teachers attended the meeting.
Meet with teaching staff for support student services	To identify potential key persons from each department or college	1 month	Teaching staff, OSSA, Guidance Counselor	The key persons from each department will be informed of their potential roles in the PSS program of the HEI.	Php 1000	Faculty Development Funds	95% of the teaching staff attended the meeting.
Create training timeline for assigned faculty.	To plan for activities for faculty capacity-building (PSS)	1 month	Teaching staff, OSSA, Guidance Counselor	Creation of a timeline of training activities with corresponding intended outcomes	Php 1000	Faculty Development Funds	95% of training activities will be scheduled.
Implementation of activities for faculty capacity-building (PSS)	To train key persons in each department in strategies related to PSS	1-2 months	Teaching staff, OSSA, Guidance Counselor	Key persons of each department or college will be able to demonstrate and apply learned PSS strategies.	Php 10, 000	Faculty Development Students' Miscellaneous Fee	95% of faculty included in training achieved intended outcomes
Implementation of PSS services for students	To initiate the PSS program for students in the College	1-2 months	Teaching staff, OSSA, Guidance Counselor	A pilot of the program will be run for a month (or up until the end of the next term).	Php 10, 000	Students' Miscellaneous Fee	95% service usage of in-house PSS for students

**Appendix**  
**Appendix C. Action Plan For Heis Offering OT Education**

Table 2 shows the plan proposed to address the issues related to learning styles encountered by students engaged in online learning amid the pandemic. This would be accomplished through planning and preparation of key persons in respective departments or colleges to be designated trainers of other members of faculty or having in-service training for the entire college regarding effective teaching-learning strategies using the hybrid model of teaching. In this way, teachers will be able to optimize the hybrid platform of teaching-learning. The training can be a part of the faculty development plans of the respective colleges.

**Table 2.** Action Plan for Proposed Faculty Capacity Building for Hybrid Model of Teaching

<b>Activity</b>	<b>Objectives</b>	<b>Time Frame</b>	<b>Persons Involved</b>	<b>Expected Outcomes</b>	<b>Budget Allocation</b>	<b>Sources of Fund</b>	<b>Success Indicators</b>
Meet with person(s)-in-charge organizing line-up of faculty development programs	To conduct a meeting regarding the plan for faculty capacity building	1 month	Admin, Council of Deans, Academic Coordinators ,Quality Assurance Office	The key persons will be informed about the plan and ideas will be solicited from the teachers.	Php 1000	Faculty Development Funds	95% of the key persons attended the meeting.
Meet with academic program heads to identify trainers	To identify potential key persons from each department or college	1 month	Council of Deans, Academic Coordinators , Quality Assurance	The key persons from each department will be informed of their potential roles in the training of faculty for effective teaching-learning strategies for the hybrid model of teaching.	Php 1000	Faculty Development Funds	95% of the keypersons attended the meeting.
Implementation of activities for faculty capacity-building	To train key persons in each department as mentors/trainers for teaching-learning strategies.	1 month	Council of Deans, Academic Coordinators , Teaching Staff, Quality Assurance	Key persons of each department or college will be able to demonstrate and apply learned strategies.	Php 10, 000	Faculty Development Students' Miscellaneous Fee	95% of faculty included in training achieved intended outcomes
Implementation of teaching-learning strategies in the classroom.	To initiate the PSS program for students in the College	1-2 months	Council of Deans, Academic Coordinators , Teaching Staff, Quality Assurance	Faculty will apply the teaching-learning strategies in their respective classes.	Php 10, 000	Students' Miscellaneous Fee	Positive feedback in post-evaluation/teaching evaluation by students