The Teaching and Learning Practices
in Online Learning

Jovert Sebastian

Teacher Education Area
School of Education, Arts, and Sciences
University of Saint Louis
Tuguegarao City, Philippines

Joan Dulin

Teacher Education Area
School of Education, Arts, and Sciences
University of Saint Louis
Tuguegarao City, Philippines

Loverniel Licupa

Teacher Education Area
School of Education, Arts, and Sciences
University of Saint Louis
Tuguegarao City, Philippines

Herbert S. Corpuz

Academic Dean
School of Education, Arts, and Sciences
University of Saint Louis
Tuguegarao City, Philippines

Abstract— **This descriptive study was conducted to assess the teaching and learning practices in the online modality of one private higher education in Northern Philippines. Four hundred three (403) students across all the departments participated in the study through an online survey. Results reveal that effective teaching and learning practices are observed in the online learning of the university. In addition, a significant difference exists in the assessment of the respondents on the teaching and learning practices in the online learning of the university when grouped according to profile variables, specifically along year level and department. The study concludes that effective teaching and learning practices are being employed in the online learning of the university. Teachers employ effective course design and pedagogical practices.**

Keywords— Online Learning, COVID-19 Pandemic, Higher Education, Flexible Learning

I. INTRODUCTION

Corona Virus Disease 2019 (COVID-19) has affected all spheres of life, including the field of education (Dwivedi et al., 2020). The virus that started in Wuhan, China was declared a pandemic because it keeps spreading globally at an accelerated rate (World Health Organization, 2020). Preventive measures such as the mandatory wearing of facemasks and face shields, social distancing, and closures of schools were imposed to ensure the safety of every individual (Adebisi & Oyeleke, Law et al., 2020; Kulkami et al., 2020). This outbreak has brought challenges to school administrators of public and private schools in the Philippines (Commission on Higher Education, 2020). The sudden transition from face-to-face learning to alternative learning modalities, such as online and modular learning, is the most common challenge brought about by the COVID-19 pandemic. Online learning is considered the more utilized learning modality of the two popular learning modalities, especially among private higher education institutions (Hasan & Khan, 2020; Mseleku, 2020).

The rapid advancement of technology has made online learning easy (McBriend et al., 2009). Online learning is defined as the acquisition of skills and knowledge through the internet and electronic gadgets (Fatma, 2013). Online learning can be classified as synchronous and asynchronous (Yamagata-Lynch, 2014; Chung et al., 2020; Malik & Fatima, 2017). In synchronous learning, teachers and students have a live and real-time discussion. On the other hand, asynchronous learning can occur at different times and spaces. Students are given a timeframe to finish their learning tasks or activities at their most convenient time (Lowethal et al., 2017; Wang & Wang, 2020; Joaquin et al., 2020).

In the Philippines, higher educational institutions launched their own online learning platforms and ventured into learning management systems in response to COVID-19. They resorted to remote online learning, which combines synchronous and asynchronous activities using a learning management system and other online learning platforms (Joaquin et al., 2020). The University of Saint Louis, a CICM Catholic educational institution in Cagayan Province, has also adopted flexible learning modalities to cater to its students' academic needs and continue its mission in providing quality education. The school has four flexible learning modalities: Full-online, Blended Learning, Printed module, and E-module. Among the four modalities, the full online learning modality has the most number of enrollees. Further, the school uses a Learning Management System (LMS) as the primary platform for delivering instructions, giving and submitting learning tasks, and conducting simultaneous major examinations. Each student and teacher has a unique account to access the LMS. Also, students are exposed to different online learning platforms such as Zoom, Google Meet, discord, and Facebook Messenger.

However, despite the importance of implementing online learning during the COVID-19 pandemic, students still encountered many challenges. The biggest challenges students have experienced are poor internet connectivity and limited

broadband data (Ching et al., 2020; Reyes-Chua et al., 2020). Also, lack of resources and technological devices, technological skills and competencies, readiness towards online learning, and doing assessments in online learning are other issues that hinder students in this type of learning modality (Demuyakor, 2020; Dhawan, 2020). Furthermore, another major issue students face in online learning is their mental health status (Lathabhavan & Griffiths, 2020; Mamun et al., 2020). Lack of technical devices to access online materials greatly affects students' academic performance, which can cause students to commit suicide if not addressed immediately with proper interventions (Lathabhavan & Griffiths, 2020; Lazarevic & Bentz, 2020). With this, it is important to assess the online learning modality of higher educational institutions, especially their teaching and learning practices, so that schools can reflect on the strengths and weaknesses of online learning. Hence, this study was conducted.

II. METHODS

This study employed a quasi-experimental research design. It utilized a quantitative type of research, specifically a descriptive method. This study was conducted at the University of Saint Louis, Tuguegarao City, Cagayan. The respondents were the 403 students from the four college departments of the University enrolled during the second semester of the School Year 2020-2021 in an online learning modality and were selected using stratified random sampling.

Table 1. Total Number of Respondents of the Study

Department	Frequency	Percentage
School of Accountancy, Business and Hospitality	96	23.80
School of Engineering, Architecture and Information Technology Education	146	36.20
School of Education, Arts and Sciences	80	19.90
School of Health and Allied Sciences	81	20.10
Total	403	100.00

A questionnaire with three parts was utilized in the study. The first part of the questionnaire consists of items describing the respondents' demographic profile, which includes the following variables: gender, department, and year level. The second part of the questionnaire involves the technologies used by the respondents for online learning, which include the devices used in online learning, the number of e-learning platforms for online learning, and the source of internet connection. Lastly, the third part of the questionnaire measures the assessment of students on the teaching and learning practices in the online modality of the university. Questions were based on the National Standards for Quality Online Courses: Third Edition, 2019. The tool consists of 20 items divided into two dimensions: course design (10 items) and pedagogical practices (10 items). Respondents assessed

the items from 4 (Strongly Agree) to 1 (Strongly disagree). A reliability test using the internal consistency approach was conducted to determine the validity and appropriateness of the questionnaire. The test revealed the following reliability values: 0.945 for course design and 0.963 for pedagogical practices. The reliability values revealed that the questionnaire is valid and appropriate.

Data were analyzed using the following statistical tools: Frequency counts and percentage were used to describe the demographic profile and technologies used by the respondents in online learning. Weighted mean was used to assess the teaching and learning practices in the online modality of the university using the following range and qualitative descriptions:

Range	Qualitative Description
3.50 – 4.00	Highly Practiced
2.50 – 3.49	Practiced
1.50 – 2.49	Less Practiced
1.00 – 1.49	Not Practiced

III. RESULTS AND DISCUSSION

Table 2. Demographic Profile of the Respondents

Profile	Frequency	Percentage
Gender		
Male	161	40.00
Female	242	60.00
Total	403	100.00
Department		
School of Accountancy, Business and Hospitality	96	23.80
School of Engineering, Architecture and Information Technology Education	146	36.20
School of Education, Arts and Sciences	80	19.90
School of Health and Allied Sciences	81	20.10
Total	403	100.00
Year Level		
First Year	176	43.70
Second Year	122	30.30
Third Year	103	25.60
Fourth Year	2	0.50
Total	403	100.00

Table 2 shows the demographic profile of the respondents. It can be gleaned from the results that there are more female than male respondents of the study. Meanwhile, most respondents came from the School of Engineering, Architecture, and Information Technology Education. The least number of respondents came from the School of Education, Arts, and Sciences and the School of Health and Allied Sciences. Finally, the largest portion of the respondents

is currently in their first-year and is followed by the second-year and third-year students, respectively.

Table 3. Technology Used by the Respondents in Online Learning

Technology Used	Frequency	Percentage
Devices Used in Online Learning		
Smartphone	119	29.50
Desktop/Laptop Computer	82	20.30
Smartphone and Desktop/Laptop Computer	202	50.10
Total	403	100.00
Number of e-learning platforms for Online Learning		
1 e-learning platform	41	10.20
2 e-learning platforms	111	27.50
3 e-learning platforms	225	55.80
4 e-learning platforms	23	5.70
5 e-learning platforms	3	.70
Total	403	100.00
Source of Internet Connection		
Prepaid Data	325	80.60
Postpaid Data	73	18.10
Both Prepaid and Postpaid Data	5	1.20
Total	403	100.00

Table 3 shows the technology used by the respondents in online learning. It can be shown from the results that most of the respondents are using both smartphones and laptop/desktop computers for their online learning, followed by the students who are only using smartphones and other students who are only using laptop/ desktop computers in online learning. Moreover, more than half of the respondents have three e-learning platforms for online learning. Also, almost all of the respondents rely on prepaid data as their source of internet connection. This means that students have multiple means to accomplish their tasks in online learning. This implies that having more than one gadget makes students more productive and can accomplish their online learning tasks more quickly. This supports previous claims that mobile devices such as mobile phones and laptops have increased drastically and are widely used in online learning (Iqbal & Qureshi, 2012; Baczek et al., 2020). Furthermore, smartphones and computers play essential roles in the academic activities of distance learning students (Adnan & Anwar, 2020).

Meanwhile, more than half of the students have three e-learning platforms for online learning. Generally, the most common e-learning platforms used for online learning are Zoom, Google Meet, and Facebook Messenger. These are the most common online learning applications because they can be used for free, and their features are easy to understand. In Messenger, students can easily access their teachers and fellow students. Also, teachers utilize Google Meet and Zoom in giving lessons through video conferences. This can also be attributed to the fact that teachers are utilizing these platforms to deliver their instructions and to communicate with their students. Other applications for online learning also include discord, Microsoft Teams, and Viber. This means that teachers have varied ways to deliver instructions to their students in online learning. Moreover, having multiple online learning applications can also enhance the interaction of students and teachers in an online learning environment. The findings in the present study are consistent with the findings of a previous study, which revealed that the utilization of different online learning applications is significant in online learning because video conferences are vital as they could substitute the physical interaction with their teachers and colleagues (Reyes-Chua et al., 2020).

Finally, the results revealed that most students rely on prepaid data, and many still do not have a postpaid internet connection. The finding of the study is consistent with the result of a previous study, which revealed that the students in the university rely on the usage of prepaid data (Fabito et al., 2021). It implies that students still do not have a postpaid plan because before the pandemic, online learning is just optional among education institutions in the Philippines. Also, most of the students rent rooms and apartments and rely more on loading their phones, broadband, or pocket Wi-Fi. Further, it also implies a lack of telecommunications company service, especially in far-flung areas, that resulted in the limitation in internet connection of some students. The result of a recent study revealed that the archipelagic characteristic of the Philippines brings additional challenges in the construction of cell towers for connectivity, especially in far-flung areas (Salac & Kim, 2016). This demonstrates that internet access in certain parts of the country is still inconvenient for online learning.

Table 4. Assessment of the Respondents on the Teaching and Learning Practices in the Online Learning of the University

Dimensions	Mean	Qualitative Description
Course Design	2.96	Practiced
Pedagogical Practices	3.04	Practiced
Overall Mean	3.05	Practiced

Table 4 presents the level of implementation of teaching and learning practices in the online learning of the University. It can be gleaned that effective course design is being practiced in the online learning of the University. Specifically, the content and learning activities of online courses promote the achievement of stated learning objectives or competencies. Courses also provide learners with various content options that promote mastery of content, and the objectives or competencies are measurable and clearly state what the learner will be able to demonstrate as a result of completing the course. Also, online course design includes activities that guide learners toward promoting ownership of their learning and self-monitoring. The instructional materials and resources are also effective, engaging, and appropriate,

and the online course is organized by units and lessons that fall into a logical sequence. Lastly, respondents observed that online course provides learners with multiple opportunities based on learner's needs and engages learners in various ways, such as learner-instructor interaction, regular feedback about learner progress, and opportunities for learner-learner interaction. The results revealed that effective course design is being practiced in the online learning of the university as observed and assessed by the students. Specifically, objectives and learning outcomes are communicated to the students. Furthermore, teachers utilize various content options and learning activities geared toward attaining the course's objectives. Thus, teachers consider the characteristics of good course design, such as clear course objectives, good alignment between course objectives and assessments, consistent module structure, various assignments, and learning activities. This is consistent with previous studies claiming that clearly stated and sequenced learning objectives and relevant assessments constitute a good course design in online learning (Baczek et al., 2020; Reyes-Chua et al., 2020). This also supports the studies conducted, highlighting that a sequence of activities, required resources, and timing should be carefully determined and planned to ensure good course design in an online learning environment (Ching et al., 2020; Iqbal & Qureshi, 2012). The course's trajectory should be clearly laid out for the students, and content should be presented in a meaningful manner throughout the course (Allen et al., 2013). Finally, the findings of the study imply that course design constitutes three essential factors: specific course objectives and descriptions, effective and varied course materials, and interaction between teachers and students.

In addition, the results revealed that good pedagogical practices are also employed in the online learning of the University. This means that teachers in an online learning environment utilize various effective teaching pedagogies. Specifically, multiple technologies are used to foster quality interaction. Different instructional strategies are used to address students' various learning styles, and multiple delivery methods are used to connect with students. Likewise, learner-centered strategies that encourage active learning, interaction, participation, and collaboration are utilized in the course. Various assessment techniques and interactive activities geared toward learning and engagement are used to promote learner-centered engagement. Lastly, rubrics that clearly define expectations for varied levels of proficiency are created and shared with learners. In general, the University is practicing effective teaching and learning practices in its online learning. Good course design and pedagogical practices are being utilized. This means that teachers modify their teaching styles to effectively teach in an online learning environment. Further, teachers utilize student-centered pedagogy, and the material is presented in various ways so students can capitalize on their preferred learning styles. Thus, to successfully move from conventional pedagogies to active online learning pedagogies, teachers must change their teaching styles and adopt new skills to effectively reach

distant learners (Allo, 2020; Coman et al., 2020). It can be claimed that an online learning instructor prepares the course material via several strategies to suit the various learning styles of students (Lathabhavan & Griffiths, 2020). This will ensure that the diverse needs of the students are being addressed in online learning. Likewise, the study revealed that assessment procedures are essential to good pedagogy. Different assessment methods should be used among students in an online learning environment; well-crafted rubrics should be communicated to the students (Lazarevic & Bentz, 2020; Fabito et al., 2021).

IV. CONCLUSION AND RECOMMENDATIONS

The study concludes that effective teaching and learning practices are being employed in the online learning of the university. Teachers employ effective course design, which constitutes clear and specific learning objectives and course outcomes, good alignment of activities to the learning objectives and course outcomes, logically organized lessons, and interaction between teachers and students. Furthermore, teachers are also utilizing various student-centered pedagogies that cater to the various needs of students. Teachers also use different assessment procedures and incorporate the use of rubrics to assess students' outputs.

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