



Rising Above The Challenge: How Laguna State Polytechnic University (LSPU) Survived and Thrived In the Covid-19 Pandemic: Basis for an Enhanced University Contingency Plan

Joseph M. Cabiente · Rina J. Arcigal

(College of Engineering, Laguna State Polytechnic University–Santa Cruz Campus, Philippines)

Date of Submission: 06-12-2024

Date of Acceptance: 18-12-2024

ABSTRACT: COVID-19 has been one of the most significant disruptors of higher education in modern history. Higher education institutions rapidly transitioned to remote learning in mid-to-late March of 2020. The extent of COVID-19's impact on teaching and learning, and the resulting challenges facilitating remote learning during this time, likely varied by faculty, institutional, and geographical characteristics. In this study, several identified challenges in teaching and learning during the initial transition to remote learning at Laguna State Polytechnic University (LSPU). The study conducted in-depth interviews with 10 faculty of LSPU explore their lived experiences. It described the most overarching challenges related to faculty teaching through four emergent themes: pedagogical changes, work-life balance, face-to-face interactions, and physical and mental health. Five themes emerged that was used to describe the most overarching challenges related to students and their learning: learning patterns, technology access, additional responsibilities, learning community, and mental health. Based upon the identified challenges, the study provided broad recommendations that can be used to foster a more successful transition to remote learning in unforeseen regional or global crises in the future.

Keywords: COVID-19, emergency remote teaching, higher education, pedagogical changes, work-life balance

I. INTRODUCTION

The COVID-19 pandemic has drastically affected various sectors worldwide, including the education sector. Universities and colleges were forced to adapt to a new normal of remote and hybrid learning, which posed challenges for both students and faculty members. In the Philippines, the pandemic has greatly impacted the education system, leading to the

implementation of online classes and other distance learning modalities.

This study focuses on how one particular university in the Philippines, the Laguna State Polytechnic University (LSPU), survived and thrived during the COVID-19 pandemic. LSPU is a state university located in the province of Laguna, offering various undergraduate and graduate programs. The university faced numerous challenges during the pandemic, such as the sudden shift to online learning, limited resources, and connectivity issues. However, LSPU was able to overcome these obstacles and provide quality education to its students.

Laguna State Polytechnic University's (LSPU), reiterated the guidelines it earlier issued for higher education institutions (HEIs) to help prevent the spread of COVID-19 among students and personnel. "CHED already issued an advisory three weeks ago on how the SUCs should be prepared. Number one, make sure that the right information is disseminated. That is very important, which means they should only use official government information," De Vera said, as recapped by LSPU President, Dr. Mario R. Briones, (Arcigal, 2022).

With these, by examining LSPU's response to the pandemic, this study aims to identify the strategies and approaches that the university used to cope with the pandemic and to determine the factors that contributed to its success in surviving and thriving during the crisis. The findings of this study may provide insights and recommendations for other universities and colleges in the Philippines and other countries facing similar challenges brought about by the pandemic.

A possible enhanced contingency plan will be shaped in for possible implementation for LSPU when there



is a risk that an emergency could happen and something needs to be done to prevent or minimize the damage. The recommended contingency plan will typically include a list of actions that are intended to be taken in the event of a disaster or when there is some uncertainty about the future and what will happen. This could include planning for various outcomes of different scenarios so that someone is prepared no matter what happens.

The main characteristics of the contingency plan will be:

1. It is designed to mitigate the effects of the event and provide a solution. (Kaliopé Azzi-Huck,2020)
2. It is composed of steps that need to be taken, actions that need to be taken, and resources needed for the plan's implementation.
3. The plan should not create new risks, but rather reduce the risks caused by the original event.
4. It is typically used in the event of an emergency or disaster
5. It uses resources and personnel
6. It often involves the use of equipment

II. OBJECTIVES

The purpose of this study is to explore how Laguna State Polytechnic University (LSPU) survived and thrived during the COVID-19 pandemic. Specifically, this study aims to;

1. identify the challenges faced by LSPU during the pandemic,
2. the strategies and approaches used by the university to cope with the crisis, and
3. the factors that contributed to its success in overcoming the challenges brought about by the pandemic.

This study also aims to provide insights and recommendations for other universities and colleges in the Philippines and other countries facing similar challenges brought about by the pandemic. The study may help universities and colleges in formulating effective strategies and approaches in adapting to

crisis situations, such as pandemics, and in continuing to provide quality education to their students.

Moreover, the study's findings may contribute to the literature on how universities can adapt to crisis situations and may provide policymakers and education stakeholders with insights into the impact of the pandemic on the education sector and the measures needed to address the challenges brought about by the crisis.

II. METHODOLOGY

Research design

In this study, an empirical qualitative approach was employed wherein the result was based on observation and measurement of phenomena, as directly experienced by the researcher. The data thus gathered may be compared against a theory or hypothesis, but the results are still based on real life experience. This uncertainty led the University of LSPU workgroup to develop a plan that could be applied to any communicable disease outbreak that is widespread and severely impacts the members of the University community. On the other hand, descriptive design was also used in order to collect responses on the students of LSPU, where different challenges in happened when the pandemic strikes in the area. This approach is appropriate for exploring the experiences and perspectives of LSPU in responding to the COVID-19 pandemic, and understanding the factors that contributed to its success in surviving and thriving during the pandemic.

The respondent includes in this study are the administrators, faculty, staff, and students of LSPU who were affected by the COVID-19 pandemic. A purposive sampling method was used to select participants who have direct experience and knowledge of the university's response to the pandemic.

The data collection instruments for this study include a survey questionnaire and semi-structured interviews. The survey questionnaires gathered quantitative data, while the semi-structured interviews gathered qualitative data.

The data collection procedure involved two stages: survey and semi-structured interviews. The survey questionnaire was administered online to a



sample of faculty, staff, and students of LSPU. The semi-structured interviews were conducted with a subset that was purposively selected based on their responses to the survey questionnaire.

The data analysis procedure involved both quantitative and qualitative data analysis. The quantitative data gathered from the survey questionnaire that was analyzed using descriptive statistics to identify patterns and trends. The qualitative data gathered from the semi-structured interviews analyzed using thematic analysis to identify the major themes and patterns that emerged from the data.

III. RESULTS AND DISCUSSION

3.1. Key Challenges faced by LSPU Administrators

1.) Planning Level

The University remains engaged in pandemic planning which has been triggered by circumstances and events that have prompted experts to anticipate human-to-human transmission of an emerging or re-emerging pathogen. This document provides tangible products representative of the University's response.

2.) Response Level-High Alert (Enhanced communication due to reports of effective human-to human disease transmission)

This response level is likely to be necessitated by confirmed reports of efficient and sustained human-to-human transmission of an emerging or re-emerging virulent pathogen anywhere in the university. It is fully expected that such reports generate a flurry of school activity across the university, which in turn will multiply external and internal queries about the disease and situation.

The Office of the President and the Campus Directors used a variety of tactics to communicate during the high alert stage. For general information, the department provide web linkages to the University. This page provides a wealth of links to employee and staff and expert panel websites, response information, travel advisories, frequently asked questions, and information for protecting family and loved ones. During this High Alert level, the University must be ready to respond to internal queries from its faculty, staff, and students and to external queries from concerned parents, visitors to the University.

3.) Response Level- Full Alert (Social Distancing)

This response level is associated with confirmed reports that there has been human-to-human transmission of an emerging or re-emerging pathogen anywhere in the vicinity of the University of Pittsburgh at Bradford campus. The vicinity of campus is defined by an area that encompasses all locales that are within a typical daily commuting distance by automobile. This response level is prompted by a scenario where emerging illness is spreading across the school community. There is a heightened fear among the place. The University is receiving numerous inquiries per day regarding the status of student whereabouts, classes, social events, research studies, and provision of other services. Assuming that a majority of social activities such as college and senior high school activities, sporting events, meetings, and other gatherings have been suspended, there may be increased pressure to disperse students from campus in order to reduce the spread of disease.

Social distancing Absent a government mandate, early decision making to enact "social distancing" at University campuses may be prudent to minimize demand for on-campus LSPU students. In essence, social distancing for the University would encompass a temporary suspension of classroom activity. (This is not equivalent to a temporary suspension of all classes. Many classroom activities will continue via distance learning.). It is recognized that there are legal, financial, and reputational risks in acting too early (and too late). The duration of social distancing be determined by the disease profile, external circumstances, and the timing of the decision relative to the academic calendar. In the event of a decision to enact social distancing, an organized dispersal of students from campus will be attempted using a multipleday process that mirrors the current "arrival survival" process.

- Absenteeism During this response level in which social distancing is assumed and classroom activity is temporarily suspended, the faculty and staff are assumed to be available to work. Based on the social stressors that are anticipated during this scenario, absenteeism rates of 10-25% are projected. Human Resources is examining existing policies surrounding sick time, leave of absence, and paid time off in response to these scenarios. Essential personnel have been identified and have explored the implications of an absenteeism rate of 10-25%.



Faculty and staff who indicate any of the symptoms associated with the pandemic disease profile be instructed to immediately leave campus and to seek treatment through their health care provider. Information will also be communicated to faculty and staff that if they become sick, under no circumstances are they to report to campus. During this response level, the University will be focused on the housing and feeding of remaining students, enhancing communication, maintaining campus security and computer networks, and sustaining the research enterprise.

- Academic considerations Academic considerations prior to enacting a social distancing response is a critical decision making. The academic considerations are highly dependent on existing academic policies, and the period of the academic calendar in which the social distancing decision arises. Timing for scheduling of classes are all be considered in the decision to enact social distancing. Existing communication chains utilizing all appropriate technologies are utilized at each level to the extent possible during the period of the emergency to provide the most reliable and structured dissemination of information as to immediate actions.

Communications. The University's home page used for institutional announcements, particularly to students and parents, as well as to the general public. Specific announcements directed to faculty, staff, and students are developed and available to appropriate groups through email. The University's secure portal was being utilized to provide a reliable means of communication with faculty, staff, and students. Email was utilized as appropriate to communicate directly with individuals and groups. The University's communications maintained at the highest level of efficiency. It is critical that the University's computer and telephone networks remain fully staffed and operational to ensure secure and reliable communications. Staffing network and telephone operations was given the highest priority; and ensuring the continued availability of key individuals will be critical. Given the necessary reliance on multiple means of communications, it is critical that one office have responsibility for ensuring that all communications are consistent and timely. The office ICTS will assume this role.

Suspension of classroom activity Classroom activity was formally cancelled on a campus-wide basis when,

in the judgment of the University President and Campus Directors, acting upon the advice of competent authorities and pursuant to an agreed upon response level, class attendance would pose a risk of contagion or when a sufficient number of faculty and staff are not available to conduct classes or provide appropriate levels of support for students. Individual faculty may not change the method of instruction utilized for individual classes, such as substituting online instruction for classroom instruction, unless approved by the OVPAA and Dean. The announcement of the cancellation of classes was communicated centrally through the University Home Page, as well as via the telephone and email contact lists.

4.) Response Level – Pandemic Period

The response level on the Pandemic Period which is self-evident and is associated with widespread, efficient and virulent disease that is rooted throughout the Region IV-A. It is assumed that the healthcare delivery system is extremely over-taxed and most public services are minimized. There is widespread public distress. In this scenario, social distancing as described in the previous response level is assumed, and for the sake of this plan the temporary suspension of normal University operations is also assumed. University operations was reduced to a minimal level necessary to maintain security, support students remaining on campus, sustain research models, and protect buildings. The performance of these functions was impacted by the assumption that there was a 40% absenteeism rate at any given time due to illness in the community. Additional absenteeism also is assumed due to illnesses encountered at home or fear of public travel. A 5% mortality rate is also assumed. LSPU strive to sustain minimal operations for a period. Historically there have been waves of this duration occurring in multiple cycles, prior to permanent deflation of disease rates.

5.) Response Level: Management of Pandemic Cases on Campus

This response level is necessitated by a confirmed case of an emerging or re-emerging pathogen on the LSPU campus. It is feasible that a case of pandemic influenza, or some other illness, would first emerge in school community. Such finding would obviously contradict the incremental approach to pandemic preparations.



• Communication Plan Throughout these various response levels, centralized and consistent communications is necessary. The ICTS office has conducted planning in anticipation of these response level.

3.2 Key challenges faced by the students

Table 1. Participants' Profile (Students Gender)

		Frequency	Percentage
Gender	Male	42	39.25
	Female	65	60.75
Age		107	100
Year level	4	28	26.17
	3	31	28.97
	2	21	19.63
	1	27	25.23

As Table 1 shows, 42 (39.25%) of the participants were males, and 65 (60.75%) were females. Their age ranged from 18 to 22. Concerning the student's year level, 28 (26.16%) were fourth year level or seniors, 31 (28.97%) were 3rd year, 21 (19.62%) were 2nd year and 27 (32.28%) were freshmen students or in their first-year level in the university. The total number of the students who joined the survey was 107.

Table 2. Key challenges faced by the students

No.	Items	N	%
1	I have limited internet connection.	54	50.53
2	I have faced several interruptions when learning at home.	15	14.01
3	Some teachers do not teach.	6	5.61
4	It is hard to speak or listen in online class.	8	7.46
5	I do not have smartphone.	8	7.46
6	I do not have money to recharge phone credits.	8	7.46
7	There is a lack of concise explanation from the teachers	4	3.74
8	My parents do not allow me to use a phone.	1	0.93
9	I always feel tired and exhausted.	1	0.93
10	I have eye problems because of exposure to bright light.	2	1.87

Key challenges of online learning are presented in Table 2. Overall, 54 students (50.53% of the respondents) chose limited internet connection as the most challenging problem for them when they

studied online. The second most challenging problem was the many interruptions they had to cope with when learning from home. Fifteen (14.01%) students selected this challenge. Another challenge that was selected by six participants was related to the fact that some of their teachers did not teach them during the pandemic. Other challenges that were selected by eight students each included the difficulty in speaking and listening to lectures or discussion during online classes; the lack of smartphones; and the lack of money to recharge their phone credits to use the internet.

Table 3. How to solve the problems

No.	Items	N	%
1	Improving internet connection	93	87.00
2	Using different teaching methods	7	6.50
3	Requesting all teachers to teach them	7	6.50

The third section in the questionnaire asked the students to write their suggestions to improve their online learning experience. As seen in Table 3, ninety-three 93 students (about 87%) wrote about the need to improve the internet connection. They suggested the Laguna State Polytechnic University and other stakeholders to address the issue of limited internet connection. Five students (about 7%) suggested that their teachers should teach them by using different methods, not to repeat the same method again and again. Interestingly, five more students blamed some of their teachers who did not teach them. They suggested that all teachers in every subject should teach them regularly.

This study aims to investigate the challenges faced by college students of LSPU who continue their education via online learning. As the results show, some of the challenges were related to the limited access to the internet, interruptions when learning at home, lack of access to smartphones for learning and lack of money to recharge phone credits to access the internet using mobile data. The results suggest that many students could not learn well because of the limited internet connection which created a barrier preventing them from taking full advantage of online learning.

The results regarding the lack of access to the internet is in line with a study by Titoy, et al. (2020) which found that technology resources were still limited for online learning. Additionally, the results of this study corroborate Zhou, et al (2020) who found



that students in middle school faced technological, academic, and communication difficulties when learning online.

This study also supports Kniffin, et al., (2021) who noted that Cambodian students in rural areas faced a key challenge regarding the lack of digital devices to access online video lessons. Likewise, the study confirms reports in the media about educational inequalities faced by students in rural and remote areas of Cambodia.

The results regarding the challenges related to the lack of money to recharge their phone credits, fear of lightning, eye problems, interruptions at home and parental restrictions on phone usage seem to support what Crawford and Butler (2020) noted in their article. That is, there were concerns about “learner isolation, frustration, pressure, extra expenses, health issues, and increased exposure to cyberbullying and online violence”

3.3 Key Challenges faced by the Faculty

Work-Life Balance

As universities sent students home and operated remotely, most faculty were strongly urged, if not required, to work from home. Faculty who had families found themselves sharing their new work environment with their spouse and kids. A majority of faculty described difficulties working with kids in the home. Participant 6 described his experience,

“The biggest challenges that I expected to see and that I actually saw involved the personal switch of not being in an office for eight hours a day, but instead of being at home with two small children.” Participant 2 echoed the sentiment,

“The biggest challenge for me was I lost my connection with the students. I lost my touch. Absolutely. And so, one of the reasons I teach in an institution which has a low student to teacher ratio like we do is because I like the interaction with the students, getting to know them on a personal basis, a very personal basis . . . I’m not sure how I’m going to overcome that next semester if we continue remotely.”

Participant 10 further expressed challenges teaching from home with small children, “The kid was home and she was running around making noise and it was hard . . . you know, go do something and leave

me alone for some chunk of time.” Additionally, like what several other faculties mentioned, she described new spousal conflicts from the shared work-home environment, “My husband doesn’t do work from home. So, when he’s home, he has nothing else to do. And when I’m home, I have to work and that caused friction and issues.” The shared spousal workspace was an issue for Participant 3 as well, “My husband and I felt like we were working all the time and it was really difficult to separate.” For Participant 10 the biggest challenge was separating work from family time despite being at home. She elaborated on her thoughts.

Some of the faculty described positives from working from home and forming stronger bonds with their family. Participant 9 stated, “I actually like working from home a lot better. I have little kids so it helps me be more involved with my family, I get to eat my meals with them, so I’ve actually enjoyed it.” Several participants also mentioned spousal support, like Participant 3, “My husband also teaches and his school obviously went to remote learning. I’ve always been very lucky to have somebody else in the house who understands what I’m doing and can support me both emotionally and physically.”

Face-to-Face Interactions

A strong majority of faculty described negative impacts stemming from the loss of a face-to-face learning community. The close-knit learning community and strong interactions between faculty members. Several faculty members described a loss in colleague support as a major challenge, as described by Participant 2,

Normally . . . I might go talk to my colleague down the hall who maybe has done this before, or might have some sort of experience with it . . . and suddenly . . . I was on my own, without the sort of support that I might normally be able to rely on.

However, overwhelmingly, faculty members described the loss of face-to-face interaction with students as the largest negative impact. Participant 5 described his experience,

“The biggest challenge for me, was I lost my connection with the students. Absolutely. And one of the reasons I teach in an institution which has a really low student to teacher ratio like we do is because I like



the interaction with the students, getting to know them on a personal basis, a very personal basis. . . I'm not sure how I'm going to overcome that next semester, if we continue remote."

Participant 8 shared a similar experience, *"I think the hardest part for me wasn't the actual teaching online. It was not seeing my kids, my students."* Participants 3 echoed the sentiment, *"I like being in the classroom, I like being able to talk to students. You know, the interaction and being able to provide hands-on opportunities."* Participant 9 summarized the overarching feeling, *"A big part of my personality as a teacher is the face-to-face community, building the peer learning. I foster the positive interdependence I build in the classroom."* Although most faculty expressed that the loss of the face-to-face learning community negatively impacted their ability to build student rapport, Participant 1, who described herself as "introverted", expressed that remote instruction allowed her to be "more personalized online and helped make connections with students.

Physical and Mental Health

Some faculty experienced health-related challenges caused by the impacts of COVID19. As faculty began teaching remotely from a computer, moving and walking during the workday decreased, contributing to physical ailments. Participant 1 described her experience,

"When you teach face-to-face classes you go into a classroom, you're up and on your feet and you walk around the classroom. I didn't have that time every day, I was sitting on my computer working . . . it's not good for my body so I don't feel the best."

Participant 3 added *"sitting in front of the computer all the time ended up with my neck and shoulders and mouse hand hurting by the time I went to bed every night."* Participant 2 described her physical ailments as an *"intense pressure on chest all the time"* and feeling *"overwhelmed constantly"* leading to higher blood pressure and lowered ability to sleep.

Despite only a few teachers specifically mentioning physical health issues and none mentioning being physically sick from the virus themselves, nearly every participant discussed mental health challenges related to increased stress and anxiety. According to Participant 7, the experience was *"more stressful than I thought it would be."* Participant 10 added *"It's extremely stressful. Like the*

whole thing is stressful." Participant 5 said, although he does not tend to get stressed out much, his well-being *"has actually taken a hit"* because he was *"stressing out a lot more."*

When asked about the specific cause of the increased stress and anxiety, several faculty members described uncertainties related to the pandemic. Participant 10 contributed,

"I mean, and just the plain old, ongoing anxiety of being in the middle of a pandemic and you are shut at home, cause the, the whole place is essentially under a near quarantine. I mean, that's daily, ongoing anxiety is a real issue and that interferes with your ability to focus and concentrate and think and do work."

Challenges Related to Learning

Learning Patterns

According to faculty, students faced a multitude of challenges as a result of the swift change from face-to-face learning to remote learning. However, faculty were split on the severity of these challenges. Some faculty explained that many students just were not in the mindset to take courses remotely, and this had a negative impact on their success in the remote settings. Participant 5 shared, *"Students had a tough time."*

"I also was of the opinion going into this that the students really were going to struggle with it because the nature of the school it was, you know, [a] small school and so they're used to getting a lot of contact and a lot of interaction with their faculty and instructors and now all of sudden that was going to change and go away."

"Students would complain about the bombardment of emails. So, like you know a faculty member emailing them and saying do this. And then 10 min later say, no, actually do it this way. And then an hour later say, no, do it this way. They had a really hard time with scheduling and keeping track."

Technology Access

Nearly all faculty described students' lack of access to technology as being one of the largest ongoing challenges after transitioning to remote learning. Participant 9, *"did not expect to encounter issues with*



student access” and described “internet access as the problem.”

Some students didn't have reliable internet at home and any place they might've gone to get reliable internet like the school or internet cafe or you know, a library where you used to be able to count on getting reliable internet. Suddenly students couldn't go to any of those places . . .

it was a problem the entire semester because you know, the entire world was shut down or at least most places were shut down.

Faculty expressed that students moving home to rural areas had the most significant challenges related to technology access. Participant 10 described a student in her class, “I know I had at least one rural student that basically had no internet and she did have to essentially drive to the McDonald's and sit in the parking lot to do anything.” Participant 12 mentioned a similar experience with “a student who had no internet access at home” and the student having “to travel to wherever she could pick up Wi-Fi.”

In addition to getting access to the internet, slow internet speed was an ongoing issue, especially for students whose instructor taught through a synchronous modality. Participant 8 described his experience using live video conferencing, “Students would come on, they would be on for a little while, they would get dropped, they would come back on. So, you know, maintaining a continuity with them was difficult.” Participant 9 shared a similar experience with video conferencing and having students with poor internet connectivity.

“They're freezing or they're cutting out, or it gives you a really, really big delay . . . and then hearing and speaking issues, that's really frustrating for that person, well, for everybody involved. You can't possibly be getting anything out of a class if that keeps happening to you. I mean, why, why would you ever want to log into a class if that keeps happening to you because of bad connectivity?”

Despite these challenges, faculty described working with students to the best of their ability by “being flexible” (Participant 10) and encouraging “understanding and communication” (Participant 8). Some technology challenges were relieved by characteristics of their PUI. Participant 5 discussed his relief in that all of his students had access to computers through his university's one-to-one program.

Additional Responsibilities

Several faculty members expressed that their students shared family-related challenges, especially for students who had kids of their own or who were looking after their younger siblings.

Participant 1 explained her students' situation, “Close to 25 percent of my students had families and working around and dealing with those two schedules while trying to find time to get their studies done was difficult.” Participant 10 further explained the ongoing difficulties that her students, who were also parents, had, “If schools are out and your kids are home and you can't afford daycare that is every day . . . and I know that's the case probably for many of our students.”

Some faculty also mentioned the frustration that their students experienced moving back into their family's residence. Participant 7 described her students' experiences,

“I know my students struggled with living back at home. Some of them would struggle with their parents not recognizing that they were still technically in college and so they'd be asked to do stuff around that house all day when they were trying to get work done and it didn't create the same kind of [learning] environment.”

Over half of the faculty described challenges their students faced regarding jobs. A few faculty members mentioned that students' job loss or job loss in the family impacted them directly. For example, Participant 7 described, “My students reached out directly and said you know, my dad lost his job and I'm picking up an extra shift to try and help out kind of thing and can I have an extension on this or that?” Participant 2 described a similar situation, “Maybe a student's family member had lost their job so they needed to pick up you know, an extra job just to make ends meet.” Changes in students' job schedules due to the pandemic also posed challenges. Participant 1 explained, “Some of my students got new jobs and some of their jobs changed their work schedule.” Participant 8 expressed concern with students juggling course work with new job demands, “Students have differing schedules or now they have to have a full-time job while they're doing full-time coursework.”



Learning Community

Interaction with faculty members and instructors and all of sudden that went away. Student's learning community was impacted beyond a reduction in faculty interaction. Participant 3 described how students left behind the "social lives and athletic events" they were used to. Participant 5 stated a similar opinion, "Students had plans for athletics, they had plans to do other things . . . missing their friends. So, a lot of other factors come in that impacted their remote education." Participant 4 could tell that his students "were struggling with something socially," perhaps due to their "social lives and athletic events being canceled".

Faculty believed the loss of the face-to-face learning community caused a decrease in motivation, engagement, and performance for most students, but especially for students who were already struggling in face-to-face settings. Several faculty members mentioned that student participation was low during remote teaching and some students were completely absent. Participant 4 described his surprise by saying, "what I didn't anticipate was how many students would really kind of start to drop off . . . in terms of their efforts, and in some cases I had students that really just disappeared," and Participant 9 added that "student participation was probably the second worst problem" for him.

The lack of engagement in the remote setting compared to the face-to-face setting may have been challenging for students to stay motivated, as described by Participant 10, "We also had a certain amount of students that I think probably got frustrated with it or bored with it and you know didn't show the discipline to it that's required."

Stress and Anxiety

Faculty described stress and "generally anxiety as an ongoing experience" (Participant 7) for their students. Several faculty members had students reach out to them "mentioning they were struggling with something (mental health)" (Participant 4). According to Participant 3, "stress was probably one of the biggest things . . . for students". She added that the stress was caused by students "trying to figure out what was going on when, when things were due, and what's the timing." The stress faculty's students were having had a direct impact on faculty who deeply

cared about their students' health and classroom success.

Participant 4 described his experience. "Some students were basically . . . like sorry, I haven't done any work . . . I haven't been able to do anything since this started. You know emotionally, it is like the emotional toll that they're experiencing. Um, and that became a big problem for students and, and it was challenging for me because, I don't know who was being affected by that and two I mean, I'm not, I'm just not trained on how to help someone in that situation".

The abrupt change from having a scheduled routine at school and a safe study space to moving and attending class from home contributed to some students' stress, as described by Participant 8, "The confusion in their lives you know the fear that all of us were experiencing . . .

and an abrupt move home. For some students that might not have been a good situation to move home to." In addition to the stress caused by a change in school structure, Participant 10 described student stress being caused by their worries about the potential health implications for themselves or family members contracting COVID-19, "So there's students having all those other things going on worrying about themselves getting sick, grandparents getting sick."

IV. CONCLUSIONS AND RECOMMENDATIONS

The results of this research further demonstrate the significant impact that COVID-19 and the abrupt transition to remote learning had on teaching and learning in higher education. Our qualitative investigation explored the lived experiences of the faculty members during COVID-19 pandemic. Each faculty member shared a unique, powerful, and reflective experience that captured this significant and historic disruption in education. Despite the variations in experience, grand similarities were found for the largest and most overarching challenges. The themes identified in our investigation illustrated these widespread challenges, and these themes were described in the context of teaching and learning.

The results concluded that faculty in the study were not prepared for emergency remote learning and had difficulty rapidly transitioning their courses to remote teaching. The transition required faculty to implement new pedagogical approaches and



technologies, and to modify course content, which significantly increased faculty workload. Although faculty believed to have ultimately been successful at incorporating new technologies and delivering instruction in remote learning, the success was deemed as minimal for most of the individual. Inequalities in student access to the learning environment were compounded by the pandemic, where faculty cited that some students lacked physical access to the virtual learning environment due to technology barriers (e.g., device access; internet access) and demands from their new living environment (e.g., share responsibility to look over siblings; picking up new jobs). Faculty also experienced a change in their work–life balance, especially faculty who were parents to young children, who struggled meeting the demands of childcare with the increased workload.

The life load of students appeared to be comprehensive, as faculty expressed significant concern about the mental health of their students, a crisis that has been echoed by recent literature. Faculty themselves wore thin and expressed higher levels of anxiety and stress, a general decrease in satisfaction toward their career, and lower teaching performance.

The focus of this study was on the challenges that faculty experienced during remote learning, yet we would not be diligent if we failed to report faculty's embodiment of resilience and commitment to their students. Despite the high levels of initial stress and anxiety during the early stages of pandemic, after several weeks of implementing remote learning, faculty described being able to establish new routines, easing some levels of stress, and better navigating the demands of a new normal. There were few positives that were brought forth by the pandemic and emergency remote learning, but one of which, according to faculty, was being able to spend more time with immediate family and valuing that opportunity. As predicted by Rapanta, et al. (2020), faculty in our study described learning new technologies and pedagogical practices that would be helpful in a post-digital era.

Summary of Proposed Interventions (Basis for Contingency Plan)

From the analysis of the survey results we propose several intervention strategies that can be

employed if Pandemic will be strike again. The proposed strategies are summarized as follows:

1. Strategies for institution/ administration

- o Budget allocation to provide basic equipment for the online instruction to both faculty and students in need. Examples of such equipment include personal computer/tablet preferably with webcam/camera, online writing tool, reliable internet connection (to address the logistical challenges indicated by students and faculty in response.
- o Allowing faculty and students to access necessary software (addressing technical access challenges of online instruction indicated in response by the faculty.
- o Organizing training workshops for faculty/students to further familiarize with online teaching/learning technology and tools (addressing technical skills)
- o Development and organization of systematic repository of resources pertinent to online instruction to enhance the faculty's online teaching skills.

2. Strategies for the faculty

- o Leveraging on the institution' SLM to manage the course, grades, forum discussions and exams to enhance the faculty's online teaching
- o Breaking down a long lecture into shorter segments with more frequent breaks addressing Google/Zoom fatigue indicated in responses.
- o Encouraging group discussion or problem-solving activities among students such as Google/Zoom breakout rooms addressing the lack of social interactions with peers.
- o Being available during the exams on Google/Zoom to answer students' questions addressing the lack of access to the instructors during exams.
- o Providing students with a clear roadmap and instruction for the online course.
- o Making the recordings of the live lectures available after the lecture addressing online instruction challenges and lack of access to reliable internet.
- o Using open-book/open-note and synchronous assessment methods that support academic integrity. Examples include randomized



questions/ restricted time/ question pools on SLM.

3. Strategies for the students

- o Using free scanning applications on their smartphones addressing lack of access to scanner as response.

This work contributes to the developing body of knowledge about the effect of pandemic on education by investigating the challenges and obstacles faced by a large group of students and faculty at LSPU which exemplifies an institution that previously taught face-to-face engineering classes (predominantly), with a large minority population and socio-economic gap. The recommended strategies for various educational stakeholders (including students, faculty and administration) aims to fill the tools and technology gap, enhance faculty skills in teaching online courses by taking full advantage of online learning management tools, and finally, propose effective assessment methods for online courses while considering the potential equity and privacy issues. These recommendations are practical approaches for many similar institutions around the world and would help improve the learning outcomes of online educations in all fields.

REFERENCES:

- [1]. Arcigal RJ., (2022). COVID-19 Pandemic: The Case of Laguna State Polytechnic University
- [2]. World Health Organization. WHO Director-General's Opening Remarks at the Media Briefing on COVID-19. 11 March 2020. Available online: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020> (accessed on 11 March 2020).
- [3]. Titov, N.; Staples, L.; Kayrouz, R.; Cross, S.; Karin, E.; Ryan, K.; Dear, B.; Nielssen, O. Rapid report: Early demand, profiles and concerns of mental health users during the coronavirus (COVID-19) pandemic. *Internet Interv.* 2020, 21, 1–5. [CrossRef] [PubMed]
- [4]. Zhou, Y.; MacGeorge, E.L.; Myrick, J.G. Mental health and its predictors during the early months of the COVID-19 pandemic experience in the United States. *Int. J. Environ. Res. Public Health* 2020, 17, 6315. [CrossRef]
- [5]. Kniffin, K.M.; Narayanan, J.; Anseel, F.; Antonakis, J.; Ashford, S.P.; Bakker, A.B.; Bamberger, P.; Bapuji, H.; Bhawe, D.P.; Choi, V.K.; et al. COVID-19 and the workplace: Implications, issues, and insights for future research and action. *Am. Psychol.* 2021, 76, 63–77. [CrossRef] [PubMed]
- [6]. Crawford, J.; Butler-Henderson, K.; Rudolph JMalkawi, B.; Glowatz MBurton, R.; Magni, P.A.; Lam, S. COVID-19: 20 countries' higher education intra-period digital pedagogy response. *J. Appl. Learn. Teach.* 2020, 3, 9–28. [CrossRef]
- [7]. Johnson, N.; Veletsianos, G.; Seaman, J. U.S. faculty and administrators' experiences and approaches in the early weeks of the COVID-19 pandemic. *Online Learn.* 2020, 24, 6–21. [CrossRef]
- [8]. Rapanta, C.; Botturi, L.; Goodyear, P.; Guardia, L.; Koole, M. Online university teaching during and after the COVID-19 crisis: Refocusing teacher presence and learning activity. *Postdigit. Sci. Educ.* 2020, 2, 923–945. [CrossRef]
- [9]. Christian, M.; Purwanto, E.; Wibowo, S. Technostress creators on teaching performance of private universities in Jakarta during COVID-19 pandemic. *Technol. Rep. Kansai Univ.* 2020, 62, 2799–2809.
- [10]. Hollander, A.; Vavasasseur, C.B.; Robicheaux, H. A service-learning approach for faculty development focused on remote delivery of courses during a pandemic. *J. Serv.-Learn. High. Educ.* 2020, 11,1–13. Available online: <https://journals.sfu.ca/jslhe/index.php/jslhe/article/view/301/145> (accessed on 25 May 2021).
- [11]. Watermeyer, R.; Crick, T.; Knight, C.; Goodall, J. COVID-19 and digital disruption in UK universities: Afflictions and affordances of emergency online migration. *High. Educ.* 2021, 81, 623–641. [CrossRef]
- [12]. Harper, S.R. COVID-19 and the racial equity implications of reopening college and university campuses. *Am. J. Educ.* 2020, 127, 153–162. Available online: <https://www.journals.uchicago.edu/doi/pdf/10.1086/711095> (accessed on 26 May 2021). [CrossRef]
- [13]. Zhai, Y.; Du, X. Mental health care for international Chinese students affected by the COVID-19 outbreak. *Lancet Psychiatry* 2020, 7, e22. [CrossRef]



-
- [14]. Evans, S.; Alkan, E.; Bhangoo, J.K.; Tenebaum, H.; Ng-Knight, T. Effects of the COVID-19 lockdown on mental health, wellbeing, sleep, and alcohol use in a UK student sample. *Psychiatry Res.* 2021, 298, 113819. [CrossRef]
- [15]. Son, C.; Hegde, S.; Smith, A.; Wang, X.; Sassangohar, F. Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *J. Med. Internet Res.* 2020, 22, e21279. [CrossRef] [PubMed]
- [16]. Manning, K. *Organizational Theory in Higher Education*; Routledge: New York, NY, USA, 2017. 33. Slocum, R.D.; Scholl, J.D. NSF support of research at Primarily Undergraduate Institutions (PUIs). *CUR Q. Counc. Undergrad. Res.* 2013, 34, 31–40. Available online: https://www.cur.org/assets/1/23/Fall2013_v34.1_slocum.scholl.pdf (accessed on 23 May 2021)