

## ACADEMIC LEARNING PROCESS BETWEEN FACE-TO-FACE AND ONLINE CLASS OF MEDICAL TECHNOLOGY STUDENTS DURING PANDEMIC

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### Abstract

The Philippine's Commission on Higher Education (CHED) is mandated to take appropriate steps to ensure that education shall be accessible to all. In times where classes were disrupted due to health emergency and community lockdown imposed, the commission handed down Memorandum Order No. 4. Series of 2020, which directed Higher Education Institutions (HEI) to use flexible platform for academic track to better facilitate learning scheme. The sudden paradigm shift lends students to grapple in the new way of teaching and learning process. The underlying circumstance leads to determining the Academic Learning Process between face-to-face and online class of Medical Technology students during the time of contagion. This descriptive-comparative study verified the learning process between online class and face-to-face strategic learning. There were forty six (46) 3<sup>rd</sup> Year and 4<sup>th</sup> Year Medical Technology students of World Citi Colleges who assessed the two learning processes based on class preparation, absorbing and capturing new information, and reviewing of course materials. Results revealed that majority of the respondents are in the age bracket of 22-25 and mostly female students. In terms of year level, there is an equal distribution of 3<sup>rd</sup> year and 4<sup>th</sup> year Medical Technology students. It is also observed that majority of the respondents experienced a half semester of online class and are highly prepared for face-to-face class but are moderately prepared for online class. The level of preparedness for face-to-face class is greater than the level of preparedness for online class. In terms of academic learning process, the respondents have high ability to absorb new information in face-to-face class but with moderate ability compared to online class. The mean score of the level of capturing new information in face-to-face class is greater than the mean score in online class. However, the respondents have high ability to capture new information in both modes of learning. Relatively, scores on capturing new information in online class are more dispersed than scores for face-to-face class. Additionally, as to reviewing course materials, respondents have moderate ability in reviewing course materials in online class. The mean score for the level of reviewing in face-to-face class is greater than the mean score in online class. Based on the results of independent samples t-test, the researchers concluded that there is no significant difference in the academic learning process between the face-to-face and online class of 3<sup>rd</sup> and 4<sup>th</sup>-year Medical Technology students during pandemic.

**Keywords:** *Academic learning process, descriptive-comparative, face-to-face, medical technology, online class.*

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### 1. Introduction

Throughout the time of pandemic that started this year 2020, several universities and colleges have no choice but to change the education system from face-to-face learning to online learning. This is according to the CHED Memorandum Order No. 4, Series of 2020 – Guidelines on the Implementation of Flexible Learning. Along with these sudden changes, it forces educators to change their nature of teaching like creating modules, setting up work areas at their homes, using laptops or smartphones instead of whiteboard and marker.

The educators also took seminars and trainings for online classes that include how to use virtual learning applications such as Google Meet, Zoom, and Google Classroom, and, how to create modules online. While the educators are learning and adapting to the “new normal” of teaching, the students are

also adjusting to how they will learn in online classes. There are advantages and disadvantages of online learning to students.

The students, educators, and parents have different opinions on what system they prefer in the future of education. Some believe that online education can further the productivity and experience of both students and educators. Since they are familiar with new learning styles and techniques, they can now be able to apply them to their learning process and future generations. Although, others believe that the government should prioritize face-to-face class learning in the country rather than online learning considering there are several underprivileged families who cannot afford the requirements for an online class, and parents who cannot teach or guide their children in online activities because of the limitation in their educational attainment.

The conceptual difference between face-to-face and online classes is that face-to-face involves students and educators communicating in the present time, according to the Focus EduVation article in 2018. On the contrary, online students work through talks and other educational material at their own time. They pose inquiries on online conversation mediums and must sit tight for an educator or another student to react. Some may notice the setback in communication as delaying the learning, however in practicality educators can utilize it for their potential benefit. At the point when they present complex thoughts in lectures, educators can ask students to stop the video and consider the data showed for sometime before continuing. This permits students to learn at their own time, assuring nobody is deserted.

## **2. Methodology**

The study aimed at exploring the student's Academic Learning Process between face-to-face and online class during the pandemic. The study examined if there was a difference between the academic learning processes of students in quality online courses from their experience with face-to-face learning during a pandemic. This study utilized the descriptive method in which reveals the profile of the sample population. We used the correlational method in which we determined the two variables. The study focused on determining the academic learning process of the students between face-to-face and online learning.

The study utilized a questionnaire developed by the researchers with 30 Likert questions and 5 demographic questions. The researchers used 3 forms to obtain the appropriate and useful information needed for the study.

First, the demographic form, this instrument was used to particularly identify their name, age, gender, year level, and the duration of the online class experience.

Second, the Academic learning process of 3<sup>rd</sup> and 4<sup>th</sup>-year Medical Technology students in World Citi-Colleges-Quezon City face-to-face during a pandemic based on five categories such as the demographic profile, preparation for the class, absorbing of new information, capturing of new information, and reviewing of course materials. This instrument was used to particularly become aware of the student's academic learning process in a face-to-face class.

Lastly, the Academic learning process of 3<sup>rd</sup> and 4<sup>th</sup>-year Medical Technology students in World Citi-Colleges-Quezon City online class during a pandemic based on five categories such as the demographic profile, preparation for the class, absorbing of new information, capturing of new information, and reviewing of course materials. This instrument was used to particularly become aware of the student's Academic learning process in online class.

The population of the study is the Medical Technology students of the World Citi Colleges in Quezon City. The study made use of all the students who are taking an online academic learning of the said year level. The target sample is 46 students out of 92, half of whom are 3<sup>rd</sup> year medical technology students while the other half being the 4<sup>th</sup> year medical technology students.

## **3. Results and discussion**

It is shown that most of the respondents are 22-25 years old who are currently in their 3<sup>rd</sup> year or 4<sup>th</sup> year in the Medical Technology course. This group of respondents are those students who were affected by the Pandemic due to the Corona Virus outbreak, and majority of the respondents were female. The researchers chose to have an equal number of respondents per year level since it is part of the research design to have an equal number of respondents per year level.

Table 1. Descriptive statistics of the score of the Medical Technology students in terms of level of preparedness for the class.

Mode of Learning	Obs	Mean	Std. Dev.	Min	Max	Interpretation
Face-to-Face	46	10.6739	2.2116	5	14	Prepared for the class
Online	46	10.0652	2.8783	2	15	Prepared for the class

Table 2 shows the descriptive statistics of the score of the 3<sup>rd</sup> year and 4<sup>th</sup> year Medical Technology students in terms of the level of preparedness for the class. The mean score of the level of preparedness for face-to-face class is greater than the mean score on preparedness for online class. Scores on preparedness for online class are more dispersed than scores on preparedness for face-to-face class.

Table 2. Descriptive statistics of the score of the Medical Technology students in terms of level of absorbing new information.

Mode of Learning	Obs	Mean	Std. Dev.	Min	Max	Interpretation
Face-to-Face	46	11.3696	2.2446	5	15	High ability to absorb new information
Online	46	10.9130	2.6818	5	15	High ability to absorb new information

Table 3 shows the descriptive statistics of the score of the 3<sup>rd</sup> year and 4<sup>th</sup> year Medical Technology students in terms of the level of absorbing new information. The mean score of the level of absorbing new information in a face-to-face class is greater than the mean score on absorbing new information in an online class. However, the respondents have a high ability to absorb new information in both modes of learning, on average. Relatively, scores on absorbing new information in an online class are more dispersed than scores on absorbing new information in a face-to-face class.

Table 3. Distribution of Medical Technology student-respondents in terms of level of absorbing of information.

Absorbing of New Information	Face-to-Face Class		Online Class	
	Frequency	Percentage	Frequency	Percentage
Low ability to absorb new information	1	2.17%	2	4.35%
Moderate ability to absorb new information	17	36.96%	24	52.17%
High ability to absorb new information	28	60.87%	20	43.48%
<b>TOTAL</b>	46	100.00%	46	100.00%

The above tabulation shows that more respondents have high ability to absorb new information in face-to-face class than in online class. The majority (60.87%) of the respondents have a high ability to absorb new information in a face-to-face class. In comparison, most respondents have only a moderate ability to absorb new information in an online class.

Table 4. Descriptive statistics of the score of the Medical Technology students in terms of level of capturing new information.

Mode of Learning	Obs	Mean	Std. Dev.	Min	Max	Interpretation
Face-to-Face	46	11.2174	2.7642	3	15	High ability to capture new information
Online	46	11.1957	3.1666	1	15	High ability to capture new information

The above table presents the descriptive statistics of the score of the 3rd year and 4th year Medical Technology students in terms of the level of capturing new information. The mean score of the level of capturing new information in a face-to-face class is greater than the mean score on capturing new information in an online class. However, the respondents have a high ability to capture new information in both modes of learning, on average. Relatively, scores on capturing new information in an online class are more dispersed than scores on capturing new information for a face-to-face class.

Table 5. Distribution of Medical Technology student-respondents in terms of level of capturing new information.

Capturing New Information	Face-to-Face Class		Online Class	
	Frequency	Percentage	Frequency	Percentage
Low ability to capture new information	1	2.17%	2	4.35%
Moderate ability to capture new information	23	50.00%	23	50.00%
High ability to capture new information	22	47.83%	21	45.65%
<b>TOTAL</b>	46	100.00%	46	100.00%

In the above tabulation it exhibits that more respondents have high ability to capture new information in face-to-face class than in online class. Half of the respondents have a moderate ability to capture new information in a face-to-face class. In comparison, also half of the respondents have also moderate ability to capture new information in an online class.

Table 6. Descriptive statistics of the score of the Medical Technology students in terms of level of reviewing course materials.

Mode of Learning	Obs	Mean	Std. Dev.	Min	Max	Interpretation
Face-to-Face	46	10.1957	2.6551	2	15	High ability in reviewing of course materials
Online	46	9.6304	2.9542	2	15	Moderate ability in reviewing of course materials

Table 7 shows the descriptive statistics of the score of the 3rd year and 4th year Medical Technology students in terms of the level of reviewing course materials. The mean score of the level of reviewing in a face-to-face class is greater than the mean score on reviewing course materials in an online class. On average, the respondents have a high ability in reviewing course materials in face-to-face class while having a moderate ability in reviewing course materials in an online class. Relatively, scores on reviewing course materials in an online class are more dispersed than scores on reviewing course materials for a face-to-face class.

Table 7. Distribution of Medical Technology student-respondents in terms of level of reviewing course materials.

Reviewing of Course Materials	Face-to-Face Class		Online Class	
	Frequency	Percentage	Frequency	Percentage
Low ability in reviewing of course materials	2	4.35%	3	6.52%
Moderate ability in reviewing of course materials	23	50.00%	28	60.87%
High ability in reviewing of course materials	21	45.65%	15	32.61%
<b>TOTAL</b>	46	100.00%	46	100.00%

Table 7 shows that more respondents have high ability in reviewing course materials in face-to-face class than in online class. Half of the respondents have moderate ability in reviewing course materials in face-to-face class. In comparison, majority (60.87%) of the respondents have also moderate ability in reviewing course materials in online class.

Table 8. Student's t-test for detecting significant difference in learning process of students between face-to-face and online classes during the pandemic.

Mode of Learning	n	Mean	Mean Difference	t	df	p-value (2-tailed)	Decision
Face-to-Face	46	10.8641	0.4130	1.7657	45	0.0842	Fail to Reject Ho
Online Class	46	10.4511					

It is shown in table above that the p-value in two-tailed t-test is 0.0842. The null hypothesis set by the researcher is that there is no significant difference in the academic learning process of 3rd and 4th Year Medical Technology students in World Citi-Colleges-Quezon City between face-to-face and online class during the pandemic. With a p-value greater than 0.05, it can be concluded that at 5% level of significance, there is enough evidence to say that there is no significant difference in the academic learning process of 3rd and 4th Year Medical Technology students in World Citi-Colleges-Quezon City between face-to-face and online class during the pandemic.

#### 4. Conclusion

Since the mode of education shifted from face-to-face class to online class, the Commission on Higher Education, institutions, and educators must be aware of the effect of an online class on the academic learning process of students. Based on the result of the survey questionnaire that was answered by the 3rd and 4th-year Medical Technology students, the researchers conclude that there is no significant difference in the academic learning process of 3rd and 4th-year Medical Technology students of World Citi Colleges-Quezon City between face-to-face and online class during the pandemic. Because in the result, the p-value in the two-tailed t-test is 0.0842 which is greater than 0.05 at a 5% level of significance.

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