

Effectiveness of Emerging Post Covid Teaching Approaches in Partido State University

Mariel R. Estrella

Partido State University, Philippines

Abstract: Today's pandemic changed the educational landscape in the Philippines. In Partido State University, covid-19 paved the way for new teaching approaches. The traditional face-to-face teaching suddenly shifted to online teaching. This study determined the emerging post covid teaching approaches, instructional strategies used by teachers, the challenges encountered by teachers and students, and the level of effectiveness of the teaching approaches. The study employed a descriptive research design and it used a survey questionnaire in google form to gather data from 52 teachers and 263 students in the seven campuses. The emerging post covid teaching approaches in Partido State University were the use of online learning approach indicated by 46 respondents, Teacher-Student Consultation by 38 respondents, and the "flipped classroom" by 34 respondents. To support the teaching approaches, teachers used instructional strategies. These were sharing learning resources to the students (48 respondents), use of flexible assessment policy (39 respondents), and asking the students more questions during synchronous classes (30 respondents). Despite the efforts to perfect the new teaching approaches, respondents were found to be constrained by some challenges. For both respondents, the common challenge encountered was the slow internet or unstable connection. Effectiveness of these emerging post-covid teaching approaches were measured through the presence of online sources, student engagement, technology, and presence of supplemental interventions. Among these, the use of technology to facilitate the teaching approaches was high among teachers with an average weighted mean of 3.39. On the other hand, for students, the post-covid teaching approaches was high in student engagement with 3.27 average weighted mean. With these findings, the study recommends the following 1.) ensure a more stable and stronger internet connection in the campus, 2.) train the students thoroughly in the new learning management system, and 3.) make online resources available.

Key Words: Post-covid teaching approaches, challenges of online learning, effectiveness of online learning

I. INTRODUCTION

Teaching approaches change over time. The covid-19 pandemic changed the traditional face-to-face learning to flexible or online learning. It redefined the role of educators as online facilitators of knowledge and skills acquisition. This pandemic cannot compromise the knowledge and skills which the students need to develop. According to the World Economic Forum (WEF) as the role of educators evolves in this pandemic, they should give emphasis on the development of skills on "creativity, communication and collaboration, alongside empathy and emotional intelligence; and being able to work across demographic lines of differences to harness the

power of the collective through effective teamwork." The 21st century education allows the students to acquire the knowledge and skills through online sources. The International Commission on the Futures of Education (2020), in fact, articulated the nine concrete actions to advance education as embodied in UNESCO's 2030 Agenda for Sustainable Development. One of the concrete actions is to make free and open source technologies available to teachers and students. This emphasizes the need for open educational resources and open access digital tools in education. This will make online teaching easier in this transition period where teachers and students navigate the new normal.

The Commission on Higher Education (2020) citing SEAMEO defines Flexible learning as a pedagogical approach allowing flexibility of time, place and audience including, but not solely focused on, the use of technology. Although it commonly uses the delivery methods of distance education and facilities of education technology, this may vary depending on the levels of technology, availability of devices, internet connectivity, level of digital literacy and approaches.

This study is envisioned to provide the university with information on the emerging teaching approaches used during the pandemic and their level of effectiveness. Findings of this study is an input for teachers on how to be effective regardless of the situation and circumstances. It is the intent of this paper to document the challenges met in online teaching-learning so that proper solutions may be recommended.

Research Objectives

General objective

The primary objective of this study was to determine the level of effectiveness of the online teaching approaches used in the covid 19 pandemic in Partido State University.

Specific Objectives:

To identify emerging teaching approaches and instructional strategies used in Partido State University after the covid - 19 pandemic.

1. To determine the challenges in online learning as experienced by teachers and learners, and
2. To identify factors that can contribute to an effective online teaching approaches.

II. RESEARCH METHODS

This study is a quantitative research. Quantitative research is said to be the “process of collecting and analyzing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations.” (Bhandari, P. 2020, p.1).

The online questionnaire in google form was used on the 52 teachers and 263 students from all campuses of Partido State University namely; Goa, San Jose, Lagonoy, Caramoan, Tinambac, Sangay, and Salogon. The questionnaire used was subjected to Cronbach Alpha or Coefficient Alpha to measure the reliability or internal consistency of the multiple question Likert scale. In this study, a four-part questionnaire was used to determine the internal consistency. The presence of online resource materials consisted of 5 items ($\alpha = .91$), the student engagement consisted of 9 items ($\alpha = .88$), the technology consisted of 7 items (.88) and the supplemental interventions consisted of 6 items ($\alpha = .85$).

To gather data from the students, the researcher coordinated with the Director of Student Affairs and Services to use the online form through their group chat. Some teacher – respondents volunteered their class group chat (GC) to generate responses from their students. Other than using the online questionnaire, the researcher collected data in the campus during the enrolment period where some students were physically present.

Data sources were both primary and secondary data. Primary data were the responses of the respondents and secondary data were the related studies published in scientific journals, books, internet sources, and other reading materials.

Data gathered were tallied, collated, and analyzed using descriptive statistics.

III. RESULTS AND ANALYSIS

This section discusses the findings of the study based on the objectives.

Emerging teaching approaches in PSU

The sudden occurrence of the pandemic created a sudden but brief halt in the education sector. Data from the United Nations (August, 2020) show that covid-19 affected 1.6 billion learners in more than 190 countries worldwide. School closures created an impact on 94 percent of the students and up to 99 percent in low and middle-income countries. Since education cannot wait, this called for an immediate response on how to proceed with teaching and learning during the pandemic. The presence of online learning technologies made the change easier. The transition from face-to-face learning to flexible learning is where post covid teaching approaches began.

The study considered eight teaching approaches and the teacher-respondents identified their teaching approaches

that they found effective in interacting with students to deliver their lessons. Table 1 shows the emerging post covid teaching approaches in Partido State University. At rank 1 with 46 of the 52 respondents was the use of online learning approach. Kim (2020), in fact, predicted on the onset of the pandemic in the early part of 2020 that Online Education will become a strategic priority in every institution and a core to every school's plan for institutional resilience and academic continuity. And this shift from face-to-face learning to online learning practically changed the perspectives of the university administrators in managing the education system.

Thirty-eight (38) respondents signified that they use consultation type through messenger, email, or online tutorial. This is done to make up for the absence of students during synchronous classes because of poor connectivity. Teachers use their weekly consultation hour for the students set at the start of the semester. However, during the pandemic, students consult them anytime mostly through the class group chat (GC) in messenger. The duration of consultation done depends on the need of the student. This teaching approach is in support to online teaching.

A recent study can be used by Higher Education Institutions in Philippines. The collaborative study of Ayo, et. al. (2020) from three universities/college in Manila designed an online teacher-student consultation application which is considered an alternative approach to the traditional and face to face classes. The application was found useful because it immediately answers the students in their academic excellence, curricular, and extra-curricular concerns.

The third teaching approach used by 34 respondents is the use of “flipped classroom“ where they use recorded lectures, videos, open education resources, and quizzes. Arnold-Garza, S. (2014) citing Educause (2012) defined the two defining components of flipped classroom as “ moving the lecture outside of class, usually delivered through some electronic means, and moving the practical application assignments, formerly homework, into the classroom.” With this definition, it is the practice of some teachers to prepare the video recorded lessons ahead of time and send them in the Moodle Classroom. During class hours, the teacher meets the class to help them prepare and discuss the homework. Arnold-Garza (2014) further stressed that the features and benefits of this flipped classroom model promotes the efficient use of class time, ensures the participation of varied learners, focuses on problem-based learning, increases student-teacher interaction, and allows students to internalize and later transfer the skills to other situations. Latorre-Coscolluela et al. (2021) showed interesting experiences of higher education institutions on flipped learning. Their study revealed that flipped learning is highly effective in developing the 21st century skills among university students such as character building, collaboration, communication, citizenship, critical thinking and creativity. These skills are found important in their personal and professional endeavors.

Table 1. Emerging post covid teaching approaches in Partido State University.

Post-covid teaching approach	Frequency	Rank
Blended learning (reduced and minimal classroom and substantial online learning)	33	4
Online learning (no face-to-face classroom classes, use of google meet or zoom)	46	1
"flipped classroom" (recorded lectures, videos, open education resources, quizzes)	34	3
Teacher-student consultation through messenger, email, or online tutorial	38	2
Conduct of webinar series	2	6.5
"Ask an Expert"	1	8
Use of e-textbooks which incorporates video and audio clips, animations, and rich graphics	16	5
Self-directed modular outputs	2	6.5

Instructional strategies in online learning

The pandemic practically removed the face-to-face classes where our students have been used to over the years. The missing element of physical presence of both teachers and learners limits the interaction, attention, and the immediate feedback they experienced from the traditional setting. This study included choices in instructional strategies to engage the learners in online learning and to ensure maximum learning.

Persaud (2017) defines Instructional Strategies as "any type of learning technique a teacher uses to help students learn or gain a better understanding of the course material. They allow teachers to make the learning experience more fun and practical and can also encourage students to take more of an active role in their education." With this definition, the present study included instructional strategies that will enhance the teaching-learning environment of the respondents. The initial difficulty experienced in adopting the flexible learning decreased when the teachers adopted these strategies in their day-to-day teaching. This study adopted some of the methods recommended by Mahmood (2020) in her case study which purposely designed various methods for successful online classes in developing countries. Mahmood recommended maintaining slow voice and practicing vocal functions by teachers, sharing resources with the class, getting feedback from students, recording lectures, offering flexible teaching and assessment policies, and even partnering with telecommunication companies to ensure the smooth internet connections of both teachers and learners. These instructional strategies were found excellent tools in online classes.

Table 2. Instructional strategies used by teachers in online learning.

Instructional strategy	Frequency	Rank
Voice and pitch management. You keep your voice pitch high and you practice	7	5
Provide more student and teacher discussion in the class to achieve higher interactivity	6	4
Ask more questions to encourage student participation and attendance and improve their learning abilities.	30	3
Share learning materials to the class	48	1

The university lends laptops or tabs to the needy students	0	0
Bring modules or learning materials to the homes of stud who are far from the university	4	6
Use a flexible assessment policy	39	2

Results in table 2 show that from among the instructional strategies, 48 out of the 52 respondents indicated that one way to make online learning easier is to share learning resources to the students. This is their number one instructional strategy. The respondents acknowledged the fact that the students' challenge is the slow internet connection and finding online references is difficult. Hence, sharing with them through suggested materials or references in the modules ease the stress of the students and they are more active during online lecture and discussion.

The second instructional strategy adopted, as indicated by 39 respondents, is the use of flexible assessment policy. During the pandemic, the respondents were more flexible in giving assessments to accommodate the students. It is observed that in most actual online classes, only about one half of the students can attend the synchronous classes. Assessing them in real time affects the grades of those who submit late because of the inferior internet connection. Flexibility in the class is in the form of extending the date for submission of assigned tasks. This can be from two days to one week extension. Some teachers even leave open the deadline for assessment tasks to allow students to submit when their internet is available. Another flexible form of assessment is giving them the opportunity to submit group outputs instead of individual outputs so they have the time to process, understand, assimilate, and internalize the lessons. Forming small groups to discuss the assigned task make students acquire and retain lessons more. Teachers also give varied assessment methods such a Reflection Paper, Analysis Paper, Timeline, Infographics, and a lot more. As what Persaud (2017) stressed, when teachers use instructional strategies, they also benefit because they better monitor and assess student performance through different methods of evaluation. This also allows the creativity of students to flourish.

The third instructional strategy adopted by 30 respondents is asking the students more questions to encourage student participation and attendance and improve their learning abilities. Engaging the students in class discussion make them active and focused participants in the class. This strategy also relaxes them and they look forward to attending more real time classes. Through this strategy, the students make meaningful connections about their lessons and the real life situations. Mahmood (2020) citing Townsend et al. (2002) said that more student and teacher discussion can result in higher interactivity. Smith and Diaz (2004) discussing case studies and asking questions can result in higher student involvement.

Challenges in online learning as experienced by teachers and learners

Online learning was rarely used before the pandemic. However, when the pandemic occurred, the university immediately equipped the faculty with the skill in conducting this mode of teaching to facilitate the teaching-learning process. The physical distance between the teachers and the learners was resolved. As the online learning progressed, both teachers and students encountered some challenges. The institution cannot ignore these challenges because regardless of the circumstances and the teaching modality, it is mandated to deliver quality education. The institution's infrastructure must be ready, teachers and students must be equipped with the online technology, and online resources must be made available.

Table 3 shows that for the teacher-respondents, the primary challenge they encountered were in the module preparation and checking of modular outputs and exams indicated by 43 of the 52 respondents at rank 1.5 each. Comparing the traditional face to face and online learning, they expressed that it is more time consuming in online mode of learning. In online learning, the teachers do not merely teach based on the OBE syllabi but they have to prepare the online modules, activities, and assessment tasks. For teachers who want to reach the others asynchronously, they engage in "flipped classroom" by preparing video recorded lessons and making online resources available to students. These were not done during the face to face lessons. In online learning, there is greater effort for the teachers to deliver the lessons clearly because they rarely get the immediate feedback from their students unlike when they are in one classroom.

At rank 3 was the challenge on slow internet/unstable connection indicated by 34 teacher-respondents. For the past two semesters where teachers were allowed to work in a Work from Home arrangement (WHF) and later the Alternative Work Arrangement (AWA), the need for a strong internet infrastructure intensified. Whether inside or outside the university is never a guarantee for a smooth

synchronous class. While most teachers are located in Partido area, others are in Naga City and a handful are located in the other provinces of Bicol Region. The challenge on connectivity prevails particularly those with poor internet providers. The experience with the intermittent connections is that the class can never have 100 percent attendance.

It is acknowledged in many studies that teachers experienced challenges during this pandemic. Despite the odds, they have to be effective facilitators of online learning. Teachers need support to effectively perform their functions. In a brief published by World Bank (May, 2020), there are three core principles that must guide policies to promote teacher effectiveness and well-being during this pandemic. These are: 1. support teacher resilience, 2.) support teachers instructionally, and 3. support teachers technologically. By integrating these principles in school policies, the teachers can

perform and deliver well and can overcome whatever challenges that they encounter. This brief implies that teachers need strong support to manage the online teaching and to cope with the multiple tasks brought about by the pandemic. Their social and emotional well-being must also be given attention. Not being in a state of grace can hamper their role in facilitating teaching-learning process.

Table 3. Challenges experienced by teachers in online learning.

Challenge	Frequency	Rank
Requires so much time in module preparation	43	1.5
Checking outputs and exams takes so much of my time	43	1.5
Timely delivery of modules to students in remote areas	10	6
Slow internet/unstable connection	34	3
No laptop or desktop	5	8
Poor technological preparation	8	7
Very limited training for teachers on flexible learning	16	4
Difficult to search for online references	12	5
Others		
Students do not have internet signals	1	10
Students not ready for online activities	2	9

For the student-respondents, the primary problem is the slow internet/unstable connection at rank 1 as indicated by 240 out of the 263 respondents. At rank 2 was they cannot manage their time at home and studies with 112 respondents. At rank 3 was no technological preparation indicated by 87 respondents.

In Partido area where most of the respondents reside, there are three internet providers – Converge, PLDT, and Fiber. All of these have limitations in their connections. Slight to heavy rains affect the signal of these internet providers in the area. The study revealed that the respondents find it difficult to access internet in their homes and community. Some search internet signal on the streets or any open area where connections are stronger. Respondents are affected in coping with their academic work and commitments. Among the activities that they half attend and even totally miss are the online class discussions, uploading modular activities and taking quizzes.

One limitation as experienced by some students is that they cannot afford the mobile data as they rely on their parents' meager income for the day. It is observed that the marginalized are basically the group that is affected when the pandemic occurred. They were also brought away from the traditional face to face classroom setting and away from the close supervision and guidance of the teachers. A study in the Philippines by Barrot, et.al.(2021) revealed that financial difficulties affected the online learning of students. It is noted that during the pandemic, many parents lost their jobs and the students cannot afford the high cost of the internet data.

As to their challenge in dividing time at home and

study, it can be observed that students were used to face to face in school setting which was the traditional mode since they started schooling. During the online classes and while at home, they experience distractions. Some perform children roles and become preoccupied with household chores and errands which compete with their study time. Distractions at home can also be in the form of crying babies or noisy animals in the backyard. The same study of Barrot, et.al. in 2021 similarly mentioned that the main challenge to students was distractions in their learning environment. Distractions at home limit the students in the preparation and submission of subject requirements.

On the third challenge on no technological preparation, this may be attributed to the limited orientation in the use of the google classroom platform for half of the second semester and the A/Y 2020- 2021. And this problem was increasingly felt, for A/Y 2021-2022 when the moodle learning management system was introduced. It is noted that the students in school today are the Generation Z or the centennials born between 1997-2012. They are said to be the generation marked with the internet. However, the students' ease in using social media is a lot different with the online learning tools. In fact, the study of Ngampornchai, A. and Adams, J. (2016) revealed that while the student-respondents are extensively using gadgets for social media, they are unfamiliar with the e-learning tools which they need for their classes. Education-related technologies must be clearly introduced to the students to lessen their anxiety in online learning.

Literature shows that the common challenge of slow internet or unstable connection for the two sets of respondents is not only experienced in the Philippines but in most Asian countries too. The study of Amir, et.al. in 2020 in Indonesia clustered the challenges as internal and external factors. Similar to this study, the challenges encountered by the student-respondents were external such as unstable connection of internet and the extra allowance needed to access mobile data. Other similar internal responses were student readiness to the new learning method, time management and difficulties to focus while learning through the computer for a long period of time while they are home-based. In Pakistan as cited by Mahmood in the following studies, the same situation was found out. The major issue in online learning was the lack of IT infrastructure (Rafiq et al., 2020) and insufficient IT knowledge of faculty members and deficiency of electronic devices (Rafiq et al., 2020). Pakistani universities have Internet and equipment facilities available on campuses but these universities cannot provide students with these resources at their residence. Students cannot afford these facilities (Malik, 2020).

Table 4. Challenges experienced by learners in online learning.

Challenge	Frequency	Rank
Slow internet/unstable connection	240	1
No laptop/cellphone to use	74	5

Poor technological preparation	87	3
No training for students on flexible learning	56	6.5
I cannot connect with my teachers if I have questions	34	9
I cannot manage my time at home and studies	112	2
Timely delivery of modules in my home	11	9
I cannot meet the deadline for submitting modular outputs	56	6.5
Difficult to search for online references	75	4
My parents lost their jobs	49	8
<i>Others</i>		
Minimal budget/allowance intended for mobile data	4	10
Noisy environment/environmental disturbances	3	11
Poor signal when it is raining	1	13.5
I am a working student	1	13.5
I have a family problem (My parents are separated)	1	13.5
No laptop nor cellphone	2	12

Findings of this present study may imply that poor internet connection and other recurring challenges can lead to possible learning loss and an increase in dropouts. Students miss important online discussions, assignments, and assessment tasks. Difficulty in coping with the demands of the class may just compel them to drop and possibly wait when things go back to normal again.

Effectiveness of each teaching approaches

Effectiveness of teaching approaches was measured in four factors in online learning namely: presence of online sources, student engagement, technology, and supplemental interventions. Table 5 shows the level effectiveness of these factors for both teachers and students.

On the presence of online resources and materials, all statements were moderate. For both teachers and students, the *Links of online resources and materials can be easily shared* had a weighted mean of 3.25 and 3.01, respectively. For teachers, *Online resources and materials on a topic can be easily shared* and *There are available learning materials in slideshare form* had a mean of 2.86. On the other hand, for students, *There are available learning materials in slideshare form* had a weighted mean of 2.84.

This is supported by the direction of the 2030 Agenda for Sustainable Development as articulated by the International Commission on the Futures of Education of UNESCO are the nine concrete actions that are intended to advance education. Among this is to make free and open source of technologies available to both teachers and students. This will provide access to information on learning and they can explore more sources. Other than this, the Commission believes that they will develop less dependence on digital platforms offered by private companies.

Student engagement was measured along the cognitive, behavioral, and affective domains. For teachers,

student engagement is measured when *Students use higher order thinking in making modular activities or assignments* with a weighted mean of 3.51 interpreted as High. On the other hand, for students, they are most engaged when *they make use of their own knowledge when making modular activities or assignments* with a weighted mean of 3.44 interpreted as High. For both teachers and students these were high in the cognitive domain than behavioral and affective.

On the third factor Technology, teachers stated that *their students can express and relate with other classmates from real and virtual classes* had a weighted mean of 3.57 interpreted as High. On the other hand, for students, *Technology has stimulated the communication between the teachers and students by means of virtual environments* was High with a weighted mean of 3.33. These data imply that the use of technology greatly facilitated the interaction in the class. Thus, a good internet connection is always required.

The findings in Partido State University is similar to the study of Palaoag, T. et.al. (2020) which showed that of the 28 participating Higher Education Institutions in the Cordillera Region, 25 or 89.3 percent have been using the flexible learning system and majority of them have infrastructure support to pursue flexible learning. This means that Higher Education Institutions in the country are coping with the demands of online education. Interestingly, in

Thailand, Ngampornchai, A. and Adams, J. (2016) revealed that while the student-respondents are extensively using gadgets for social media, they are unfamiliar with the e-learning tools which they need for their classes. Education-related technologies must be clearly introduced to the students and the utilization of their gadgets for online learning must be emphasized. UNESCO, in fact, identified the use several learning platforms during the pandemic. Two of which are Google Classroom and Moodle. According to UNESCO, Google Classroom helps the classes to connect, communicate and stay-organized and Moodle is community-driven and has the potential of globally supporting classes in this pandemic. Google classroom was used by PSU in the early transition from face-to-face learning online learning while Moodle is now presently used.

The fourth factor on supplemental interventions were not necessarily made by most teacher-respondents. Specifically, teachers cannot extend class time because of fixed class schedules nor make the lesson pace slow because of the approved OBE syllabus for the course. Interestingly, however, both teachers and students acknowledge the *Use of technology in teaching* as an effective form of supplemental intervention. Teachers rated the statement 3.32 while students had 3.49 and both were interpreted as High. This findings corroborates with the above findings on the presence of technology as a factor of effectiveness in online learning.

Table 5. Level of effectiveness of the teaching approaches as perceived by teachers and students

Factor	Teacher-respondents			Student-Respondents		
	Weighted Mean	Qualitative Description	Rank	Weighted Mean	Qualitative Description	Rank
Presence of online resources and materials						
Available technological tools to search for online resources and materials	3.15	Moderate	3	2.90	Moderate	3.5
Specific online resources and materials on a topic can be easily accessed	2.86	Moderate	4.5	2.92	Moderate	1
Varied types of materials from different authors on the topic can be found	3.21	Moderate	2	2.90	Moderate	3.5
Links of online resources and materials can be easily shared	3.25	Moderate	1	3.01	Moderate	1
There are available learning materials in slideshare form	2.86	Moderate	4.5	2.84	Moderate	5
Student engagement						
Cognitive Students spend more time on projects that require analysis, collaboration and the synthesis of ideas.	3.01	Moderate	3	3.03	Moderate	3
Students use their own knowledge when making activities or assignments in the modules	3.25	Moderate	2	3.44	High	1
Students use higher-order thinking in making modular activities or assignments.	3.51	High	1	3.35	High	2
Behavioral Students ask more questions in the class.	2.23	Fair	3	3.08	Moderate	3
They actively participate in collaborative and group work	2.78	Moderate	1	3.27	High	2
They attend to online events, webinars, workshops, or extra- curricular activities related to the program.	2.76	Moderate	2	3.41	High	1
Affective Students are prepared for the	2.78	Moderate	2	3.39	High	1

lessons every meeting.						
They meet expectations or requirements in the class	2.92	Moderate	1	3.31	High	2
Students show emotional responses during online class interaction	2.13	Fair	3	3.22	Moderate	3
Technology						
Received trainings on online learning	3.05	Moderate	3	3.07	Moderate	3
Can express and relate with other classmates from real and virtual classes	3.57	High	1	3.23	Moderate	4
Teachers and students can reduce time when carrying out activities	2.90	Moderate	4	3.20	Moderate	5
Technology has stimulated the communication between the teachers and students by means of virtual environments	3.21	Moderate	2	3.33	High	1
New technologies satisfy knowledge interests on unknown areas for them, providing themselves new knowledge.	2.11	Fair	5	3.29	High	2
Supplemental interventions						
Teachers mentor/coach students on specific lessons	2.78	Moderate	2	3.16	Moderate	3
They expose students in webinars/lecture series	2.69	Moderate	4	3.40	High	2
Teachers extend class time	2.55	Moderate	6	3.09	Moderate	5
Presence of one –on-one and small group instruction	2.73	Moderate	3	3.10	Moderate	4
Overall lesson pace is adjusted to make it slow	2.65	Moderate	5	2.11	Fair	6
Teachers use technology in teaching	3.32	High	1	3.49	High	1

Legend:

3.26-4.00 -High

2.51-3.25 -Moderate

1.76-2.50 - Fair

1.00-1.75 - Needs Improvement

Table 6. Summary table on the level of effectiveness of the teaching approaches as perceived by teachers and students.

Factor	Teacher-Respondents			Student-Respondents		
	Average WM	Interpretation	Rank	Average WM	Interpretation	Rank
Presence of online resources and materials	3.06	Moderate	2	2.91	Moderate	4
Student engagement	2.81	Moderate	3	3.27	High	1
Technology	3.39	High	1	3.22	Moderate	2
Supplemental interventions	2.62	Moderate	4	3.05	Moderate	3
General WM	2.97	Moderate		3.11	Moderate	

Legend:

3.26-4.00 -High

2.51-3.25 -Moderate

1.76-2.50 - Fair

1.00-1.75 - Needs Improvement

Overall, table 6 shows that for teachers, using the teaching approaches was high in the use of technology with an average weighted mean of 3.39 and moderate in supplemental interventions at

2.62. On the other hand for students, they indicated that using the teaching approaches was high in student engagement at an average weighted mean of 3.37 and moderate in presence of

online resources and materials.

This findings implies that teachers cope well with the learning management system used by the university to effectively deliver the lessons to their students. For students, online learning fully engage them in the class but their slow and unstable internet connection constrains them to do extra searching for online materials.

REFERENCES

- [1] Amir, L. et.al. 2020. Student perspective of classroom and distance learning during COVID-19 pandemic in the undergraduate dental study program Universitas Indonesia. Research Article. BMC Medical Education. 20:392.
- [2] Arnold-Garza, S. (2014), "The flipped classroom teaching model and its use for information literacy instruction", *Comminfolit*, Vol. 8 No. 1, pp. 7-22, doi: 10.15760/comminfolit.2014.8.1.161.
- [3] Ayo, E., Montero,D., Dote,D., Villanueva,L., Verano, C. 2020. Development of Online
- [4] Teachers-Student Consultation Application. International Journal of Interactive Mobile Technologies (iJIM) – eISSN: 1865-7923. <https://doi.org/10.3991/ijim.v14i08.11284> Bhandari, P. 2020. What Is Quantitative Research? | Definition, Uses and Methods. <https://www.scribbr.com/methodology/quantitative-research/>
- [5] Barrot, J., Llenares, L., and del Rosario, L. 2021. Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. <https://link.springer.com/article/10.1007/s10639-021-10589-x>
- [6] Kim J. April 1, 2020. Teaching and Learning After COVID-19 Three post-pandemic predictions. <https://www.insidehighered.com/digital-learning/blogs/learning-innovation/teaching-and-learning-after-covid-19> Latorre-Coscolluela, C., Suárez, C., Quiroga, S., Sobradiel-Sierra, N., Lozano-Blasco,
- [7] R. and Rodríguez-Martínez, A. (2021), "Flipped Classroom model before and during COVID-19: using technology to develop 21st century skills", *Interactive Technology and Smart Education*, Vol. 18 No. 2, pp. 189- 204. <https://doi.org/10.1108/ITSE-08-2020-0137>
- [8] Mahmood, S. 2020. Instructional Strategies for Online Teaching in COVID-19 Pandemic. <https://onlinelibrary.wiley.com/doi/10.1002/hbe2.218>
- [9] Ngampornchai, A. and Adams, J. 2016. Students' acceptance and readiness for E-learning in Northeastern Thailand. https://www.researchgate.net/publication/308962767_Students'_acceptance_and_readiness_forE_learning_in_NortheasternThailand
- [10] OECD. 2020. The Impact of Covid-19 on equity and inclusion: Supporting vulnerable students during school closures and school re-openings. OECD Policy Responses to Coronavirus (COVID-19). <https://www.oecd.org/coronavirus/policy-responses/the-impact-of-covid-19-on-student-equity-and-inclusion-supporting-vulnerable-students-during-school-closures-and-school-re-openings-d593b5c8/>
- [11] Palaoag, T, Catanes, J, Austria, R. and Ingosan, J. 2020. Prepping the New Normal: The Readiness of Higher Education Institution in Cordillera on a Flexible Learning. <https://dl.acm.org/doi/10.1145/3416797.3416829>.
- [12] Persaud, C. 2021. Instructional Strategies: The Ultimate Guide for Professors. <https://tophat.com/blog/instructional-strategies/>
- [13] TeachOnline.Ca. 2020. A New Pedagogy Is Emerging... and Online Learning Is a Key Contributing Factor. <https://teachonline.ca/tools-trends/how-teach-online-student-success/new-pedagogy-emerging-and-online-learning-key-contributing-factor>
- [14] UNESCO. 2020. Education in a post covid world: Nine ideas for public action. International Commission of the Futures of Education. Printed in France.
- [15] United Nations. 2020. Policy Brief: Education during COVID-19 and beyond.
- [16] World Bank. 2020. Three Principles to Support Teacher Effectiveness During COVID-19. <https://documents1.worldbank.org/curated/en/331951589903056125/pdf/Three-Principles-to-Support-Teacher-Effectiveness-During-COVID-19.pdf>