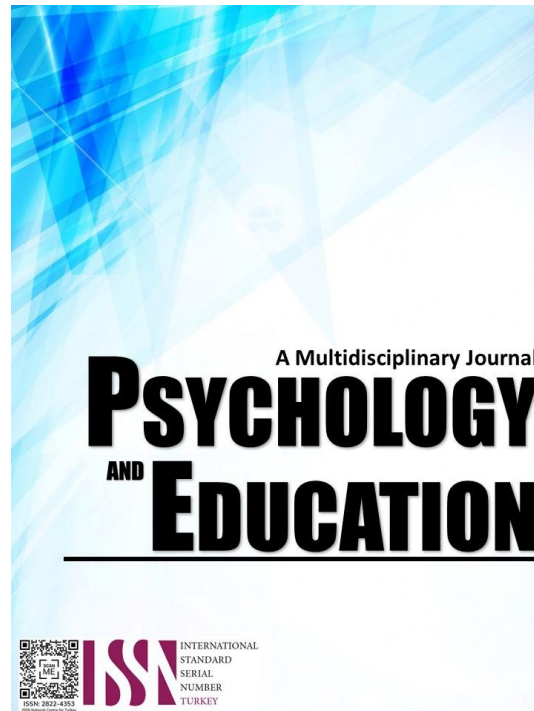


**IMPACT OF DIFFERENT LEARNING
MODALITIES ON THE PERCEIVED ACADEMIC
PERFORMANCE OF THE PARAMEDICAL
STUDENTS OF DR. CARLOS
S. LANTING COLLEGE**



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Impact of Different Learning Modalities on the Perceived Academic Performance of the Paramedical Students of Dr. Carlos S. Lanting College

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Abstract

The sudden and unexpected change that COVID-19 brought to teaching and learning is likely to have an impact on many, if not all, aspects of college students' lives worldwide. Students in higher education, particularly those in the medical field, were significantly impacted by this global phenomenon. For their hands-on activities, paramedical students need suitable demonstrations to learn the abilities required for their specialization; their course also includes laboratory work. Thus, this study focuses on the impact of different learning modalities on the perceived academic performance of the paramedical students of Dr. Carlos S. Lanting College. Data were gathered through an online survey administered via Google Forms. The survey used in this study was a researcher-made type of questionnaire. The respondents were 100 3rd and 4th year level college students. The data gathered were analyzed through multiple regression. Results showed that traditional learning was preferred by 54 percent of respondents, followed by blended learning at 36 percent and online learning at 10 percent. Traditional learning ($B=.620$, $p\text{-value}=.000$) and blended learning ($B=.320$, $p\text{-value}=.002$) had a positive impact on perceived academic performance. However, online learning ($B=.118$, $p\text{-value}=.210$) had no significant impact at all. These results suggest that traditional learning is still students' preferred modality because this is where they feel most engaged and motivated to learn their courses.

Keywords: *COVID-19 pandemic, learning modalities, perceived academic performance, paramedical students*

Introduction

Education plays a vital role in the life of an individual and it would give him all the skills, techniques, information, and knowledge in life as well as to understand and respect the different duties that society, family, and the nation have. It helps them to meet new ideas and also to be innovative using their minds. It builds the confidence of an individual, and it also gives them life a path to follow. But if the education that students were looking suddenly changed.

The COVID-19 pandemic started in early 2020. It has seriously affected the educational system and of course, the students, because of the shifting from traditional learning to online learning, especially those paramedical courses because they are the ones who need a proper demonstration for their hands-on activities. Their course requires a laboratory engagement in order to master the skills needed for their expertise.

Amidst the pandemic, some schools still continue their online set-up class where students' education takes place virtually whereas discussion, quizzes, exams, etc., happens with the use of different learning platforms. Some already implemented back-to-school or face-to-face classes in where the students are now

doing the traditional way of learning, school tasks are now taking place inside their school premises. While some applied the blended learning approach where online classes and face-to-face classes are executed.

In every learning modality, students tend to face conflict with regard to how they perceive their academic performances. These conflicts get bigger and bigger, the academic performance of a student is affected. And so, this study aims to determine how students, specifically those paramedical courses, view their perceived academic performance specifically in the three learning modalities; traditional learning, online learning, and blended learning.

Research Questions

The study aims to determine the Impact of Learning Modalities on the Perceived Academic Performances of the Paramedical Students of Dr. Carlos S. Lanting College. Specifically, this study sought to answer the following questions:

1. What is the demographic profile of the respondents in terms of the following variables:
 - 1.1. Age;
 - 1.2. Sex; and
 - 1.3. Paramedical Course?
2. What is the most preferred learning modality of the

paramedical students:

- 2.1. Traditional Learning (face-to-face class);
 - 2.2. Online Learning; and
 - 2.3. Blended Learning?
3. What are the factors that affect the students upon choosing their learning modalities?

Literature Review

This section of the research study presents information from various reference materials that discuss, expound, and capitalize the various lines of argument from researchers.

Traditional Learning (Face-To-Face)

Harmer (2007) emphasized that students learn better when they are engaged with what is happening. When people engage to face-to-face interaction, more information is revealed, such as that inferred from body language, gesture, tone, volume, and voice modulation. Face-to-face interaction has been used as a delivery method for information in many areas of science. Because there are some exchanges with participants, teaching speaking through face-to-face interaction with other students can help them convey every thought they have in mind. Face-to-face interaction becomes a strategy. The concept of face-to-face was first introduced into academic discourse by Goffman (1955, 1967), who defined “face” as the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact. According to Dohen et al. (2010), face-to-face interaction has been implemented in language learning because face-to-face communication is interactive, partners involved in a spoke conversation indeed build a complex communicative act together which involves linguistic, emotional, expressive, and more generally cognitive and social dimensions. In face-to-face teaching, students are responsible for their development during the scheduled meeting time for the class. This provides the students build and gain good connection to one another.

Classroom training is incredibly dynamic, which is the first and possibly the most significant point. Real-time face-to-face learning is provided in traditional classroom settings, and creative questions are generated. Additionally, it enables more flexible curriculum delivery and immediate teacher reaction. Traditional classroom instruction is a tried- and-true method and others could favor direct communication, pre- and post-class conversations, group learning, and genuine student-teacher connections (Roval & Jordan,

2004). However, the disadvantages of traditional learning could be that some students may avoid class activities if they do not like the teaching style; as a result, their grades may suffer and they may lose interest in learning. While true, this does not change the fact that some students prefer a more intimate learning environment. The classroom environment offers more inspiration, support, and guidance. Even if a student intended to drop out within the first few weeks of class, the teacher and other students might be able to convince him or her otherwise. To increase student retention, face-to-face instructors may be able to change the course's format and method of instruction (Kemp & Grieve, 2014). Additionally, due to the loss of flexibility with time management in the middle of class, there is less time for teachers to respond to all of the students' questions. According to Du (2021), the flexibility of time is being lost in face-to-face classes. Early morning classes can last till early afternoon. This may not work into your schedule if you have another commitment.

Despite those disadvantages, there are several advantages that students may also encounter in taking face-to-face classes. Written communication is essential in any organization to operate day-to-day operations (Nauman & Hussain, 2017). Similarly, Raja (2012) asserts that it is important that teachers design such activities that help students improve their skills. For this, instructors' sensitivity toward the teaching methods used in classrooms is of prime significance. The teaching strategies employed in the classroom determine the students' motivation and level of interest in learning and acquiring communication skills. Traditional education can also be used to help students become independent thinkers. The majority of students believe that the traditional classroom setting is better for learning since it allows them to engage with both the instructor and their classmates. The ability to ask questions and get timely answers is crucial, particularly for those who learn best through interactive activities and group projects because students are able to concentrate more in their learning because with less distractions. In this way, students can gain greater understanding, stories and real-world examples from teachers and other students. Other than that, it gives students a set schedule with specified times set out for study. Nowadays, the majority of students lead hectic lives. This can be challenging to find time for personal study, and there is always something more important to do that is why most students preferred face-to-face classes; students have a greater chance of completing their course successfully by doing it in a classroom situation.

Online Learning

“New normal” is the term that has been popularized since the pandemic started. It is the way how people cope with the ongoing COVID-19. Since it seriously affected people around the globe, it triggered new ways of learning. And to continue teaching the students, educational institutions have no other choice but to implement online classes as a solution to the issue. Many challenges have occurred in the implementation of online classes, and students need to deal with them. And that is how Guatam (2020) and Thompson (2021) come up with the advantages and disadvantages of what is called “the new normal”. Guatam (2020), stated that taking up online classes has its positives and negatives. And there are circumstances the pros overpower the cons or vice versa. There are advantages and disadvantages of taking up online classes such as it is flexible, efficient, affordable, convenient, having more interaction, and having a different variety of learning styles. For all the students, the first advantage of an online class is its affordability as it reduced financial costs, and eliminates the costs of transportation as well as student meals. Not only those things but online classes saved students from printing expenses as paperless exams and activities are requirements. For most students, flexibility is also one of the advantages of online classes as an individual can have different access to time and place. Student can make up their missed lesson because they can be recorded and you can review them anytime. An online class is also convenient as students can take their classes at home wearing comfortable clothes and together with the convenience. It improves students’ attendance as students do not need to stand up from their bed. Get their phone, log in to their class, as easy as that. Under the convenience is the efficiency as videos, PDFs, and podcasts could be accessed and used as learning material for the lessons, just several clicks on the phones or laptops, it can already have access to it. For shy students, an online class is a very big advantage to them as it fosters more interaction between the students and teachers. Shy-type students do not need to feel shy because they are not seen when they ask questions. And it suits a variety of learning lessons as students can personalize their learning materials at home.

Despite those advantages, there are several disadvantages that students may also encounter in taking online classes. According to Thompson (2020), having technical problems, inability to concentrate on the screen, requiring self-discipline, and more screen time are some of the challenges that students may

encounter during an online learning. Some students in online learning cannot focus well because they are easily distracted by the use of social media and other sites that can distract them. And because of this behavior, they ended up with low grades and submitted their work late. Therefore, teachers must always check on their students and interact with them in order for the students to stay focused in class. In addition, students need proper discipline as well, because if they don’t have self-discipline, they will not listen in class. Another factor is that they cannot stare at a screen for a very long time. Focusing too much on a screen can affect the health of a student and can lead to physical problems such as headaches and bad posture. And lastly, having a technical problem during an online class. This could include unstable internet connections, poor audio and video quality, and a lack of understanding of technologies. Without a steady internet connection for both learners and teachers, it can affect the learning of a student once they have reporting, recitation, quizzes, and major examinations as well as their academic performance.

Blended Learning

The educational system is now going through a transformation. Individuals must attempt to adapt to the expansion of technologies for learning and explore new ways in order to address and respond to their needs for great educational opportunities (Mukhtaramkhon, 2022). There are many different approaches or methods of learning and one of them is called “blended learning”. Blended learning or hybrid learning is a system of schooling that is a combination of online learning and traditional learning. This type of learning gives opportunities to use both synchronous where classes run in real-time and asynchronous tools where students interact with their professors online and thus submit tasks by emailing them or using any suites of online tools (Singh 2003). In addition, Mukhtaramkhon (2022) added that blended learning is a useful method of instruction since it uses flexible methods for e-learning while maintaining the value and significance of in-person instruction especially when you take into account the current issue which is the COVID-19 pandemic. According to Mukhtaramkhon (2022), blended learning is both face-to-face and online-based. It requires the physical appearance of the two subjects, the teacher and the student, in an online classroom setting. Few students attend “brick-and-mortar” schools with the presence of a teacher to comply with hands-on activities. Blended learning is important when you take into account the events of the COVID-19 pandemic. This could help higher education institutions reflect on how they can

best adapt and change, both in emergency situations and for those who are affected by the COVID-19 virus.

The twenty-first century's technological advancements, pervasive integration into our society, and easy accessibility to the internet have fundamentally changed teaching in the past few years. According to Giarla (n.d.), there are numerous advantages of blended learning for students. When technology merges into school lessons, learners become more interested and excited to gain knowledge combining the use of computers to look up data and information with access to tools like the internet for research is a huge lifesaver. In addition to helping learners understand through discovery and study, this interaction and engagement with the materials keep them focused for longer lengths of time than they would be if they were using books or other paper resources. The utilization of online learning resources improves a student's capacity to establish realistic academic goals and manage his or her own learning, developing a skill that will be applicable to all subject areas. Students gain self-motivation and responsibility as they keep track of their own accomplishments. This helps them learn how to obtain the resources or support they require and how to advocate for themselves to attain their objectives. Due to the adaptability of blended learning as well as the accessibility of online materials, students can learn at their own pace, with the assistance of a teacher who can also provide more advanced resources if needed. Because of the many practical skills that blended learning provides, including those for research, self-learning, self-engagement, helping to develop a "self-driving force," better decision making, a greater sense of responsibility, and computer literacy, it equips students for the future. As stated by Javed (2022), students need to have a fundamental understanding of technology in order to take classes and finish assignments online. If students do not know how or are not interested, they will not learn much from a screen. By giving a brief summary of new training methodologies and their advantages, this problem can be readily resolved. Another drawback is that blended learning may result in lower student motivation, depending on how it is applied. For every person, task, subject, or organization, not every blended learning model is acceptable. Similar to how it takes into account students' reading levels when selecting books for them, it should think about which technique will work best for them. The struggle for students who used to work on hands-on activities was to spend a lot of time in front of a screen. In the era of e-learning, plagiarism is also a concern, and in reality, students cannot help but browse websites. Students who

participate in a blended learning paradigm are frequently required to use technology outside of the classroom. Online learning may be challenging or even impossible if not every learner has equal access to the resources.

Methodology

This section describes the processes and procedures used by the researcher to create this research paper.

Research Design

In this study, the researchers used a quantitative research design to examine the impact of the three independent variables, traditional learning, online learning, and blended learning, and the single dependent variable which is the perceived academic performance.

Research Respondents

The respondents were comprised of 100 paramedical students, among male and female of third and fourth-year college students of Dr. Carlos S. Lanting College.

Population and Sampling

The target respondents were the students at Dr. Carlos S. Lanting College. Researchers used the Purposive Sampling Method to identify the respondents of the study. The idea was to meet the criteria as follows: (1) A respondent should be enrolled in nursing, psychology, and radiological technology program and; (2) A 3rd-year and 4th-year student of the paramedical program.

Research Instrumentation

To get the appropriate data needed, the researchers used an online survey questionnaire through the use of a google form that is based on the topic of Impact of Different Learning Modalities on the Perceived Academic Performance of the Paramedical Students. This study was disseminated to the third and fourth year college students of the paramedical courses. The questionnaire consists of (3) parts. The first part includes determining the demographic profile of the respondents. The second part determines the students' personal preference regarding the set-up of traditional learning, online learning, and blended learning. And lastly, the third part obtains the students' perspective on their perceived academic performance for this school year (2022-2023).



Research Procedure

The following is the steps for collection and analysis of the data: (1) Formulate questions or statements for the questionnaire in relation to the main topic of the study; (2) Distribute the questionnaires to the selected respondents (the questionnaires will be disseminated via sending the link of the google form); (3) Tally the answers to be able to have an efficient analysis and; (4) Formulate the results based on the chosen statistical tool.

Data Gathering Technique

The researchers used a questionnaire method with a closed-ended set of questions where the respondents will encounter standard choices to select from. The type of questions that the researchers have written was Likert-type questions in which they were introduced to a usage of rating scale as an answer. The dissemination of questionnaires will administer through google form among third and fourth year college students of the paramedical programs. The respondents were assured of their confidentiality and the purpose of the study. The data was tallied, interpreted, and analyzed using regression as a statistical treatment. The researchers evaluated the data to professionally discuss the overall results of the study.

Results and Discussion

This section presents the study's findings after analyzing the data gathered by the researcher while writing this research paper.

Reliability Test

Table 1. Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.946	40

A Cronbach's alpha was utilized to measure the internal consistent (reliability) of the researcher made questionnaire. The 40 items Cronbach's alpha is .946. George and Mallery (2003) provide the following rules of thumb: “ $\alpha > .9$ – Excellent, $\alpha > .8$ – Good, $\alpha > .7$ –

Acceptable, $\alpha > .6$ – Questionable, $\alpha > .5$ – Poor, and $\alpha < .5$ – Unacceptable”. Thus, based on the Cronbach's Alpha, the reliability coefficients for the four subscales indicates an 'excellent' research instrument. This indicates that the researcher-made questionnaire can be used by other researchers for their study.

The demographic profile of the respondents in terms of the variables

Table 2. Demographic Profile

		Frequency	Percent
Age	20-30 y.o	93	93.0
	31-41 y.o	7	7.0
Gender	Female	72	72.0
	Male	28	28.0
Paramedical Students	BSN	33	33.0
	BSP	34	34.0
	BSRT	33	33.3

As shown in the table above, almost all of the respondents were age ranges 20-30 years old or 93% and only 7 percent were aged 31-41 years old. Majority were female or 72% of the respondents and there are 28% male respondents. There are almost equal number of BS Nursing (33%), BS Psychology (34%), and BS Radiologic Technology (33%) students.

The most preferred learning modality of paramedical students

Table 3. Learning Modality Preference

	Frequency	Percent
Traditional Learning	54	54.0
Online Learning	10	10.0
Blended Learning	36	36.0



Table 4. Means of Questionnaire Items

Traditional Learning	M	SD of the mean	Interpretation
I am actively participating in my face-to-face class.	4.09	.83	Agree (A)
Face-to-face instructions are a better way for me to learn the content/course materials.	4.55	.74	Strongly Agree (SA)
A classroom environment makes it easier for me to communicate with my classmates.	4.47	.77	Agree (A)
Being in a class with face-to-face communication improves my ability to learn.	4.52	.75	Strongly Agree (SA)
The face-to-face learning environment contributes to my overall satisfaction with the course I am taking.	4.47	.77	Agree (A)
I am able to partake in hands-on activities and understand them very well.	4.39	.76	Agree (A)
Traditional learning helps me to avoid anything unnecessary to lessen my concentration on the discussion.	4.24	.84	Agree (A)
I don't experience any communication barriers as my professor discusses during face-to-face class.	3.99	.83	Agree (A)
Attending classes onsite increases the chances of me getting infected by the virus.	3.69	1.04	Agree (A)
I don't experience having a hard time between the schedule of my school and my other activities (such as work, household chores, etc.).	3.37	1.14	Neutral (M)

Online Learning	M	SD of the mean	Interpretation
I am comfortable communicating virtually in class.	3.46	.97	Neutral (M)
I can easily access the internet as needed for my studies.	3.64	1.02	Agree (A)
The academic learning platforms used are appropriate for this online class.	3.69	.87	Agree (A)
I don't get easily distracted as I study in the online class set-up.	2.62	1.07	Neutral (M)
I have enough gadget/s to use for my online class.	3.77	1.14	Agree (A)
I can understand my professor during class as he/she explains or demonstrates the activities online.	3.20	.99	Neutral (M)
I can save money because fewer	4.11	1.01	Agree (A)



				<i>Blended Learning</i>	<i>M</i>	<i>SD of the mean</i>	<i>Interpretation</i>
				I am able to do things including household chores and attend class because of our flexibility in class time.	4.06	.84	Agree (A)
				I become productive in my studies because of my schedule.	3.73	.95	Agree (A)
expenses on transportation and food because of the online class.	3.59	1.02	Agree(A)	Blended learning, lessens expenses for travel and allowance for the daily costs.	4.08	.92	Agree (A)
The classroom environment increased my interest in learning our course materials.				This set-up lessens the possibility of me being exposed to a possible COVID-19 carrier.	4.02	.86	Agree (A)
Online class set-up helps me prevent any interaction with possible people that carries the virus.	4.04	.89	Agree(A)	I can easily catch up with the lessons I missed because I can open them any time since it was posted by my professor in our academic learning suites (such as googleclass).	4.02	.85	Agree (A)
I am able to do my other activities (such as work, household chores, etc.) and my online classes because of my flexible schedule.	4.06	.94	Agree(A)	I don't feel any difficulties with both teaching methods (online and face-to-face teaching).	3.42	.94	Neutral(M)
				I feel interested in our studies because of the accessibility of materials whether taking online or face-to-face classes.	3.64	.85	Agree(A)
				There is no communication barrier between these two (2) learning modalities (OL and TL)	3.45	1.02	Neutral(M)
				I don't feel distracted taking an online class at home rather than attending a face-to-face (and vice versa)	3.12	1.07	Neutral(M)
				I am not having a hard time balancing my studies and my other businesses.	3.51	1.03	Neutral(M)



<i>Perceived Academic Performance</i>	<i>M</i>	<i>SD of the mean</i>
I pay attention and listen during every discussion.	4.00	.84
I actively participate in every discussion and activity.	3.86	.83
I exert my effort when doing my activities/assignments.	4.19	.85
I enjoy doing our activities because they help me improve my skills in our course's subjects.	4.20	.85
I feel interested in learning our topics.	4.13	.84
I don't feel stressed studying.	2.63	1.11
I feel engaged with my classmates and become more socially active which helps me enjoy learning.	4.01	.89
I become more productive and spend my time efficiently in my studies.	3.75	.93
I become competitive as I continue studying.	3.59	1.04
I become motivated upon learning my coursework.	3.94	.99

As presented in the table above, majority of the respondents preferred traditional learning (54%) followed by blended learning (36%) and online learning (10%). The means of each item of the four variables of the study: were presented in the table above. The means score for each item for traditional learning ranges from 3.99 to 4.55, online learning ranges from 2.62 to 4.11, blended learning ranges from 3.12 to 4.08, and perceived academic performance ranges from 2.63 to 4.20. The results indicated that most of the respondents perceived level of traditional learning (face-to-face class), online learning, blended learning, and perceived academic performance were ranges from 'neutral' to 'strongly agree'.

A summary of the computed mean of all the items according to variables of the study were shown below. The mean scores for each variable were obtained by averaging the response to the appropriate items.

Table 5. Means and Standard Deviation of Learning Modalities

	<i>N</i>	<i>Mean</i>	<i>S</i>	<i>Interpretation</i>
Traditional Learning (face-to-face)	100	4.1780	.57059	Agree (A)
Online Learning	100	3.36180	.67125	Agree (A)
Blended Learning	100	3.7050	.67859	Agree (A)
Perceived Academic Performance	100	3.8300	.71823	Agree (A)
Valid N (listwise)	100			

As presented in the table above, the computed mean score for traditional learning was 4.18 with standard deviation of .57, online learning obtained a mean score of 3.61 with standard deviation of .67, blended learning obtained a mean score of 3.71 with standard deviation of .68, and perceived academic performance obtained a mean score of 3.83 with standard deviation of .72.

It means that the most common score obtained in traditional learning, online learning, blended learning was 4 or "agree". On the other hand, the scores obtained in blended learning with an SD score of .68 was the most spread-out scores among the three learning modalities while the scores obtained in traditional learning with an SD score of .57 was the least spread-out scores.

The impact of the different learning modalities on the perceived academic performance of the paramedical students of Dr. Carlos S. Lanting College

The results of the regression analysis provided the strength of the impact between the independent variables and the dependent variable. As presented in the table below, was shown that the correlation coefficient indicates a positive correlation (R=.747) this implied that the relationship between Traditional Learning (face-to-face class), Online Learning, and Blended Learning had a direct positive impact on the respondents' perceived academic performance by 54.4%. The remaining proportions could not be known in this study. This means that using traditional learning, online learning, or blended learning could affect the perceived academic performance of the paramedical students.

Table 6. Correlation and Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747 ^a	.588	.544	.48477

Conclusion

Students' learning is important, as it is how they acquire and/or apply knowledge in their chosen fields. In the midst of a pandemic, the institution of Dr. Carlos S. Lanting College have students as one of its top priorities, specifically those paramedical students who need to undergo face-to-face activities. Traditional learning, in which students participate in hands-on activities and laboratories, is far more effective in many ways. The purpose of this research was to determine the impact of the student's preferred learning modalities, whether it is traditional, online, or blended learning on their perceived academic performance.

In this study, it is hypothesized that there is an impact on the paramedical students' preferred learning modalities on their perceived academic performance. After gathering and formulating the data acquired, the regression analysis results provided the strength of the impact among the variables. It shows that there was a positive correlation among the variables and had a direct positive impact between the variables.

To sum up the results, traditional learning is the preferred learning modality of the paramedical students not only because they are more engaged in their courses which require on-hand activities and laboratories, but also because their program is highly focused on executing the knowledge and skills they have. In conclusion, when the institution, particularly the Dr. Carlos S. Lanting College pursues bringing back fully face-to-face or traditional learning, consequently, the DCLC can produce competent paramedical graduates.

After reviewing the study, the researchers would like to recommend the following: (1) Future Researchers. You may increase the number of respondents to more than 100 to make the research study more reliable and valid. In addition, you can have more diverse respondents not only revolving around the paramedical program but rather revolve around all students who experienced traditional classes, online classes, and blended classes regardless of year level. Furthermore, administer the survey questionnaires through different survey methods like face-to-face instead of Google form so that the researchers could dig deeper into the

obtained responses as well as they may analyze the attitudes of the respondents as they answer. This is more convenient to complete the needed respondents despite being time-consuming. (2) The Institution. You may have an evaluation every end of the school year about the new normal setting of the school in order to know what learning management system can be more effective in improving the academic performance of the students.

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