



Survey on student attitudes towards online learning during COVID-19: the Delta University experience.

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Abstract

The main objective of the present study is to investigate students' attitude towards implementing e-learning in Delta University during the period of Covid19 pandemic. Due to the full outbreak in this period, the learning, teaching, and evaluation system were completely modified from face-to-face interaction to totally online environment. The study data collection is based on a self- questionnaire which was conducted on 117 students from the faculty of Engineering at Delta University. The purpose was to realize student's attitudes and perceptions in three main features; the learning content, evaluation system, communications, and the process of applying the technological approaches that are used in their alternative distant learning experience.

The result of this study indicates that most students have positive satisfaction with online learning. The study also shows that appropriate applications of instructional pedagogy method and relevant incorporation of technological tools can be useful to warrant the constant achievement in conveying learning materials during the COVID-19 period.

Key words: *COVID-19, E-Learning, Assessment, Technological Approaches, Technical Support*

1. Introduction

The unpredictable COVID-19 epidemic has led to periods of social distancing that have prevented students from communicating in the classroom. In Egypt, where a new Academic semester starts at the mid of February 2020, there have been numerous of changes in the next month. In late March, all institutions and schools declared the postponement in favor of the government's policy. A crucial shift to digital forms of education has taken place. Students were kept at home and socially isolated from in-school learning for long periods of time. University staff were urged to develop online teaching and learning resources and to explore the most appropriate technologies to deliver their courses.

Wang, et al. (2020) stated primary effects of the virus, including its impacts on stress and embarrassment, challenges related to home internment, and health anxieties. Such outcomes recommend that learners may need supplementary support when facing distressing challenges such as those brought on by the pandemic. (Burgess & Sievertsen, 2020). The need was inevitable to remote the overall learning process using several internet-based approaches, while some universities swiftly locked to keep students and staff members once the virus started to spread widely.

Despite its rapid uptake due to the effects of the pandemic, e-learning is by no means a new approach. It is defined as learning performed at a distance and supported by electronic devices such as laptops or smartphones requiring an Internet connection (Gonzalez & Louis, 2018). Consequently, it lets students receiving instructions from their home without having to go to their campus. Classes with online features can generally be presented along a continuum: Web-facilitated where e-learning platforms are carried out to strengthen face-to-face teaching. In addition, hybrid or blended where instruction is carried out both offline and online and fully online where all instructions are conveyed online (Plaisance, 2018), the third feature being the case at the period of the Covid-19 pandemic.

E-learning is conveyed through two types of applications based on the method of delivering. Synchronous classes in one hand provide teachers and learners the opportunity to interrelate with each other in real-time, for instance, through a teleconference (Plaisance, 2018). In the other hand, Asynchronous classes permit students to finish assignments from anywhere with access to the internet within a proper time restriction, for example within a few days (Plaisance, 2018). Learning Management System applications such as Zoom, Moodle, and Google Classroom are frequently utilized to deliver asynchronous online programs. It is further reported that a composed and cautious blend of tasks in an online session is interesting for students as it capitalizes on the flexibility of e-

learning (Plaisance, 2018). It is hypothesized that e- learning tasks should be organized in such a way that they enhance learners' inspiration and attention (Gonzalez & Louis, 2018).

In addition, Moorhouse (2020) stated that the university students preferred the combination between asynchronous and synchronous means of e- learning when a face-to-face contact was impossible in the period of the Covid-19 pandemic.

2. Review of Literature

There were various studies that have been conducted using e learning to enhance students' achievement as an alternative approach may be applied in critical times. This topic has been treated in terms of activities, the treatment, advantages, and the attitudes of teachers and students. Moreover, challenges include dealing with technical problems and designing suitable tasks.

For example, the study of (Yuan, 2021) aims to investigate the students' perception and attitude towards e-learning during COVID-19 in Malaysia. The researcher conducted a survey technique to recognize the degree of satisfaction in four chief items; the learning content, measurements, interactions, and technological devices used in their alternative distance learning process. The results reveal a positive attitude of the majority of students towards e-learning conveying. Moreover, they show that appropriate applications of instruction style and relevant combination of technological tools may be supportive to certify the unceasing achievement in delivering learning content during the COVID-19 critical period.

Moreover, the study of Layali, K., & Al-Shlowiy, A. (2020) aims at measuring the students' satisfaction of e-learning implication among EFL in Saudi institutions in COVID-19 period. The purposes also were to determine the benefits of e-learning for EFL students, and disadvantages of this application. The findings indicated the positive sights of students, numerous advantages and limited downsides of e-learning implementations in Saudi institutions during this critical period.

Another study by Oraif & Elyas (2021) investigates students' degree of involvement in online classes utilizing a selected school platform. A consistent measure was applied in the study based on the Student Course Engagement Questionnaire. It was carried out in a high school with a sample of (EFL) students studying a general English course. The findings showed a high level of involvement among EFL students. This facilitated to create implications to develop EFL tasks, particularly through the period of applying e- learning process.

In addition, the paper of Kanno, (2020) focuses on an instructor's continuing efforts to improve and conveying remote-learning for (EFL) classes in a higher education environment. The researcher reports on the

perception of social occurrence in peer-to-peer communication that could develop cooperative learning in a virtual classroom. Synchronous distance learning courses were improved using a text-messaging performance and collaborative text-editing software with the purpose to create a communicative learning atmosphere. Group discussion meetings showed that learners might feel contacted with each other in the synchronous EFL classes, which verified the forcefulness of social contact despite physical distancing. Main challenges lay in three areas: technology, the nature of the task, and students' task preferences. This study presents a pedagogical implication for tackling such occurred challenges.

Furthermore, the study of Siron, Wibowo, & Narmaditya (2020) aims to examine aspects affecting the implementation of e-learning courses during the Covid-19 pandemic in Indonesia. This survey study conducted a quantitative method by distributing an online questionnaire to collect data from the participants. The results revealed that the students' purpose in using e-learning was determined by numerous variables, including perceived satisfaction, students experience, computer complexity, and self-efficacy. These results also approve that both supposed ease of use and perceived usefulness can explain the students' intention in utilizing e-learning. The results provide an implication toward the importance of understanding the factors of e-learning adoption and how students can perceive e-learning as the response of the Covid-19 pandemic.

Finally, the paper of Boca, (2021) conducts a survey to measure students' attitudes towards e- learning in the pandemic time from the Technical University of Cluj Napoca. A questionnaire was distributed to a sample of 300 students. It was arranged in four sections to determine student's individual features, the student's needs, students' acquaintance in using virtual platforms and students' quality preferences for e- learning process. 78% of students expressed their satisfaction on e- learning classes in the pandemic period. A total of 41.7% percent of students valued the teachers' teaching efforts and the quality of E- courses, since the first weeks of the pandemic, and 18.7% percent of the students valued the supplementary online contents for education to reinforce their learning process.

3. The Research Problem

The aim of the present study is to examine and explore whether the instructional methods, approaches, and technological devices used to stimulate the attitudes of the students towards alternative distant learning and lead to advanced learning fulfilment. Through the students' attitude and level of satisfaction, the study focuses on the required enhancement and a stated pedagogical implication on how to reinforce the efficiency of the e - learning process.

The main task of educators in the critical time of the pandemic was to convert the traditional curricula and learning activities to a digital form. Consequently, preserving the quality of the delivery of the learning experience among the students. They also have to shift the learning materials to an e-learning environment rather than highlighting on the online pedagogy (Mohammed et al., 2020). Due to this sudden switch in Egyptian institutions, it is significant to examine and recognize the satisfaction and perceptions of the students towards their new implemented approach. In addition, exploring their experience in this learning method regarding the instructional pedagogy and technological media, moreover, the provided technical support by educators in order to convey the assigned content.

So, the present study intends to explore students' perceptions on four main features; the learning content, evaluation modes, interaction and communication meetings, in addition to technological devices that have been utilized and technical support in their alternative distant learning process.

4. The Questions of the study

The study problem can be summarized in the following questions:

1. What is the attitude of the students towards the online conveyance of learning content in Delta University (DU)?
2. What is the perception of the students towards the assigned online assessments that were conducted in DU?
3. Does online interaction and communication meetings influence on students' attitudes towards e-learning process?
4. What is the students' degree of satisfaction towards the e-learning approach in general?

5. Importance of the Study

The present study is expected to be of value for:

- Determining the probable development or variations required for the content and material conveying.
- Identifying the degree of satisfaction and students' attitude towards e-learning approach may aid the instructors to regulate the appropriate implementation of the course delivery and conveying method.
- Contributing to the future organization of higher education and sheds the light on the further path of e-learning activities.

6. Methodology

The current study was a descriptive one that is based on survey data collection to recognize students' attitude towards e- learning process during the COVID-19 pandemic period. This method is based on two types of tools; the questionnaire and the interview, which afford a significant basis of acquaintance and data for achieving the main aim of the current study. Through surveys, the students' needs and expectations of online learning bring in-depth understanding for the respective instructors and educators to further improve on the instructional approaches. Thus, the data collection for both the quantitative and qualitative studies on the research topic shall be obtained through the survey method. To serve the needs of this study, the cross-sectional survey is selected to obtain an overview of attitudes and satisfaction towards online learning.

6.1 Participants

A sample of 117 students of engineering freshmen students, who studied "English1" course in Fall semester of the academic year 2020-2021 were selected.

6.2 Instruments

The current study made use of the following instruments:

1. Students' questionnaire

The Attitude towards Online Learning Survey and the Online Course Satisfaction Survey was distributed via internet to the students between 15th October 2020 to 1st November 2020. E-mail requests were sent to the students, highlighting the aims of the study. It was hypothesized that they would take 15 - 20 minutes to complete answering the questions.

2. Interview

The interview data were collected through online calls and video meetings. A total of 15 students responded in the Attitude towards Online Learning Scale that they would participate in the interviews. The open-ended questions allow them to express their point of views simply.

7. Data Analysis

7.1 Quantitative Data Analysis

Data validation is conducted on the collected data by choosing a random sample of the completed survey. In the current study, the survey has reached 120 participants totally. Validations are carried out on 15 students who were randomly selected from the same faculty to investigate their responses to a set of questions as to prevent bad data from slipping into the data set. In addition, significant data checks and identifying any data points that may

affect the precision of the outcomes is conducted. During the editing process, answers from the students are estimated to ensure all parts of the questionnaire were responded. The next stage includes data coding of the collected data. Respective groupings and values were assigned to various responses from the survey.

This study is based on descriptive analysis for both the researcher- developed Attitude towards Online Learning Survey and the researcher-developed Online Course Satisfaction Survey. The data analysis summarized the data and direct patterns towards the results for all four study questions. Descriptive data are supportive of this study as the sample data is limited, but appropriate enough to offer an indication of how students respond through their perception and attitude.

7.2 Qualitative Data Analysis

The content analysis approach is chosen to examine the documented data in the form of texts and media. This is appropriate for the current study as it may analyze the accurate responses of the students towards the questions of the study. Firstly, the data are being run through numerous times to get acquainted with it. Data from the online voice call and video interviews through Zoom are then interpreted. The next phase includes the improvement of a context in which coding is applied to categorize the data collected. The scanning of main data for words and phrases which are most frequently applied by the participants supports to design and recognize the form and relationships. The respondents' reports were then coded and interpreted under the relevant themes. While all statements were classified in an arranged way, statements within each theme were grouped into sub-categories. At last, relationships and patterns between themes and each sub-category were further investigated for outcomes that would answer the questions of the study.

8. Results

The current study aims to recognize students' satisfaction and attitudes towards shifting the educational process from face-to-face technique to online approach, due to the COVID-19 pandemic effects. To fulfill this objective, the survey method is conducted to examine a total of 120 students' attitudes towards learning in a virtual setting. Since the study applied a mixed-method approach for the data collection, students are engaged in responding to the questionnaires for both Attitude towards Online Learning Survey and Online Learning Satisfaction Survey. Interviews are being applied on 12 participants of the same group of students to get an evident comprehension of the study results. Accordingly, the current study attempts to answer the questions as follows:

Study Question 1: What are the students' attitudes towards the online delivery of learning contents?

To answer this question, a descriptive statistic was conducted to show the data gathered from the sub-scale, Learning contents, of the Attitude towards E-learning Survey.

Table 1. Students' attitude towards learning contents

Item	SA	A	N	D	SD	Mean	Standard Deviation
1. The learning contents are well-arranged and delivered.	18.5%	76.5%	5%	1%	0%	4.13	3.61
2. I can simply access all the learning contents anywhere and anytime.	14.3%	81.2%	4.5%	1%	0%	4.07	3.54
3. The learning contents organized can meet the needs of my studies.	34.2%	62.8%	3%	0%	0%	4.33	3.81
4. I can realize the provided data with little guidance from my tutors.	21.5%	69.2%	5.1%	3.2%	1%	4.07	3.63
5. Tutors have given adequate and useful learning contents.	36.2%	60.8%	2%	1%	0%	4.38	3.85

* (Strongly Agree = SA), 4 (Agree = A), 3 (Neutral = N), 2 (Disagree = D), 1 Strongly Disagree = SD

Table 1 shows that students had the highest mean score for Item 5 ($M = 4.38$, $SD = 3.85$), with 36.2% strongly Agree and 60.8% Agree. The second highest mean score is Item 3 ($M = 4.33$, $SD = 3.81$), with a total number of 34.2% Strongly Agree, 62.8% Agree, and 3% in Neutral. The next highest mean score is Item 1 ($M = 4.13$, $SD = 3.61$), with 18.5% Strongly Agree, 76.5% Agree, and 4% Neutral. The following mean score is Item 4 ($M = 4.07$, $SD = 3.63$), with 21.5% Strongly Agree, 69.2% Agree, 5.1% Neutral and 3.2% Disagree; and the least mean score is for Item 2 ($M = 4.06$, $SD = 3.56$), with 14.3% Strongly Agree, 81.2% Agree, 4.5% being Neutral and 1% Disagree.

The data obtained from the interviews reveals an evident understanding of students' attitudes on how the learning contents being conveyed online and this approach will facilitate their learning process. The following is the report of the data analysis based upon interviews. Statements by all students indicated that the learning contents, including slides, reading text materials, and tutorial videos were inserted in the learning portal. Other extra learning materials related to the learning topic were added with additional links to the respective videos or websites.

Study Question 2: What are the students' attitudes towards online assessments?

To answer this question, the descriptive statistic was conducted to show the data gathered from the sub-scale, Assessments, of the Attitude towards e- Learning Survey.

Table 2. Students' attitude on Assessment

Item	SA	A	N	D	SD	Mean	Standard Deviation
1. I think that the task load given is relevant.	22.7%	73.9%	3.4%	0%	0%	4.18	3.69
2. I think that the assignments are appropriate and valuable for my course.	22.5%	70.1%	5.4%	2%	0%	4.16	3.68
3. I can preserve the path of and accomplish my assessments as they are well arranged.	13.9%	79.3%	4.8%	1%	1%	3.98	3.48
4. I believe that E assessments are more practical and easier as compared to proctored tests.	58.3%	40.5%	1.2%	0%	0%	4.56	4.07
5. I like how prepared the information and requirements of the E assessments being conveyed.	42.3%	53.8%	3.6%	1.3%	0%	4.38	3.87

* (Strongly Agree = SA), 4 (Agree = A), 3 (Neutral = N), 2 (Disagree = D), 1 Strongly Disagree = SD

Table 3 reveals that participants had the highest mean score for Item 4 ($M = 4.56$, $SD = 4.07$), with 58.3% strongly Agree and 40.5% Agree. The next highest mean score is Item 5 ($M = 4.38$, $SD = 3.87$), with a total number of 42.3% Strongly Agree, 53.8% Agree, and 3.6% Neutral. The following highest mean score is Item 1 ($M = 4.18$, $SD = 3.69$), with 22.7% Strongly Agree, 73.9% Agree and 3.4% being Neutral. The second least mean score is Item 2 ($M = 4.16$, $SD = 3.68$), with 22.5% Strongly Agree, 70.1% Agree, and 5.4% Neutral. Finally, the least mean score is for Item 3 ($M = 3.98$, $SD = 3.48$), with 13.9% Strongly Agree, 79.3% Agree, 4.8% being Neutral and 1% Disagree.

From the data collected, it was clear that the majority of the students expressed a positive attitude towards e- learning process and assignments. Some reported that one of the changes for the fully online environment and assignments is the removal of hardcopy submissions. As a student reported, "It saves me the time to print and submit an extra hardcopy of my assignment". Another one indicated that "Online assignments are totally useful and practical for me. As multiple slight tasks are specified throughout the semester, I can continuously be keeping myself activated and effectual in finishing my tasks." Another student added, "The flexibility of online tasks has become a plus point for me where I can manage it on my own pace".

Study Question 3: Does online communication affect students' attitudes towards online learning?

Descriptive data were used to explain the data collected for the sub-scale, Online Communication, of the Attitude towards Online Learning Survey.

Table 3. Students' attitude towards online communication

Item	SA	A	N	D	SD	Mean	Standard Deviation
1. I become more cooperative and interactive in online meetings than in face-to-face classes.	18.5%	52%	25%	4.5%	0%	3.78	3.37
2. I prefer the flexibility of online discussions with my peers and tutors.	40%	55%	3%	1%	1%	4.37	3.87
3. I pay attention to my tutors online and obtain necessary feedback and instructions.	45%	50%	4%	1%	0%	4.41	3.91
4. The online communication with my tutors is so comfortable.	34.8%	63.2%	2%	0%	0%	4.36	3.87
5. I think that online classes have made the learning process more practical than a traditional face-to-face courses.	22.5	70%	6.5%	1%	0%	4.13	3.62

* (Strongly Agree = SA), 4 (Agree = A), 3 (Neutral = N), 2 (Disagree = D), 1 Strongly Disagree = SD

Table 3 revealed that students had the highest mean score for Item 3 ($M = 4.41$, $SD = 3.91$), with 45% strongly Agree and 50% Agree, 4% in Neutral rating and 1% Disagree. The next highest mean score is Item 2 ($M = 4.37$, $SD = 3.87$), with a total number of 40% Strongly Agree, 55% Agree, 3% Neutral and 1% Disagree. The following highest mean score is Item 4 ($M = 4.36$, $SD = 3.87$), with 34.8% strongly Agree and 63.2% Agree. The second least mean score is Item 5 ($M = 4.13$, $SD = 3.62$), with 22.5% Strongly Agree, 70% Agree, 6.5% Neutral and 1% Disagree. The item with the least mean score is for Item 1 ($M = 3.78$, $SD = 3.37$), with 18.5% Strongly Agree, 52% Agree, 25% being Neutral and 4.5% Disagree in rating.

Moreover, the data retrieved from the interviews presented the forms of communication platforms students used and their beliefs on the helpfulness of the respective online communication towards their learning. The following is the report of the data analysis based upon interviews addressing the online communications platforms utilized and how it helps students in their learning.

All of the participants reported that Microsoft Teams and Zoom are the two communal online live active platforms being used for their online learning. As a student mentioned, "We used a lot the Microsoft Teams for live lecture classes apart from video recordings where we can have live interactions with peers and tutors". Another one stated that, "I involve in Microsoft Teams all the time for my online group meetings where we can perform voice discussion in real-time". Students stated their gratefulness for the real-time interaction and communication they can have through Microsoft Teams, as a student mentioned, "It is effective for me to finish my learning requirement if were to compare with face-to-face classes since we get to gather virtually have a real-time conversation with our colleagues". Another one also stated, "I like the real-time chatting session and voice call

with instructors and peers in Microsoft Teams as I can get immediate responses and explanation for my learning issues”.

Study Question 4: What is the students’ course satisfaction towards E-learning approach?

Table 4. What is the students’ course satisfaction towards E-learning approach?

Item	SA	A	N	D	SD	Mean	Standard Deviation
1. I am satisfied with the course contents	28.4%	61.2%	10.4%	0%	0%	4.18	3.71
2. I am satisfied with the course tasks.	29.4%	64.7%	4.2%	1%	0%	4.24	3.76
3. I am satisfied with the workload assigned.	22.7%	72%	5.3%	0%	0%	4.42	3.92
4. I am satisfied with the assessment techniques.	42.2%	56.8%	1%	0%	0%	4.43	3.92
5. I am satisfied with the interaction between the lecturers.	36.2%	61.8%	1%	1%	0%	4.38	3.86
6. I am satisfied with the online communication between my peers.	21.6%	48.5%	21.6%	7.3%	1%	3.86	3.43
7. I am satisfied with the tools being performed (video, audio, downloaded files).	29.8%	65%	2.2%	1%	1%	4.27	3.79
8. I am satisfied with the course management system.	25.7%	72.3%	2%	0%	0%	4.26	3.76
9. I am satisfied with the available technical support.	18.6%	59.8%	18.5%	2.1%	1%	3.97	3.52
10. I prefer online learning, comparing to face-to-face classes for this course.	22.6%	71.4%	4%	1%	1%	4.19	3.67
11. The online course efficiently offers the desired learning outcome.	23.5%	71.3%	3.2%	2%	0%	4.21	3.68
12. Totally, I am satisfied with the online learning course.	16.4%	76.4%	6.2%	1%	0%	4.09	3.58

* (Strongly Agree = SA), 4 (Agree = A), 3 (Neutral = N), 2 (Disagree = D), 1 Strongly Disagree = SD

Table 4 shows the descriptive data of students’ course satisfaction on E- learning which answers the study question. In response to online course satisfaction- based questions, approximately (90%) of the total students are satisfied with the given course contents, while 10% remained neutral. In addition, a great number of them (94%) expressed their gratification with the course tasks and 4.2% showed a neutral response, beside 1% disagreed. Moreover, 95% are satisfied with the workload assigned for their respective courses while 5% stayed neutral; 99% of them are well satisfied with the assessment techniques.

While all students indicated positive satisfaction for the communication modes between them and their lecturers, with 36.2% Strongly Agree and 61.8% Agree on the item. Approximately (70%) expressed their satisfaction towards the online communication between peers, 21.6% remained neutral, and 8% revealed their dissatisfaction. Consequently, (95%) of them showed satisfaction with the used technological devices like live streaming, video, and audio files. On the other hand, 2.2% of students stayed neutral and 2% displayed

dissatisfaction. 98% of the total number revealed their satisfaction with the course management system. 80.% of them also are satisfied with the provided technical support, while 18.5% stayed neutral, and 2.1% showed dissatisfaction. Finally, approximately 94% of them showed their satisfaction towards E- learning and prefer it rather than face-to-face learning, and 4% of them stayed neutral. Totally, 93% of students showed satisfactions with online learning and preferred this mode of learning.

In the other hand, there were some students who brought up their concerns and are less satisfied with the features of the E-learning process. One of them indicated that “I have a bad internet connection and I can’t access to join in some live course tasks” while another stated, “Internet is frustrating at times to constantly reconnecting myself during live broadcast activities”. In addition, a student reported that, “I can’t motivate myself to work hard and I get distracted simply at home as compared attending a to face to face communication meetings”. The last one added that, “I missed face to face meetings and interaction with colleagues and tutors on campus. It just doesn’t like the equivalent in a virtual environment”.

9. Discussion

The COVID-19 pandemic has caused a profound challenge in which the learning and curriculum tasks are to be turned online while keeping the quality of the conveyance of the learning experience among the students in distance education.

Consequently, the main purpose of the current study is to explore and examine whether the instructional approaches and technological techniques performed to impact the attitudes of the students towards alternative remote learning and lead to learning satisfaction. This part analyses the summary results of the specific questions about the study and linking them with relevant literature. It also focuses on the likely reasons for accomplishing certain findings in this study and the reasonable implications of the study results for professional application. Lastly, recommendations for further studies are provided.

9.1 Learning Contents

The encouraging attitudes of the students towards the learning contents might be because they practiced an operative and informative learning method. They thought that the provided learning materials by their lecturers is appropriate for their learning needs. This demonstrates that students received sufficient learning materials support for learning which indeed has matched the needs of their studies.

This item indicates that students will be able to achieve their study needs if adequate information and learning materials are provided in an arranged manner. Moreover, they found the arrangements and delivery of the

learning contents of the learning portal is well-organised as they were able to search for any respective information simply.

The current study results also show students' encouraging attitudes towards the technique of conveyance for the learning contents. They revealed a positive awareness in the use of pre-recorded instructional videos in delivering knowledge and learning issues. The results revealed similarity to Osman's (2020) study where students indicated a high insight of the quality and clarity of the recorded lessons and e-learning contents.

These findings do reflect on the results from Ullah, Khan, & Khan' (2017) quantitative study in which students expressed negative attitude in comprehending e-learning contents without getting acquainted with relevant direction. Some students revealed an undesirable perception of being able to engage with the learning materials at a flexible time and place which is most likely due to having limited access to internet services. In addition, they were mentioning on maintaining their attentive degree in viewing long, repetitive videos.

9.2 Assessments

The findings of the present study reveal the high constructive attitudes of the student towards involving in online assessments, as they are more operative and relaxed when compared with the traditional tests. The results were reinforced by their clarification in the interviews. Most of them who performed the traditional tests before, preferred the performance of online tasks or activities due to the flexibility where they are permitted more freedom in searching for information for their write-ups. The open book test approach has grown the student, encouraging support since the mode itself emphasizes on little to non-memorization of concepts and facts. The replacement of traditional tests with tasks, assignments, or open book exam can be seen as other selections to evaluate students learning about different issues. They also reported that the flexibility of having the measurement online in which they can organize their assignments at their own way. These results reveal similarity to Damsa, Nerland, & Andreadakis's (2019) study on allowing students to arrange and monitor their learning tasks according to their own manner.

Students also had a positive attitude towards the given activities that are appropriate and suitable for their courses. Some of them in the contrary, showed their desire for the in-person presentation format for their assessments than the online model which was comprehended with Kamarianos et al. (2020) survey. The lack of physical occurrence while the virtual attendance in the artificial work made students felt online presentations is unusual.

9.3 Online Communication

In the present study, the participants showed their satisfaction with the ability to reach out to the lecturers online while getting adequate response and feedback, in addition to communicate easily with them. The immediate reactions from the tutors are significant, particularly in learning to afford quality care for the students and support in giving problem resolution. They also revealed their gratefulness for the flexibility of online communication with colleagues and lecturers via synchronous or asynchronous communication in their learning environment. Moreover, students showed their positive attitudes towards the use of live interactive platforms for synchronous learning and interaction such as Zoom and Microsoft Teams applications. The findings indicated similarities in Osman's (2020) study. Students Also stated that live streaming not only provides synchronous communication, but also creates a sense of community while networking. These outcomes came close to Srinivasan's (2020) study.

In addition, students appreciated the design of online study groups among them, which can encourage each other during the learning process. The focus on the deficiency of the use of the discussion settings had been clarified by students during the interviews. The number of participants who involve in the discussion forums of the learning portal is low. This might be due to the worries of a person, the idleness of the section which fails to prompt other students to partake, or the cultural practice of students to remain soundless in general discussion.

The outcomes of the present study come different from the study of Gautam & Gautam (2020) and Kamarianos (2020) where students found that online courses are less operative due to the lack of face-to-face communication. They also demonstrated negative attitudes due to the low level of communication. But it is encouraging to fulfil a positive perception in the current study, as the participants thought that online classes have made learning more effective than a face-to-face communication. In addition, the great number of them revealed positive attitudes towards the fact that online meetings have made them more collaborative and interactive than in a physical class.

9.4 E- Learning Satisfaction

The e- learning experience in Delta University has reflected a great degree of satisfaction among students. This is due to many reasons based on the learning process. Firstly, the replacement of traditional test to open book exams, online practices and assignments. Students felt free to accomplish their assessments in a flexible way as compared to exams in the campus in which they are being monitored throughout the sessions.

Secondly, they indicated that they would prefer online courses than face-to-face lessons if were given the option to choose from their courses as online learning provides more flexibility throughout their learning timetable.

Students are given the flexibility to get arranged for every lesson as going to campus is entirely constrained during the period of the pandemic, thus saves up on the traveling time.

Additionally, the present study reveals the students' satisfaction with the learning contents, course practices, and the number of assigned activities during their online learning. The outcomes indicated an agreement with Hammouri and Abu-Shanab's (2018) study, declaring how the quality of the information and appropriateness of materials may impact on students' satisfaction. The accessibility in retrieving the learning content and the ability to accomplish their work entirely online are some of the supporting features for their acceptable claims for learning courses and practices. Moreover, the introductions of simulation learning activities have attracted students' interest in learning even more. The application of simulation will be engaging and operative in students' learning with appropriate learning content.

These points correspond to Dziuban et al. 'S (2015) and Cole, Shelley, & Swartz's (2014) studies in which they verified that technological communication with students is an essential issue, particularly in the critical periods.

Consequently, the learning method and technology used by the lecturers played a significant role in creating a high online learning satisfaction among students. The findings of this present study showed students' high acceptance to the interaction with their lecturers. This has confirmed the practical participation of the lecturers and attention in organizing and communicating with fellow students in meeting their study needs.

However, some students revealed contradictory outcomes for this type of interaction between them. The reason for this might be the cause of the inaccessibility or troublesomeness to reach out to their classmates due to lack of interest in learning or internet connection issues. This brings up another concern for the students, internet service, and connection. It has come to the point where internet connectivity is an essential element that warrants student's ability to learn smooth in accessing all learning materials and practices.

10. Limitations of the Study

The current study is limited to some items. Firstly, the lack of a constant number of students might indicate less accurate and inadequate information to represent a broader generalization from the outcomes. Secondly, that some participants may have complexity to comprehend the listed items in the questionnaire which may lead to an incorrect response. However, the current study outcomes are still essential in helping instructors to determine and develop the conveyance of e- learning to match the need of students throughout the emergency distant learning.

11. Pedagogical Implications& Recommendations

Tutors and teachers of other faculties and universities can apply the integrated practices from this study. The several pedagogical approach and technological performance presented in this study outcomes is effective in online settings which can reinforce students' learning experiences. These outcomes may be used as a guide for other practitioners in tertiary education on how to approach and organize the learning contents, measurements, interactions, technological devices and technical supports.

The curricula designers should consider the opportunity to integrate e- learning technology for the whole education system where the technology may improve the process of teaching and learning. Moreover, they should also pay more attention to the methods of assessments due to the critical circumstances. They may comprehend whether proctored tests are still relevant as learning assessments in the future, and should they be substituted by other measurement techniques. Lastly, the internet service providers and technical support engineers should afford a more stable internet connection and services for the users which permits students to have a stable and uninterrupted e- learning experience.

12. Conclusion

According to Sandars et al. (2020) declared that online learning a collection of online learning modalities and technologies, instructors and practitioners should integrate relevant instructional pedagogies and strategies through the use of modern technologies to ensure not only the continuous delivery of learning courses but also for a better and effective learning experience.

The current study is an investigative one since there are limited experimental studies available for direct support. Future studies should reproduce by utilizing a several populations and by monitoring different variables. They also should focus on determining what combination of instructional pedagogy and technological devices is the most operative for what faculty of students in their e- learning environment. Consequently, future studies should include a larger sample with varying levels and methods of pedagogical approaches with the incorporation of technology in class. The contribution of the present study may be considered for future research to establish a context in which a positive and flexible e- learning setting may be constructed and also promoting e-learning efficiency in a virtual environment. Since pedagogical researches have been enthusiastically encouraging for operative ways and approaches in conveying effective learning during the critical period of the pandemic, well arranged learning contents and applicable communication among tutors and students must be present in an e-

learning atmosphere. E-learning should also feature substitute measurement approaches other than traditional exams.

The outcomes of the current study revealed that learning contents, measurements, interactions, and technological approaches with the sufficient technical support had essential effects on students' attitudes. It was also indicated that these features were all related to students' course perception and satisfaction. The conducted interviews in this study showed the extents of students' satisfaction corresponded with the four essential elements of focus in the current study. It also contributed to areas of practice by investigating students' attitudes toward e-learning from different elements and features.

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