Exploring the Challenges of Tertiary Students in Non-Laboratory Courses After the First Year of Emergency Remote Teaching

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Abstract: Shortly after the Coronavirus disease (COVID-19) pandemic began, studies on the challenges faced by tertiary students during Emergency Remote Teaching (ERT) became available. However, the data sets were harvested early, as many countries began implementing ERT in response to the pandemic in March 2020. Many recent studies have failed to distinguish between the challenges faced by students enrolled in the laboratory and non-laboratory courses. There is still a dearth of literature on the difficulties encountered by students enrolled in non-laboratory courses following the first year of ERT implementation. The purpose of this paper was to examine the various challenges faced by tertiary students enrolled in non-laboratory courses following the conclusion of the first year of ERT implementation. Contextualized in two state-owned higher education institutions in northern Luzon, this study employed a fundamental qualitative approach, with focus group discussions (FGDs) serving as the primary data collection technique. Five major themes emerged from the FGDs with 42 purposively selected tertiary students. These themes presented in the spider web illustration include (1) student-focused challenges, (2) instructional material-related challenges, (3) instructor-emanating challenges, (4) technology-related challenges, and (5) student support-related challenges. This article concludes that these issues must be dealt with immediately to facilitate the implementation of ERT in non-laboratory courses. These difficulties may also be dimensions of concerns about distance education, particularly in non-urban areas of the Philippines. The themes also provide some actual pictures of the student challenges in the initial year of ERT in college. This paper highlighted some implications for pedagogy and educational management, as well as future research directions.

Keywords: *Education in COVID-19, emergency remote teaching, Filipino college students, students' challenges in COVID-19.*

Introduction

The pandemic caused by the Coronavirus disease (COVID-19) has quickly changed the current landscape of education at all levels. In fact, it is the most significant disruption of the educational system in the globe, affecting nearly 2 billion learners in 200 countries (Pokhrel & Chhetri, 2021). It precipitated an abrupt shift away from face-to-face instruction toward remote instruction. Amid the limited faculty training on online teaching, many higher education institutions banked on the use of online learning without having established solid instructional design. As is the case in all developing countries, some universities in the Philippines have resorted to developing self-learning modules for the students, particularly in non-laboratory courses. This abrupt shift in instructional mode to ensure learning continuity is most appropriately referred to as Emergency Remote Teaching (ERT) (Bozkurt & Sharma, 2020).

During the time of the COVID-19 pandemic, ERT has been interchangeably used with online learning. The former has emerged to describe the sudden yet temporary shift of instructional modality brought about by any crisis circumstances like an epidemic, war, famine, extreme natural calamities, and the like (Hodges et al., 2020). Through the use of ERT, education transitions to remote teaching measures that will eventually replace face-to-face delivery, which will become an option once the emergency has passed. In its basic sense, ERT is significant to avoid disruption of learning in moments of widespread emergency. Online learning, on the other hand, has stemmed from distance education that is aided by technological tools and internet accessibility (Moore et al., 2011). Online education has a more established instructional design that necessitates more time for planning and designing (Shisley, 2020).

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Hodges et al. (2020) and Toquero (2020) found out that the majority of the studies about COVID-19 are focused on the medical side while there is still a paucity of investigations leaning toward education, especially at the tertiary level. A large slice of the studies on education within the context of COVID-19 (Aguliera & Nightengale-Lee, 2020; Mohammed et al., 2020; Shim & Lee, 2020; Shin & Hickey, 2021) has explored the experiences of college students in the context of ERT. The early sets of challenges include accessibility of the internet (Adnan & Anwar, 2020; Ferri et al., 2020), lack of social dynamics and interaction (Shim & Lee, 2020) lack of flexibility (Rahiem, 2020), and mental health issues (Shin & Hickey, 2021).

It is significant to look into the challenges of the college students because the latter will serve as the during-and-post-pandemic labor products. The documentation of their challenges will not only provide immediate interventions to teaching. It will also later help to understand the learners' on-the-job performance after graduation, expectedly in the post-pandemic epoch.

Moreover, many of the recently published studies (Adnan & Anwar, 2020; Bisht et al., 2020; Lakshman Naik et al., 2021; Murphy et al., 2020; Rahiem, 2020; Shim & Lee, 2020; Shin & Hickey, 2021; Virtic et al., 2021) have attempted to identify the challenges of the students during the onset of the ERT in various parts of the globe. These studies contributed to the literature by providing initial data on the readiness and challenges of the students in various academic programs on the emergency remote teaching due to the COVID-19 pandemic. However, they have failed to delineate the challenges of the students enrolled in the laboratory and non-laboratory courses. Laboratory courses, such as those in the natural and physical sciences, technological sciences, and skills-based subjects, require a more rigorous approach to teaching in the context of ERT than courses that are purely non-laboratory in nature (Dutton & Mohapatra, 2021). Thus, students' experiences may vary depending on the context and requirements of their courses (Lund & Stains, 2015; Pokhrel & Chhetri, 2021). Due to the pedagogical differences between laboratory and non-laboratory courses, this paper argues that college students enrolled in non-laboratory courses face a unique set of challenges. In other words, the previously published student challenges should not be universally applicable to both laboratory and non-laboratory courses. This paper argues further that there is a need to decipher the challenges of the students in laboratory courses to come up with teaching interventions that are apt to the context and nature of their courses. Since the majority of tertiary courses are non-laboratory in nature, it is believed that there is a need to place a greater emphasis on this context. Thus, the ramifications of this study for developing pedagogy and succeeding college policies will be limited to non-laboratory courses.

This paper strongly argues that the data for the initial studies on college students' challenges were harvested quite early, as many countries began implementing ERT only in March 2020 in response to the COVID-19 pandemic. The data sets they used were derived from the participants' early experiences. Further, this paper contends that a follow-up study is necessary to determine whether the initially identified set of challenges still persists after a year of experiencing ERT at the tertiary level. It is believed that as ERT becomes more widely implemented, instructors, professors, and universities adapt to more appropriate pedagogies and strategies. More strongly considered in this paper is the recommendation of Hodges et al. (2020) that future studies should focus more on understanding the experiences of vulnerable populations, such as those in developing countries like the Philippines. Developing countries will require additional resources and time to address the pandemic's pressing educational issues. This study sought to close such a chasm. Thus, this study is hoped to contribute to the crafting of enduring interventions that can be proposed to facilitate ERT at the tertiary level.

Given the gaps in early data harvesting, particularly on college students' experiences in ERT, and the scarcity of studies separating the challenges faced by tertiary students in laboratory and non-laboratory courses, this study sought to explore the challenges faced by the tertiary students in non-laboratory courses during the first year of ERT due to the COVID-19 pandemic. The findings of this study are expected to shed light on the ongoing development of pedagogical interventions used during ERT at the college undergraduate level, particularly in non-laboratory courses. The following central research question guided the development of this paper: What are the various dimensions of the challenges faced by tertiary students enrolled in non-laboratory courses following the first year of ERT due to the COVID-19 pandemic?

Methodology

Research Design

Using a qualitative approach to investigate the multidimensional challenges faced by tertiary students enrolled in non-laboratory courses after the first full year of ERT implementation due to the COVID-19 pandemic, this study adopted Merriam and Tisdell's basic qualitative study design (2015). The basic qualitative study design is appropriate for this study because it allowed for a broad examination of college students' experiences, particularly the difficulties they encountered during their first full year of ERT in their non-laboratory courses. Apart from Flick's (2017) assertion that qualitative research is the default method for exploring experiences, Merriam and Tisdell (2015) asserted that a basic qualitative study design is optimal for developing an understanding of participants' experiences without delving into the essence of a phenomenon.

Setting and Participants

The participants were purposively selected based on the set inclusion criteria: (1) only those who are enrolled in college; (2) only those who have been enrolled in non-laboratory courses since February 2020; (3) only those who have experienced both online and modular instruction since COVID-19 pandemic. Non-laboratory courses focus primarily on lectures and readings, without any required activities in the laboratory like in natural science laboratory or technical skills demonstration like in a cookery laboratory. They are mostly lecture-driven courses like philosophy, most of the teacher education courses, and liberal arts courses. A total of 42 tertiary students from a state university and a state college in the Philippines became the participants of this qualitative study. The state college and the state university from which the participants were drawn are located in two distinct provinces in northern Luzon; both are geographically remote from Manila, the Philippines' capital city. Participants range in age from 18 to 22 years. Many of them are female and are taking teacher education courses. Almost 75% of them fall into the poor and low-income family brackets, earning less than PhP 10,000 to PhP 21,000 [USD 210 to 450] per month.

Instrumentation

To collect data for analysis, a semi-structured interview protocol for focus group discussion (FGD) was developed. The interview protocol, which consisted of four major questions, was validated by three language and education experts for its readability and comprehensiveness to address the research's central question: What are the various dimensional challenges faced by tertiary students enrolled in non-laboratory courses following the first year of ERT due to the COVID-19 pandemic? Guided by the emic lens in conducting qualitative investigations, FGD questions were asked in either English or Filipino, depending on the demands for clarity of ideas, to minimize triviality during the interview process and to establish a deeper rapport. Table 1 contains an example of the interview schedule.

Table 1. Interview Schedule

Type of Question	Sample Interview Question
Introductory	How did you feel when the schools have closed during the pandemic?
Transitory	How do you describe your learning in your courses since the pandemic?
Key/Core	What are the difficulties and challenges that you have encountered in your online and printed learning experiences?
Closure	How did you cope with such challenges and difficulties?

Data Explication and Analysis

The primary corpus of data was derived from the FGD sessions with the participants. Each batch consisted of seven or eight participants and two moderators who served as interviewers. Each session, which lasted approximately 70–90 minutes, was audiotaped. In order to establish rapport between students and researchers (Creswell & Creswell, 2017), prior and informed consent was obtained from the participants. The confidentiality and privacy of narratives were emphasized. To adhere to the minimum health protocols in light of the COVID-19 pandemic, both on-site and online FGD sessions were held. To prevent the further spread of the Coronavirus, on-site FGD sessions were conducted on separate days.

Session recordings were converted to verbatim field notes (Clandinin, 2006). After undergoing data cleaning and counter-verification by transcribers and researchers, the field texts were returned to the participants for member checking (Creswell & Creswell, 2017) in order to ensure credibility (Lincoln & Guba, 1985). To address the issue of triangulation (Thornberg & Charmaz, 2014), the researchers conducted cross-validation on selected participants via random on-site visits and document review of students' outputs in their online and modular classes.

The sets of data were analyzed using Braun and Clarke's abridged thematic analysis model (2013). The primary objective of the data analysis using such a model was to look for patterns relating to the exploration of the dimensions of challenges faced by non-laboratory students. Acting as analysts, the researchers observed the following processes: (1) creating codes from horizontal and vertical analysis of the transcript, (2) combining codes into categories, (3) building hierarchies of codebooks, and (4) linking categories into themes. The themes led to the creation of dimensions of challenges that addressed the central research question. Additionally, confirmability was bolstered through the involvement of external researchers in validating the codes and categories generated from the data (Graneheim & Lundman, 2004).

Findings

This study is premised upon the early harvested data on the published challenges of the students in the implementation of emergency remote teaching due to the COVID-19 pandemic. After a year of the ERT in the Philippines, the data on the challenges of the students' can now be clearly cut into dimensions. Also, this study argues that the students' dimensions of challenges differ if they are taking non-laboratory and laboratory courses. Given that many of the courses delivered in higher education are non-laboratory in nature, this paper focused on these challenges.

From the series of FGDs, five themes known as dimensions of challenges have emerged. They are as follows: (1) student-focused challenges, (2) instructional material-related challenges, (3) instructor-emanating challenges, (4) technology-related challenges, and (5) student support-related challenges. These themes were built from categories individually discussed below and are represented in a spider web dimensional paradigm, which shows the interrelatedness of these dimensions.
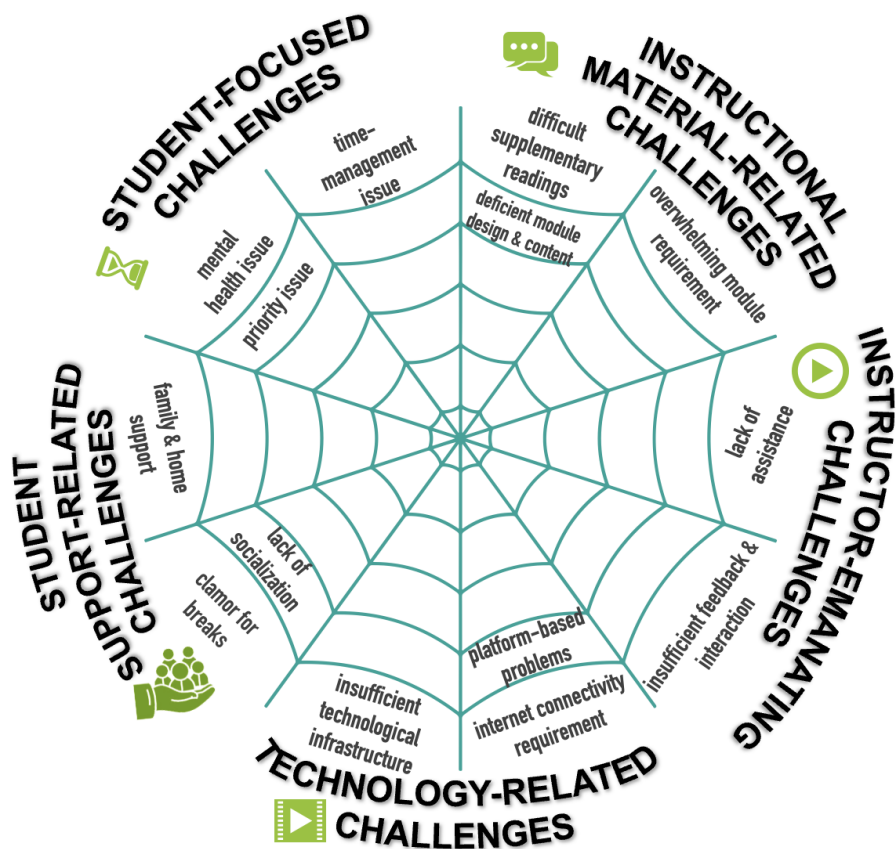

Figure 1. Bulusan, Codamon-Dugyon, and Bolintao's Spider Web Model of Dimensions of Students' Challenges in ERT

Student-Focused Dimension

The first dimension of challenges is student-focused. This dimension points to the challenges that are personally rooted. For instance, the students mentioned some priority issues during this pandemic caused by their auxiliary and overlapping non-academic tasks. In fact, participant 7 mentioned:

> I have experienced many hardships. One is being a working student. I would have to juggle my time to schedule when I can study. I need to budget my time in answering the modules, reading the lecture notes, and doing my other work. It is really hard to manage my time, especially [that] it is difficult to understand the mathematical concepts.

As a corollary to their priority issues as students, the time-management issue also emerged as a component of the student-focused challenges. This means that due to the sagging economy, the students are forced to look for jobs to help their families, which results in time-management issues like lack of time in accomplishing the modules, insufficient time to process the content of the course modules, and the overlapping schedule and deadlines. Two student participants averred:

> What I do is answer modules when there are very few customers in the store. I read there. When there are many customers, I stop reading, and I usually attend to our clients. It is unlucky, though, that when customers flock in the workplace, I would need extra time to study and answer the modules (P32).

> That is the main difficulty, sir. Moreover, I still need to cope with my main job in my workplace. I have to see to it that I am also effective in my work as a saleslady because if I do not do that, I cannot help my family, especially in this time of the pandemic. (P24)

Another component of the student-focused dimension is the mental-health issue. Recurring codes that build up the mental health issues include stress in modular learning, progressive burnout, and the continuing change of outlook to education. Students complain about being "so stressed" both in doing other non-academic work and in answering their course modules. It should be noted that the student participants are coming from one state university and one state

college in low-income provinces away from the cities. This provides a context on the economic difficulty of the families where the students belong.

Instructional Material-Related Dimension

The second dimension of challenges is instructional material-related. This means that students enrolled in non-laboratory courses are faced with problems relating to their teacher-made printed or online modules. Three components build up the instructional material-related dimension of students' challenges. These components include the (1) supplementary readings, (2) the module design and content, and (3) the module requirement.

In terms of the supplementary readings, the students enrolled in non-laboratory courses are boggled with some web-based contents, complicated technology-assisted texts, and difficult-to-find texts. Students complain about some content in the module that needs to be discovered by them online or through the use of some sophisticated applications. According to them, these supplementary readings that are difficult to find do not necessarily facilitate their learning.

Another component of the instructional material-related dimension of challenges is the issue of module design and content. Student participants considered that some of their modules are difficult to understand because they are lengthy. There are also meager real-life and practical examples of the concepts in the course modules. Sometimes, the outcomes and the tasks to be done in the lessons are misaligned. This situation is technically called "lack of constructive alignment".

Aside from the module design and content, student participants also consider the required tasks imposed by the course modules. The students mentioned about the modules having "difficult and overloaded tasks". This means that the materials seem to bombard the students with variegated and sometimes unnecessary activities that may not be suitable for their comprehension levels and cognitive abilities. Relative to these two components of instructional material-related dimension of challenges, these student participants opined:

> Well, the modules are good, sir; however, some of the lessons should not be expected to be understood for one hour or two. Some contents occupy five to nine pages, or sometimes, 15 pages. That's where the confusion comes in. It's very difficult to understand that kind of module (P28).

> Yes, sir. Sometimes, there are short modules, but [they] have difficult-to-accomplish activities (P16).

Instructor-Emanating Dimension

One more dimension of the students' challenges is emanating from the instructors themselves. Two constructs composed this dimension. First is the insufficient feedback and interaction led by the instructors and professors. Second is their lack of assistance extended to the remote students using both printed and online modules.

Frequent seen-zoning of student queries, delayed replies from the instructors, and unanswered student queries are the major forms of instructors' insufficiency of feedback and interaction. According to the student participants, it is worrisome when teachers do not provide feedback and seem unable to ignite interaction. The students begin to doubt whether they are being taught or still part of the class. Consequently, they make a negative sense of their presence in the virtual or remote classroom, and they seem to consider themselves a failure in their modular learning. One student mentioned:

> But some cannot give us the exact and expected help that we need. For instance, some teachers reply very short. Then, their answers in the group chats or texts are insufficient. Consequently, we would be shy in asking follow-up questions (P34).

A corollary to insufficient feedback from the instructors is the lack of assistance received by the students. One finding is that students receive over instructor-expectation and too much belief in independent learning. Students also complain that their level of cognitive understanding is not the same as their classmates. Some of the student participants' answers are as follows:

> From the very start, I really do think that the learning will not be as effective as the face-to-face type. However, it really depends on how the learner will cope. The learners' learning will depend on how they interpret this information, right, sir? For me, that is where the problem starts. Some students are incapable of analyzing the lecture notes right away. We certainly need the help of our instructors. Sometimes, the instructors expect so much from us that we can easily understand the modules. In fact, some modules are difficult to comprehend (P40).

> [B]ecause the instructors seem to believe that when we have already read the module once, we could immediately understand it. As for me, I usually read it thrice before I can understand the contents of the module. So, if the professors always think like that, we will surely be hard up because as if the way the modules

are written are easy to understand by everybody; in fact, it is the otherwise. That is the challenge now. It is unlike in the face-to-face classes where we can freely ask the instructors (P22).

Technology-Related Dimension

The fourth dimension of the students' challenges is related to technology. Three constructs composed this dimension. First is the absence and insufficiency of technological infrastructure. The second is on platform-based problems. Finally, is the internet connectivity requirement.

In terms of the absence and insufficiency of technological infrastructure, students are faced with problems on the low capacity of available resources, low computer-to-student ratio, and few open computer shops. Since they complain that some of the modules are insufficient and requiring supplementary readings, the students need to use more technology-driven resources and infrastructure. However, due to their economic status, personally availing these technological resources and interventions can be difficult. Aside from those, the higher learning institutions cannot fully provide them this technological infrastructure. In fact, one student participant mentioned:

> Some modules require us to do videos or to download long videos from YouTube. It gives us more pressure because we do not have the gadgets. We do not have laptops at home, and my cellphone has only limited space, sir (P23).

The platform-based problems emanate from the instructors and learners' low awareness of the platform, misuse of the available instructional platform, and absence of uniformity of the platform. In the setting of the study, there were no common learning management systems (LMS), as the institutions were not prepared to use them for the academic year 2020-2021. Hence, professors and instructors use various platforms without proper and ample training. Similarly, the students, who are forced to use various platforms at a time, are confused, especially that they, too, have not been trained on how to use each of the LMSs. Our researchers' memo can validate this claim:

> After our interview with the first group of participants, we have realized that it is not enough that students are using platforms. The variety of platforms being used in schools may also become a challenge in their learning. For example, one participant (Participant 6) said that group chat is appropriate for announcements while google classroom is best for the submission of outputs. Further, we realized that using one platform can diminish that challenge (memo 5).

Lastly, the students face internet connectivity requirements. Given that the students in this investigation are situated in an island province and a mountainous region in the northern Philippines, internet connectivity is still a perennial problem. Also, students with connectivity still complain about insufficiency of load allowance, even if they can access the internet. Some students who do not have access to the internet travel a considerable number of kilometers just to submit their online requirements.

Student Support-Related Dimension

The fifth dimension of students' challenges refers primarily to the social support of the students. In these trying times, they feel the scarcity of family and home support, the clamor for academic breaks, and the lack of socialization among their peers.

The scarcity of family and home support is built upon the need for understanding from family, provision of family time, and inaccessibility of tutor or guide. The students enrolled in non-laboratory courses clamor for a slice of understanding from their family members in ways that they can concentrate fully on answering their learning modules—whether printed or online. The fact that the majority of the student participants live along the fringes of the poverty line, their families expect the students to be helping them economically by doing some household chores or earning a living through sideline jobs while studying remotely. However, findings reveal that too many expectations from the family members can steal them of their concentration to study, thus, lacking family and home support.

Interestingly, students clamor for academic breaks. This outcry seems to root from other dimension of challenges mentioned above like academic burnout and excessive tasks from their instructional modules. Moreover, it speaks of their mental health condition due to the pressure of juggling their time for work and study. One researchers' memo speaks of this clamor for an academic break:

> During the first FGD, we noticed that participant 3's answer is quite the same as other participants'. All of them seem to encounter a problem on clamoring for breaks from their six [average] modules in a week. We think, their clamor for such a relief is a part of student support. We believe that relief is a necessary form of student support because, without it, the students may feel so exhausted in the whole semester (Memo 3).

Finally, part of the student support-related dimension of challenges is the lack of socialization. This component of the dimension stems from a lack of physical interaction in an emergency remote teaching mode, where there is an apparent low connection with their peers. The sudden change from socially engaged classrooms to geographically distanced

learning spaces has clearly affected the learning of the students. Most of them mentioned answering "tasks and activities individually" and having "high self-dependency."

Discussion

Notably, this study resulted in the development of the spider web dimensions of students' challenges. The web represents the five dimensions of challenges encountered by the students enrolled in non-laboratory courses during the first year of emergency remote teaching implementation. These challenges include (1) student-focused challenges, (2) instructional material-related challenges, (3) instructor-emanating challenges, (4) technology-related challenges, and (5) student support-related challenges.

The first dimension of students' challenges is focused on the students themselves. These challenges stem from the participants' socioeconomic status. The Philippines is a developing country with 56.5 million people living below the poverty line (Dejaresco III, 2021). As a result of a weakening economy due to the COVID-19 pandemic, more Filipinos tend to concentrate on earning for daily needs. This situation exacerbates students' priority concerns, as some are compelled to seek side jobs or work from home while studying. In Bhutan, students are obligated to assist their farmer parents while studying remotely (Pokhrel & Chhetri, 2021). This means that the sudden pivot to emergency remote teaching has put the students in low-income families at a greater disadvantage. As a result, time management becomes critical in completing their modules. This situation explains students' low and slow response rates to tasks and module submissions, respectively. Indeed, socioeconomic factors are emphasized as a critical player in students' learning during the first year of emergency remote teaching implementation (Eivers et al., 2020; Khlaif et al., 2021; Moss et al., 2020). This paper's findings agree with Babincakova and Bernard's (2020), which pedagogically imply that greater consideration should be given to more economically disadvantaged students in the classroom (Lucas et al., 2020) by providing them with more flexible materials and fewer tasks to complete. Additionally, a single assessment-multiple-outcomes approach may be considered, in which a single assessment task covers multiple and related outcomes. This way, students who are compelled by circumstance to work while studying can be assisted in managing their time and priorities.

Another aspect of student-centered dimension of challenges is mental health. This component is the result of a high level of burnout among ERT students. Students experience an inverse relationship between burnout and academic progress as a result of their divided attention and other mental disruptions. This means that when students are burned out, their academic progress is decelerated. This is congruent to the empirical findings of Ozudogru (2021), Petillion and McNeil (2020), and Shin and Hickey (2021). This situation necessitates the exploration of both proactive and reactive measures to maintain the students' mental health (Esperanza & Bulusan, 2020). These measures may represent potential avenues for future research in the field of ERT. One proactive measure is to conduct empirical research on the causes of burnout and to propose some pedagogical implications. On the other hand, one reactive measure is conducting an experimental study of some interventions, such as virtual and distant guidance counseling techniques and programs, among students who appear to be experiencing high levels of burnout. This study relies entirely on self-reports from students who verbalized and described their academic stresses and burnouts, without necessarily putting them through psychological testing. Thus, developing a scale to assess burnout among tertiary students, with a focus on the ERT context, may also be explored.

The instructional material-related dimensions of challenges, on the other hand, can be explained by the unfamiliarity of instructional designers—the instructors and professors—in the context of ERT. Numerous countries, including the Philippines, have recently implemented ERT on a large scale; the abrupt educational shift has emphasized the importance of massive and ongoing faculty training on how to design materials for non-laboratory courses. This observation supports Trust and Zinn's (2020) assertion that teachers require significant assistance in developing pedagogies for optimizing the use of technology in any format or situation, including online, remote, and blended. According to Trust and Whalen (2021), many teachers admit to having difficulty locating, curating, and evaluating materials for their remote students. This is because online teaching necessitates the use of a strong instructional design, which takes time to prepare.

This paper advances that if the quality of materials in ERT does not fit the students' context and thus continues to be a dimension of challenges, the quality of learning may suffer (Hodges et al., 2020). Curricular decongestion may not have been implemented effectively by institutions of higher learning and instructors. The pressure to teach all expected outcomes in one semester contributes to the overlapping tasks and activities that students must complete. This results in excessively lengthy materials and content that are difficult to comprehend by the non-laboratory students. Thus, educational administrators may wish to consider ways to ensure that curricular decongestion is adequately implemented. Apart from training instructors on how to design and develop materials that are appropriate for the ERT context, there is a dearth of instructional material design models that instructors can easily follow. These models may place a greater emphasis on students' analytical, comprehension, application, and creative thinking processes, as non-laboratory courses do not always place a premium on complex skill development (Affouneh et al., 2020; Dutton & Mohapatra, 2021; Sikora, et al., 2020). Hence, one research opportunity is to develop and validate instructional

material design models in the context of ERT. To address this multidimensional challenge and its components, instructional material design models can be used.

The third dimension is teacher-emanating challenges, which is inextricably linked to the instructional materials-related dimension. The third dimension focuses on the difficulties students face when interacting with instructors who appear to provide insufficient feedback, interaction, and assistance. What instructors seem to be lacking is the pedagogical skill to exude "presence" in ERT. This suggests that instructors and professors are overly assuming that the students can easily comprehend the concepts in their modules in one reading. We argue that instructors are accountable for making students aware of the silence of supposedly interactive virtual and distant classes and the scarcity of study groups that foster collaboration and a sense of belonging. McMurtrie (2020) explained that "presence" must be felt by the students by allowing them to sense that they belong in a particular community of learners. This finding is consistent with the empirical findings of Alea et al. (2020), Iwai (2020), and Reimers et al. (2020), which indicate that teachers in the ERT context are inept at establishing communication with students, such as providing feedback (Jaggars et al., 2020), monitoring responses, and providing remedial assistance. Wang et al., (2020) attempted to account for these multidimensional difficulties by blaming a lack of facilities, equipment, infrastructure, and institutional support. On the other hand, Genone (2020) emphasized that pedagogy is still a more important factor than technology to survive in ERT. This implies that instructors and professors of non-laboratory courses must undergo continuous massive training in technological and pedagogical knowledge while ERT is enforced. Instructors must develop strategies for connecting with students to foster a sense of belonging (Arghode et al., 2018).

The fourth dimension of student challenges—technology-based—may apply to all students, regardless of whether they are enrolled in a laboratory or non-laboratory course. This dimension has remained a perennial challenge since the start of ERT due to COVID-19, as many institutions of higher learning have resorted to the use of technology to ensure uninterrupted instruction. These technology-related issues can be explained by institutions' lack of technological infrastructure as a result of the unprecedented and abrupt shift to online education. This necessitates iteration to maintain progressive and widespread training for instructors and professors in pedagogical and technological utility (Brereton, 2021; Jelinska & Paradowski, 2021). In this study, one striking consequence of insufficient teacher training is the misuse and inconsistency of the utilization of instructional platforms such as the LMS. The variety of LMS used in non-laboratory courses may cause students' confusion and eventually increase academic stress. This implies that institutions should not only address the procurement and sustainability of the LMS but also ensure teacher and student training on the utilization of the LMS. One research opportunity is to design a teacher training program and then evaluate its effectiveness using time series techniques.

Physical space can also be linked to technological use. Certain students struggle in synchronous classes, where the physical environment at home may be unsuitable for learning. All of these circumstances contribute to academic stress, which can result in attention deficits or withdrawal from learning (Le & Truong, 2021). As a consequence, it calls for a greater degree of flexibility in the delivery and content of instruction for students to make the most of their limited physical space (Gelles et al., 2020).

Student support is the final dimension of student challenges. While this dimension primarily refers to a lack of human support and is rooted in psychological factors, it boils down to the academic stress that they face during the first year of ERT implementation. Clearly, the lack of socialization that results in demotivation (Jeffery & Bauer, 2020; Shim & Lee, 2020) can be attributed to ineffective online learning implementation. Compounding factors contribute to this difficulty, such as teachers' lack of familiarity with online learning design and pedagogy. This implies that pre-service teacher curricula should place a premium on online and distance learning pedagogies, all the more so if flexible learning continues to be visible in the educational landscape. This study contributes to our understanding of Astin's (1997) conceptual theory that what matters in college is interaction, even outside the classroom walls.

Meanwhile, one research opportunity related to parental support deficiency (Pokhrel & Chhetri, 2021) is to curate and document the best family and home support practices using a qualitative design and develop a framework ready for massive dissemination. This way, families will gain a better understanding of the strategies available to assist students in their studies, thereby reducing this particular dimension of difficulties (Raguindin et al., 2021).

In general, this study discovers that students enrolled in non-laboratory courses are uneasy with online learning during the first year of ERT implementation in the Philippines. This finding runs counter to the empirical findings of Bisht et al. (2020), who stated that students are generally "comfortable" with online learning. This discrepancy in findings could be explained by the studies' varying contexts. Bisht et al. (2020) conducted their study in an environment where internet connectivity is stable and technological infrastructure is abundant. Thus, the provision and sufficiency of ICT infrastructure continue to be critical factors in determining students' ease and comfort with ERT (Adnan & Anwar, 2020; Ferri et al., 2020).

Conclusion

This study enabled the construction of a spider web representation of the various dimensions of students' challenges in non-laboratory courses following the first year of ERT implementation in response to the COVID-19 pandemic. These challenges include (1) student-focused challenges, (2) instructional material-related challenges, (3) instructor-emanating challenges, (4) technology-related challenges, and (5) student support-related challenges. The spider web illustration describes that these challenges are not isolated from each other; rather, they are interrelated. Their interconnectedness enables a vivid picture of the students' needs to be addressed and improved in the subsequent years of ERT until the pandemic is completely manageable. As a result, an interagency approach may be required to mitigate the gravity of these dimensions of challenges. This paper generally implies that these dimensions of students' challenges are insurmountable for higher education institutions or the government to address on their own.

Additionally, this study amplified the difficulties faced by students that were published in a variety of journal articles and whose data were harvested from the start of the ERT. While the challenges that surfaced are quite similar to other literature, this study endeavored to clearly draw the connections of these challenges to see them into a macro perspective. The amplification of these students' challenges is a vital input to educational planning and sociological understanding of the students' experiences.

This study foregrounds three underpinning concepts from where these challenges stem. The first is the socioeconomic standpoint. The second category is human and infrastructure resources, which include teacher training and ICT resources. The third is the external support system coming from family and non-academic persons. This study concludes that these intertwined concepts are critical to the success of implementing ERT in the context of non-laboratory courses where learning complex skills are not the primary concern. Some of these challenges, however, are thought to be applicable in laboratory courses as well.

Recommendations

The findings can be used to identify immediate opportunities for interdisciplinary research in education. Methodologically, future researchers can come up with a tool to measure the extent of the students' challenges by using the identified dimensions in this paper. In this way, empirical data can aptly support the claims being forwarded by this study. Future research may wish to compare the challenges faced by students in rural and urban settings. A counterpart of this study in the context of laboratory courses could also be investigated to provide a deeper understanding that the nature of the courses affects the dimensions of challenges manifested by the students in ERT.

Limitations

While the findings of this study paint a realistic picture of the difficulties faced by students during their first year of ERT in college, caution should be exercised in using them for generalization. Always keep in mind that this study was conducted exclusively in two state-owned institutions of higher learning located in rural areas. Thus, a counterpart of this study may also be delved into, considering the urban context.

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Authorship Contribution Statement

Bulusan: Conceptualization, design, data acquisition, analysis, writing, final approval, critical revision of manuscript. Codamon-Dugyon: Editing/reviewing, supervision, technical and material support, securing funding, data acquisition. Bolintao: Technical and material support, securing funding, data acquisition, data analysis/interpretation.

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