



Pedagogical Challenges and Opportunities during Covid-19 Pandemic: Perspectives from the Pre-Service and High School Teachers

Mcbon Lyle C. Tagalog¹, Flora Loyda P. Larong², Ricky Boy E. Limlingan³, Alvin J. Sumampong⁴,
Maricar M. Saavedra⁵, Liza L. Chua⁶

^{1,2,3} Faculty Member, College of Education, Culture, and Arts, St. Paul University Surigao, Surigao City, Philippines

^{4,5,6} Alumni, College of Education, Culture, and Arts, St. Paul University Surigao, Surigao City, Philippines

ABSTRACT: This study aimed to determine the pedagogical challenges and opportunities of the Pre-Service and high school teachers in the new normal education. The sample size was determined using the slovins formula and 13 pre-service teachers, and 26 High School Teachers were the participants. Descriptive and inferential were used. Findings revealed that most of the respondents were 21-26 years old, female, high school teachers, and situated mostly in urban areas. The conduct of online classes was the major challenge faced by both pre-service and high school teachers for they used to conduct classroom teaching for many years. The online teaching-learning modality was successfully implemented to practice teaching as a mission to facilitate students learning through various online strategies during the COVID-19 pandemic. Age, sex, type of respondents, and locality did not show a significant degree of variance in the extent of the pedagogical challenges and opportunities they encountered. The locality has a significant degree of variance in terms of teaching-learning engagement and opportunities for teaching-learning platforms. Hence, seminars and workshops on online pedagogies and online assessment tools strategies to facilitate online teaching more engaging was recommended.

KEYWORDS: Covid-19, Challenges, High School Teachers quantitative descriptive, Opportunities, Pedagogy, Pre-Service Teachers, Philippines.

I. INTRODUCTION

A novel coronavirus known as Covid-19 was discovered in a seafood market in Wuhan in the last month of 2019 [1]. The virus's clinical analysis results revealed that it was transmitted from person to person [2]. After assessing the rapid spread and severity of the deadly virus across the globe, the Director General of WHO declared Covid-19 a pandemic in March 2020 [3], with an additional announcement of social distancing as a means of containing the pandemic. A pandemic is "an outbreak of a disease that occurs over a large geographic area and affects an unusually high proportion of the population [4]." Social distancing is a deliberate increase in the physical distance between people to prevent disease spread [5]. This pandemic has forced the physical closure of businesses, sporting events, and schools around the world, forcing all institutions to migrate to online platforms. Online learning is the use of the internet and other important technologies to create educational materials, deliver instruction, and manage programs [6].

In the Philippines, public and private schools were closed following the government's imposition of a total lockdown in March 2020, known as Enhanced Community Quarantine [7]. The government ensures that all Filipino learners will have an equal opportunity to continue their education amidst the COVID-19 pandemic by adopting various learning modalities, including blended learning and distance education, as the primary options. These learning modalities are now the "new normal" of delivering basic education services in the Philippines while putting forward the welfare of teachers, learners, and other education stakeholders. The Department of Education (DepEd) emerged appropriate learning delivery modalities to let primary education learners continue education while avoiding the spread of COVID-19 [8].

Both teacher and the learner should adjust to the new interaction as the teachers gather for a new methodology of the modality of teaching-learning to adjust to the new normal of education. These challenges included learning how to interact with learners online, assessing learners online, the appropriate technological device to use, access to internet connectivity, funds for data, and how the teacher will provide feedback to learners and vice versa. Pre-service teachers and high school teachers must face



various challenges and difficulties in performing their roles efficiently according to the stringent teaching practices and activities of today, including lesson planning and writing, controlling and managing students in the classroom, and meeting the varying needs of their learners [9].

Saint Paul University Surigao implemented Online Distance Learning Education to steadily serve the Paulinians in the pursuit of academic excellence and spirituality for the School Year 2020-2021. With the wide-ranging flexible modes of learning, guided by the philosophy, paradigm, and principles of Outcomes-Based Education, St. Paul University Surigao positively claims responsibility to continue guiding and leading her teachers and students to develop the Paulinian Life-Performance Outcomes [10].

Pre-service teachers' and high school teachers' underlying conditions and expectations may be challenged by poor internet access, lesson delivery and assessment, and a lack of interest in online lessons. These initiated the researchers to explore and be inspired by a study entitled "Pedagogical Challenges and Opportunities during the COVID-19 Pandemic: Perspectives from Prospective Teachers and Teacher Educators" [11]. It has investigated the prospective teacher's and teacher educators' presuppositions, beliefs, and emotions on the sudden switch to the online teaching mode in India. The teachers themselves seemed uneasy about the platforms and techniques of online teaching. It was the biggest challenge to convince themselves first and get on to the field. It has also investigated the lessons learned and their implications for higher education pedagogy. The study of Nanaware and Sharma differs from the current study in terms of the focused community, the respondents, and the survey questionnaire as it was conducted in India with Indian public teachers and educators as the respondents while the present study will be conducted in St. Paul University Surigao with pre-service teachers and high school teachers as the participants of the study. Also, the present study used a contextualized questionnaire administered through the use of Google Forms. As part of its ongoing research in this area, the pair have worked to gather thoughts around the perspectives of the pre-service teachers and high school teachers at St. Paul University Surigao.

II. MATERIALS AND METHODS

The study employed a quantitative approach using a survey questionnaire made by the researchers for pre-service teachers and high school teachers, as an essential instrument in gathering essential information. It is proper for the survey questionnaire to distribute to the student-teachers and high school teachers to know their pedagogical challenges and opportunities as to teaching-learning platforms, devices, teaching-learning engagement, and the teaching-learning environment. Rahi claimed that the descriptive research method focused on gathering information on existing phenomena [12]. It arranges to generate an accurate profile of situations, people, or events. It organizes, tabulates, depicts, and describes Glass & Hopkins's data collection [13]. The researchers used the checklist as the data collection method, with 100% of the student-teachers and high school teachers of Saint Paul University Surigao selected as respondents in the study.

Purposive sampling was used in the study as the participants involved are pre-service teachers of the Bachelor in Elementary Education and Bachelor in Secondary Education majoring in English and Filipino programs, and high school teachers at St. Paul University Surigao as they correspond to the objective and interest of the study and based on their availability. Out of 30 total pre-service teachers of the BEED and BSED program at St. Paul University Surigao, the researchers were able to gather 13 participants, and out of 62 high school teachers at St. Paul University Surigao, the researchers were able to gather 26 participants.

Table 1. Distribution of the Participants

Participants	Total Population	Sample Population
Pre-service Teachers (BEED and BSED)	30	13
High School Teachers (Junior High School and Senior High School)	62	26
Total	92	39

This study used a researcher-made questionnaire that comprised two sets: one for the pre-service teachers and one for the high school teachers. It was validated by Mr. Nikko T. Ederio, Dr. Rodnie M. Tagubar, Ms. Audi Kondessa N. Gortifacion, and Ms. Mary Louie E. Galaura. Both are composed of two parts. Part I elicits information on the profile's age, sex, type of



respondents, and locality of the Respondents. Part II A provides a checklist of the pedagogical challenges faced by the pre-service teachers and high school teachers regarding teaching-learning platforms, devices, teaching-learning engagement, and the teaching-learning environment. Part II B provides a checklist of the pedagogical opportunities faced by the pre-service teachers and high school teachers regarding teaching-learning platforms, devices, teaching-learning engagement, and the teaching-learning environment.

Table 2. Researcher-made Questionnaire Internal Consistency and validity of the researcher-made questionnaire

Components	No. of Items	Cronbach's Alpha	Interpretation
CHALLENGES			
Teaching-learning platforms	5	0.750316144	Acceptable
Devices	5	0.73865158	Acceptable
Teaching-learning engagement	5	0.760086455	Acceptable
Teaching-learning environment	5	0.787037037	Acceptable
Reliability Test Scale			
Cronbach's Alpha			Interpretation
$0.9 \leq \alpha$			Excellent
$0.8 \leq \alpha \leq 0.9$			Good
$0.7 \leq \alpha \leq 0.8$			Acceptable
$0.6 \leq \alpha \leq 0.7$			Questionable
$0.5 \leq \alpha \leq 0.6$			Poor
$\alpha < 0.5$			Unacceptable

As shown in table 2, the researcher-made questionnaire internal consistency and validity of the researcher-made questionnaire in the components of challenges as to Teaching-learning platforms, Devices, Teaching-learning engagement, and Teaching-learning environment (Cronbach's Alpha= 0.750316144, 0.73865158, 0.760086455, 0.787037037) were all interpreted as acceptable.

Table 3. Researcher-made Questionnaire Internal Consistency and validity of the researcher-made questionnaire

Components	No. of Items	Cronbach's Alpha	Interpretation
OPPORTUNITIES			
Teaching-learning platforms	5	0.790117417	Acceptable
Devices	5	0.775789714	Acceptable
Teaching-learning engagement	5	0.754054054	Acceptable
Teaching-learning environment	5	0.730359433	Acceptable
Reliability Test Scale			
Cronbach's Alpha			Interpretation
$0.9 \leq \alpha$			Excellent
$0.8 \leq \alpha \leq 0.9$			Good
$0.7 \leq \alpha \leq 0.8$			Acceptable
$0.6 \leq \alpha \leq 0.7$			Questionable
$0.5 \leq \alpha \leq 0.6$			Poor
$\alpha < 0.5$			Unacceptable

As shown in table 3, the researcher-made questionnaire internal consistency and validity of the researcher-made questionnaire in the components of opportunities as to Teaching-learning platforms, Devices, Teaching-learning engagement, and



Teaching-learning environment (Cronbach's Alpha= 0.790117417, 0.775789714, 0.754054054, 0.730359433) were all interpreted as acceptable.

A letter of request to conduct the study was sent to the Dean of the College of Education, Culture, and Arts and the Principal of Basic Education at St. Paul University Surigao. Upon approval, the validated researcher-made survey questionnaire was administered using Google Forms. The researchers disseminated the Google Form link to the pre-service teachers and high school teachers at St. Paul University Surigao via Facebook messenger and e-mail.

Also, the researchers provided a request to the University Registrar's Office to validate the number of pre-service teachers and a request to the University High School Principal's office to validate the number of high school teachers.

The gathered data were tallied, tabulated, and analyzed with the help of a research statistician. Interpretation and discussion of results followed.

The gathered data were analyzed using the following tools.

Frequency Count and Percentage Computation. These tools were used to determine the profile of the respondents.

Mean and Standard Deviation. This tool was used to determine the pedagogical challenges and opportunities faced by the student-teachers and the high school teachers at St. Paul University as to teaching-learning platforms, devices, teaching-learning engagement, and the teaching-learning environment.

<i>Parameters</i>	<i>Scale</i>	<i>Verbal Interpretation (VI)</i>	<i>Quality Description (QI)</i>
	3.25-4.00	Strongly Agree	Very High
	2.50-3.24	Agree	High
	1.75-2.49	Disagree	Low
	1.00-1.24	Strongly Disagree	Very Low

Analysis of variance (ANOVA). This tool was also used to measure the significant degree of variance in the pedagogical challenges and opportunities encountered by the student-teachers and high school teachers when grouped according to their profiles.

The researchers strictly observed research ethics as writers or researchers and ethics involving the right and safety of the respondents and respecting the feelings and opinions of the respondents.

This study obtained prior informed consent, allowing the individual consent for extracting information from the said respondents. Proper permission was secured to use their given data.

Confidentiality of the responses was established to ensure the privacy of the respondents' data. The disclosure of respondents' identity was based on their permission, where if they are not willing to disclose their identity, their identity will not be exhibited. Beyond that fact, usage of any secondary data from any source would be acknowledged with proper reference.

III. RESULTS AND DISCUSSIONS

The findings of the study are shown in the following tables.

Table 4. Demographic profile of the participants

Profile	f	%
Age	41-48	1 2.56
	34-40	2 5.13
	27-33	5 12.82
	21-26	31 79.49
Sex	Male	16 41.03
	Female	23 58.97



Type of Respondent	Student-teacher	13	33.33
	Junior HS Teacher	15	38.46
	Senior HS Teacher	11	28.21
The locality of the Respondent	Urban	25	64.10
	Suburban	4	10.26
	Rural	10	25.64
	N=	39	100

As to age, 31 or 79.49% aged between 21-26 years, followed by 5 or 12.82% the ages between 27-33 years old, 2 or 5.13% are 34-40 years old, and only one 1 or 2.56% in the age of 41-48 years old.

In terms of sex, most of the respondents are females with 23 (58.97%) while 16 (41.03%) are males.

As to the Type of respondents, 11(28.21%) are Senior High School Teachers, 13 (33.33%) are Student-teachers, and 15 (38.46%) are Junior High School Teachers.

As to the Locality of the Respondents, 4 (10.26%) were situated in Suburban, 10 (25.64%) in Rural, and 25(64.10%) in Urban areas.

Table 5. Pedagogical challenges and opportunities faced by the pre and in-service teachers as to teaching-learning platforms

Indicators	Mean	SD	VI	QD
CHALLENGES				
1. some learning contents in Quipper do not match the MELCS from DepEd.	2.54	0.94	Agree	High
2. Limited type of assessment is being offered in Quipper unlike in other platforms.	2.74	0.91	Agree	High
3. Sometimes Zoom consumes too much bandwidth which can cause delays or laps in connection.	3.28	0.79	Strongly Agree	Very High
4. Zoom’s basic account can only access web conferencing for only forty minutes.	3.05	0.92	Agree	High
5. Kahoot has limitations such as unstable internet connectivity may cause communication gaps in learning activities.	3.36	0.81	Strongly Agree	Very High
Average	2.99	0.87	Agree	High
OPPORTUNITIES				
1. Quipper provides teaching material like PowerPoint presentations for each lesson that can be modified and improved.	3.56	0.60	Strongly Agree	Very High
2. Learning exercises and activity worksheets are readily available in Quipper for teachers’ use.	3.38	0.71	Strongly Agree	Very High
3. Zoom provides some features that allow me to monitor student’s learning engagement and interaction through chatbox, reaction button, and breakout rooms.	3.62	0.54	Strongly Agree	Very High
4. I can upload the recorded Zoom lectures and send them to my students who miss the discussion due to various reasons.	3.54	0.60	Strongly Agree	Very High
5. Kahoot allows teaching-learning engagement more interactive and fun by presenting lessons in game-based learning.	3.49	0.51	Strongly Agree	Very High



Average	3.52	0.59	Strongly Agree	Very High
Average	3.26	0.73	Strongly Agree	Very High

Parameters	Scale	VI	QD
4	3.25-4.00	Strongly Agree	Very High
3	2.50-3.24	Agree	High
2	1.75-2.49	Disagree	Low
1	1.00-1.74	Strongly Disagree	Very Low

As shown in Table 4.1, the indicator Sometimes Zoom consumes too much bandwidth which can cause delays or laps in connection in the challenges of teaching-learning platform got the highest mean (M=3.28, SD=0.79) which can be verbally interpreted as strongly agree and qualitatively described as very high. This means that the respondents most often experienced delays or laps in connection while using Zoom. Lack of bandwidth can quickly become a stoppage that slows the real-time communication and collaboration of the online classes, resulting in poor audio and video quality and a less practical meeting experience [13].

While the indicator Zoom provides some features that allow me to monitor student's learning engagement and interaction through chatbox, reaction button, and breakout rooms in the opportunities of teaching-learning platform got the highest mean (M=3.62, SD=0.54) which can be verbally interpreted as strongly agree and qualitatively described as very high. Zoom also allows instructors to monitor student's learning engagement and interaction through chat boxes, reaction buttons, and breakout rooms [14]. This means that the respondents strongly agreed that Zoom helps them to assess students through observations and evaluations of school tasks and activities.

However, the indicator There are some learning contents in Quipper which do not match the MELCS from DepEd in the challenges of teaching-learning platform got the lowest mean (M=2.54, SD=0.94), which can be verbally interpreted as agree and qualitatively described as high. Although the indicator got the lowest mean, it still resulted as high, which means that the respondents still agreed that there is a limitation in utilizing Quipper as a teaching-learning platform. The teachers found some weaknesses in using Quipper as a teaching-learning platform [15]. It did not match the curriculum used in their school. Moreover, the material provided by the application was not in the same order as in the teachers' textbook, so they had to sort the chapters on their own.

While the indicator Learning exercises and activity worksheets are readily available in Quipper for teachers' use in the opportunities of teaching-learning platform got the lowest mean (M=3.38, SD=0.71), which can be verbally interpreted as strongly agree and qualitatively described as very high. Although the indicator got the lowest mean, it still resulted as very high, which means that the respondents strongly agreed that Quipper has features readily available for the teachers' use. The material provided by Quipper was beneficial for teachers' use [15]. Quipper provides teaching materials like PowerPoint presentations for each lesson that can be modified and improved.

Table 6. Pedagogical challenges and opportunities faced by the pre and in-service teachers as to devices

Indicators	Mean	SD	VI	QD
CHALLENGES				
1. My headset has no features for automatic noise-canceling.	2.64	1.06	Agree	High
2. Readability with text becomes a problem when using smartphones to their limited screen size.	3.18	0.82	Agree	High
3. It is challenging for me to purchase and use a laptop in teaching because it is quite expensive and more energy-consuming than a smartphone.	2.64	1.01	Agree	High



4. Prepaid wifi is challenging because I need to track when my load runs out; its services are also limited, and the connection is not consistent.	3.38	0.85	Strongly Agree	Very High
5. Postpaid wifi is challenging because internet providers can only serve such selected areas, which is also more expensive than prepaid wifi.	3.18	0.76	Agree	High
Average	3.01	0.90	Agree	High
OPPORTUNITIES				
1. I can utilize a headset with an integrated feedback active noise control that can remove the disturbing noise and, at the same time, allow the desired speech or audio signal to pass through without cancellation.	3.33	0.62	Strongly Agree	Very High
2. Smartphones are used primarily to monitor and follow up submission of students' academic requirements; these can also be used to provide feedback and announcement.	3.51	0.60	Strongly Agree	Very High
3. A laptop is more feasible than a smartphone because I can do many things on my laptop with its bigger screen and storage.	3.79	0.41	Strongly Agree	Very High
4. I can immediately start using the prepaid wifi by plugging it into a power outlet, and it gives me the option to purchase data only when I need it, allowing me to do online teaching.	3.10	0.82	Agree	High
5. Postpaid wifi has unlimited packages; there is no hassle with reloading since I only have to pay a bill once a month, and it has a more stable connection, allowing me to do online teaching.	3.39	0.64	Strongly Agree	Very High
Average	3.43	0.62	Strongly Agree	Very High
Average	3.22	0.76	Agree	High
Parameters	Scale	VI	QD	
4	3.25-4.00	Strongly Agree	Very High	
3	2.50-3.24	Agree	High	
2	1.75-2.49	Disagree	Low	
1	1.00-1.74	Strongly Disagree	Very Low	

As shown in Table 4.2, the indicator Prepaid wifi is challenging because I need to track when my load runs out; its services are also limited, and the connection is not consistent in the challenges of devices that got the highest mean (M=3.38, SD=0.85) which can be verbally interpreted as strongly agree and qualitatively described as very high. This means that the respondents used prepaid wifi for their internet connectivity and it was a hassle for them to monitor their data consumption and they also experienced unstable connection. Teachers need to track when their load runs out while using prepaid wifi; its services are also limited, and the connection is inconsistent—the need to track when the promo ends and when the load may run out [16]. If not, they may be disconnected during the most inconvenient times, such as a virtual Zoom class session.

While the indicator A laptop is more feasible than a smartphone because I can do many things on my laptop with its bigger screen and storage in the opportunities of devices got the highest mean (M=3.79, SD=0.41) which can be verbally interpreted as strongly agree and qualitatively described as very high. The facilitators also use laptops rather than smartphones because they are designed for multitasking work [17]. The users can also open several windows and do several tasks



simultaneously. This means that the respondents strongly agreed that a laptop is more convenient for teachers’ multitasking use in facilitating.

However, the indicator My headset has no features for automatic noise-canceling in the challenges of devices got the lowest mean (M=2.64, SD=1.06), which can be verbally interpreted as agree and qualitatively described as high. Although the indicator got the lowest mean, it still resulted as high, which means that the respondents still agreed that despite using headsets they still encountered background noise during the teaching-learning engagement. The unfavorable side of headsets and earbud-type headsets with no automatic noise-canceling features is prone to picking up extra background noise and transmitting that to the user's caller [18].

While the indicator I can immediately start using the prepaid wifi by plugging it into a power outlet, and it gives me the option to purchase data only when I need it, allowing me to do online teaching in the opportunities of devices got the lowest mean (M=3.10, SD=0.82), which can be verbally interpreted as agree and qualitatively described as high. Although the indicator got the lowest mean, it still resulted as high, which means that the respondents still agreed that Prepaid wifi can be economically used. Once user gets their prepaid wifi, they can immediately start using it by plugging it into a power outlet [16]. Compared to postpaid WiFi, prepaid WiFi offers users the benefit of buying and using only what they need.

Table 7. Pedagogical challenges and opportunities faced by the pre and in-service teachers as to the teaching-learning engagement

Indicators	Mean	SD	VI	QD
CHALLENGES				
1. I hardly respond to my students’ work such as the inability to give fast feedback and responses to my students’ work.	2.31	0.80	Agree	High
2. I have difficulty supervising my students to prevent possible cheating during their online assessments.	2.72	0.86	Agree	High
3. I cannot fully understand the student's needs since I cannot directly observe and check my students' progress and most of them are also reluctant to ask.	2.64	0.87	Agree	High
4. I have difficulty assessing performance-based tasks such as tracking and checking students' outputs, and concerned about failing grades due to missed submitted requirements online and low midterm performance.	2.56	0.79	Agree	High
5. Delayed movement in the projection of PowerPoint slides due to intermittent internet connection among the students.	3.08	0.74	Agree	High
Average	2.66	0.81	Agree	High
OPPORTUNITIES				
1. Activity worksheets can be sent anytime to the students through social media without the cost of printing.	3.64	0.49	Strongly Agree	Very High
2. I have real-time monitoring of students’ learning activities through Quipper.	3.46	0.55	Strongly Agree	Extreme
3. I integrate music and film into our online teaching so that the students will not easily get bored, especially in teaching skills such as listening, speaking, and writing.	3.64	0.54	Strongly Agree	Very High
4. The Quipper helps me eliminate manual checking of papers.	3.38	0.59	Strongly Agree	Very High
5. The Quipper helps me generate data analytics that would provide a springboard for future teaching procedures and process improvement.	3.56	0.55	Strongly Agree	Very High
Average	3.54	0.54	Strongly Agree	Very High
Average	3.10	0.68	Agree	High



Parameters	Scale	VI	QD
4	3.25-4.00	Strongly Agree	Very High
3	2.50-3.24	Agree	High
2	1.75-2.49	Disagree	Low
1	1.00-1.74	Strongly Disagree	Very Low

As shown in Table 4.3, the indicator Delayed movement in the projection of PowerPoint slides due to intermittent internet connection can cause learning confusion among the students in the challenges of teaching-learning engagement got the highest mean ($M=3.08$, $SD=0.74$) which can be verbally interpreted as agree and qualitatively described as high. This means that the respondents agreed that intermittent internet connection can bring distraction to the teaching-learning engagement between the students and the teachers. Sometimes there were some errors like the screen or sounds not being clear [19]. If disconnected, it is hard to re-join because of the problems with the internet connection. Due to poor connectivity, delayed movement in the projection of PowerPoint slides can cause learning confusion among the students.

While the indicator Activity worksheets can be sent anytime to the students through social media without the cost of printing the opportunities for teaching-learning engagement got the highest mean ($M=3.64$, $SD=0.49$) which can be verbally interpreted as strongly agree and qualitatively described as very high. Social media is the easiest and most accessible way of delivering learning to most learners and teachers [20]. This means that the respondents strongly agreed that social media is beneficial and very familiar to everyone especially in disseminating information or instruction. Similarly, the indicator I integrate music and film into our online teaching so that the students will not easily get bored, especially in teaching skills such as listening, speaking, and writing in the opportunities of teaching-learning engagement also got the highest mean ($M=3.64$, $SD=0.54$) which can be verbally interpreted as strongly agree and qualitatively described as very high. The instructors integrate music and film so that the students will not easily get bored, especially in teaching skills such as listening, speaking, and writing [21]. This means that the respondents strongly agreed that facilitators are more resourceful and more creative in ensuring the students are engaged in the teaching-learning process.

However, the indicator I hardly respond to my students' work such as the inability to give fast feedback and responses to my students' work in the challenges of teaching-learning engagement got the lowest mean ($M=2.31$, $SD=0.80$), which can be verbally interpreted as agree and qualitatively described as high. Although the indicator got the lowest mean, it still resulted as high, which means that the respondents still agreed that they sometimes encountered difficulty in responding and giving feedback to their learners' activities online. One of the teachers' problems in this online teaching is the inability to respond quickly to students' work and projects [21]. While the indicator The Quipper helps me eliminate manual checking of papers in the opportunities of teaching-learning engagement got the lowest mean ($M=3.38$, $SD=0.59$), which can be verbally interpreted as strongly agree and qualitatively described as very high. Although the indicator got the lowest mean, it still resulted as very high, which means that respondents strongly agreed that through Quipper, facilitators save their time and effort by manually checking students' tasks and assessments. The Quipper platform eliminates the manual checking of test papers since it automatically provides for the students' scores or ratings after a given quiz or assessment [22].

Table 8. Pedagogical challenges and opportunities faced by the pre and in-service teachers in the teaching-learning environment

Indicators	Mean	SD	VI	QD
CHALLENGES				
1. I easily get distracted by the unexpected appearance or interruption of family members, friends, and or pets that may cause disruption or diversion of my teaching process.	2.46	0.91	Agree	High
2. Poor/improper lighting fixtures within the room can cause eye strain.	3.21	0.70	Agree	High
3. I find it difficult to look for a place where I get settled due to poor internet connectivity.	3.13	0.80	Agree	High



4. My teaching station sometimes gives me discomfort when my family members and visitors are passing through it from time to time.	2.77	0.96	Agree	High
5. I sometimes fail to ensure that the things inside are well-sanitized, well-arranged (tables and chairs), and well-organized.	2.59	0.75	Agree	High
Average	2.83	0.82	Agree	High
OPPORTUNITIES				
1. Teaching can be done anywhere and does not need a classroom setup.	3.26	0.68	Strongly Agree	Very High
2. I have access to a high-speed Internet connection and a power outlet at my teaching station at home.	3.18	0.68	Agree	High
3. I negotiate rules regarding interruptions by people within and outside my home for a comfortable teaching station.	3.32	0.53	Strongly Agree	Very High
4. I prepared a layout and learning space at my teaching station at home and in my virtual classroom for a comfortable teaching-learning environment for myself and my students.	3.31	0.57	Strongly Agree	Very High
5. I keep a clean and tidy teaching station with sanitization measures to help prevent the spread of the disease and give me safety.	3.42	0.50	Strongly Agree	Very High
Average	3.30	0.59	Strongly Agree	Very High
Average	3.06	0.71	Agree	High
Parameters	Scale	VI	QD	
4	3.25-4.00	Strongly Agree	Very High	
3	2.50-3.24	Agree	High	
2	1.75-2.49	Disagree	Low	
1	1.00-1.74	Strongly Disagree	Very Low	

As shown in Table 8, the indicator Poor/improper lighting fixtures within the room can cause eye strain in the challenges of teaching-learning environment got the highest mean ($M=3.21$, $SD=0.70$) which can be verbally interpreted as agree and qualitatively described as high. This means that the respondents agreed that they encountered physical distress from their teaching-learning environment. Improper lighting, visual display position, and viewing distance contribute to computer vision syndromes, such as eye strain, dryness, and neck and shoulder pain [23].

While the indicator I keep a clean and tidy teaching station with sanitization measures to help prevent the spread of the disease and give me safety in the opportunities of teaching-learning environment got the highest mean ($M=3.42$, $SD=0.50$) which can be verbally interpreted as strongly agree and qualitatively described as very high. Keeping the workplace clean can inhibit the spread of communicable diseases, limiting exposure to the new strain of coronavirus [24]. This means that the respondents have acknowledged the precautionary measure even in their homes, where they conduct online classes to keep themselves safe from COVID-19 and other communicable diseases.

However, the indicator I easily get distracted by the unexpected appearance or interruption of family members, friends, and or pets that may cause disruption or diversion of my teaching process. in the challenges of teaching-learning environment got the lowest



mean (M=2.46, SD=0.91), which can be verbally interpreted as agree and qualitatively described as high. Although the indicator got the lowest mean, it still resulted as high, which means that the respondents still agreed that they encountered family members, friends, and pets interrupting their teaching process. Teachers easily get distracted by the unexpected appearance or interruption of family members, friends, and or pets that may cause disruption or diversion of their teaching process [25].

While the indicator I have access to a high-speed Internet connection and a power outlet at my teaching station at home in the opportunities of teaching-learning environment got the lowest mean (M=3.18, SD=0.68), which can be verbally interpreted as agree and qualitatively described as high. Although the indicator got the lowest mean, it still resulted as high, which means that the respondents still agreed that they have access to a high-speed internet connection and electricity at their teaching station at home. The speed and stability of the Internet connection play a vital role in the teaching process and will significantly influence the subsequent evaluation of the possibility of using this form of education [26].

Table 5.1 shows the significant degree of variance in the pedagogical challenges encountered by the pre-service teachers and high school teachers when grouped according to their profiles.

Table 5.1. Degree of variance in the pedagogical challenges encountered by the Student-Teachers and Teacher Educators when grouped according to their profile

<i>Profile Variables</i>	<i>Dependent Variables</i>	<i>p</i>	Decision	Difference
<i>Age</i>	<i>teaching-learning platforms</i>	0.108501	accept Ho	Insignificant
	<i>devices</i>	0.829683	accept Ho	Insignificant
	<i>teaching-learning engagement</i>	0.729375	accept Ho	Insignificant
	<i>teaching-learning environment</i>	0.961216	accept Ho	Insignificant
<i>Sex</i>	<i>teaching-learning platforms</i>	0.432629	accept Ho	Insignificant
	<i>devices</i>	0.291754	accept Ho	Insignificant
	<i>teaching-learning engagement</i>	0.056598	accept Ho	Insignificant
	<i>teaching-learning environment</i>	0.432845	accept Ho	Insignificant
<i>Type of Respondent</i>	<i>teaching-learning platforms</i>	0.307033	accept Ho	Insignificant
	<i>devices</i>	0.424464	accept Ho	Insignificant
	<i>teaching-learning engagement</i>	0.235264	accept Ho	Insignificant
<i>The locality of the Respondent</i>	<i>teaching-learning environment</i>	0.387447	accept Ho	Insignificant
	<i>teaching-learning platforms</i>	0.253208	accept Ho	Insignificant
	<i>devices</i>	0.206495	accept Ho	Insignificant
	<i>teaching-learning engagement</i>	0.026866	reject Ho	Significant
	<i>teaching-learning environment</i>	0.573574	accept Ho	Insignificant

As to the significant degree of variance between the age of the respondents and the dependent variables Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment, findings revealed that there is no significant degree of variance between these variables (p-values= 0.108501, 0.829683, 0.729375, 0.961216). Young teachers are more flexible with changes; in comparison, older teachers are less flexible and more set in their ways [27]. This implies that regardless of how old or young are the pre-service teachers and the high school teachers, their pedagogical challenges in terms of Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning environments do not necessarily differ.

As to the significant degree of variance between the sex of the respondents and the dependent variables Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment, findings revealed that there is no significant relationship between these variables (p-values= 0.432629, 0.291754, 0.056598, 0.432845 respectively). In conflict and crisis settings, female teachers face different realities and challenges than their male counterparts [28]. Many researchers, however, have reported females to be more effective teachers than their male counterparts [29]. This entails that



regardless of the biological differences such as male and female pre-service teachers and high school teachers, their pedagogical challenges in terms of Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment do not necessarily differ.

As to the significant degree of variance between the type of respondents and the dependent variables Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment, findings revealed that there is no significant relationship between these variables (p -values= 0.307033, 0.424464, 0.235264, 0.387447). Although not well substantiated, it is widely held that students who have yet to hold teaching positions are more comfortable with and proficient at using technology than faculty [30]. This signifies that regardless of the type of respondents such as pre-service teachers and high school teachers, their pedagogical challenges in terms of Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment do not necessarily differ.

As to the significant degree of variance between the locality of the respondents and the dependent variables Teaching-Learning Platforms, Devices, and Teaching-Learning Environment, findings revealed that there is no significant degree of variance between these variables (p -values= 0.253208, 0.206495, 0.573574). While as to the significant degree of variance between the locality of the respondents and the dependent variable Teaching-Learning Engagement, findings revealed that there is a significant degree of variance between this variable (p -value= 0.026866). It was documented that 87.2% of the prospective teachers and teacher educators came from urban areas, and 12.8% came from rural areas [11]. This indicates that regardless of the locality of the respondents, such as urban, suburban, and rural, their pedagogical challenges in terms of Teaching-Learning Platforms, Devices, and Teaching-Learning Environments do not necessarily differ. In contrast, in the locality of the respondents, such as urban, suburban, and rural, their pedagogical challenges in terms of Teaching-Learning Engagement have a significant difference.

Table 5.2 shows the significant degree of variance in the pedagogical opportunities encountered by the pre-service teachers and high school teachers when grouped according to their profiles.

Table 5.2. Degree of variance in the pedagogical opportunities encountered by the Student-Teachers and Teacher Educators when grouped according to their profile

<i>Profile Variables</i>	<i>Dependent Variables</i>	<i>p</i>	Decision	Difference
<i>Age</i>	teaching-learning platforms	0.93486	accept Ho	Insignificant
	devices	0.592215	accept Ho	Insignificant
	teaching-learning engagement	0.981097	accept Ho	Insignificant
	teaching-learning environment	0.965311	accept Ho	Insignificant
<i>Sex</i>	teaching-learning platforms	0.118799	accept Ho	Insignificant
	devices	0.480582	accept Ho	Insignificant
	teaching-learning engagement	0.516535	accept Ho	Insignificant
	teaching-learning environment	0.615103	accept Ho	Insignificant
<i>Type of Respondent</i>	teaching-learning platforms	0.114044	accept Ho	Insignificant
	devices	0.840394	accept Ho	Insignificant
	teaching-learning engagement	0.862818	accept Ho	Insignificant
	teaching-learning environment	0.389938	accept Ho	Insignificant
<i>The locality of the Respondent</i>	teaching-learning platforms	0.025288	reject Ho	Significant
	devices	0.313781	accept Ho	Insignificant
	teaching-learning engagement	0.956923	accept Ho	Insignificant
	teaching-learning environment	0.554528	accept Ho	Insignificant

As to the significant degree of variance between the age of the respondents and the dependent variables Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment, findings revealed that there is no



significant degree of variance between these variables (p -values= 0.93486, 0.592215, 0.981097, 0.965311). Young teachers are more flexible with changes; in comparison, older teachers are less flexible and more set in their ways [27]. This implies that regardless of how old or young are the student-teachers and the high school teachers, their pedagogical opportunities in terms of Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning environments do not necessarily differ.

As to the significant degree of variance between the sex of the respondents and the dependent variables Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment, findings revealed that there is no significant degree of variance between these variables (p -values= 0.118799, 0.480582, 0.516535, 0.615103, respectively). In conflict and crisis settings, female teachers face different realities and challenges than their male counterparts [28]. Many researchers, however, have reported females to be more effective teachers than their male counterparts [29]. This entails that regardless of the biological differences such as male and female pre-service teachers and high school teachers, their pedagogical opportunities in terms of Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment do not necessarily differ.

As to the significant degree of variance between the type of respondents and the dependent variables Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment, findings revealed that there is no significant degree of variance between these variables (p -values= 0.114044, 0.840394, 0.862818, 0.389938). Although not well substantiated, it is widely held that students who have yet to hold teaching positions are more comfortable with and proficient at using technology than faculty [30]. This signifies that regardless of the type of respondents such as pre-service teachers and high school teachers, their pedagogical opportunities in terms of Teaching-Learning Platforms, Devices, Teaching-Learning Engagement, and Teaching-Learning Environment do not necessarily differ.

As to the significant degree of variance between the locality of the respondents and the dependent variables Devices, Teaching-Learning Engagement, and Teaching-Learning Environment, findings revealed that there is no significant degree of variance between these variables (p -values= 0.313781, 0.956923, 0.554528). While as to the significant degree of variance between the locality of the respondents and the dependent variable Teaching-Learning Platform, findings revealed that there is a significant degree of variance between these variables (p -value= 0.025288). It was documented that 87.2% of the prospective teachers and teacher educators came from urban areas, and 12.8% came from rural areas [11]. This indicates that regardless of the locality of the respondents, such as urban, suburban, and rural, their pedagogical opportunities in terms of Devices, Teaching-Learning Engagement, and Teaching-Learning Environment do not necessarily differ. In contrast, in the locality of the respondents, such as urban, suburban, and rural, their pedagogical opportunities in terms of the Teaching-Learning Platform have a significant difference.

IV. CONCLUSION AND RECOMMENDATION

Based on the findings of the study, the conclusions were offered:

1. It is a great challenge to conduct online classes for the total number of respondents because they are habitual in conducting classroom teaching for many years. The analysis also indicated that the online teaching-learning modality successfully helped them to practice their teaching as a mission to facilitate learning to the students through various online strategies during the COVID-19 pandemic.

2. This concludes that the location of the pre-service teachers and high school teachers has affected their encountered pedagogical challenges in terms of teaching-learning engagement and pedagogical opportunities as to teaching-learning platform.

In light of the foregoing findings and conclusions, the recommendations offered:

1. Pre-service Teachers and High School Teachers. They should enhance their knowledge of online teaching by attending more seminars and workshops on online pedagogical and online assessment tools strategies to make their online facilitation more engaging, which will motivate the students to be able to focus on the online discussion, be able to avoid confusion among students due to intermittent internet connection and be able to prevent possible cheating during online assessments.



2. St. Paul University Administrators. The university administrators should require their IT support team to train the teachers in troubleshooting when they encounter technical issues in utilizing their devices during online classes. They should provide them with a Zoom premium account and give them training on strategies to use a 40-minute Zoom basic account when the premium account is unavailable. They should offer them devices for teaching, like headsets with integrated feedback-active noise control and updated laptops, for more success in online teaching engagement. They should provide an internet connectivity allowance to the teachers for them

3. To be able to purchase postpaid and prepaid wifi for them to have access to online virtual education. They should also mandate their health department to conduct more webinars on mental and physical health awareness about online teaching to avoid being sick and spreading the COVID-19 disease.

3. Commission on Higher Education/ Department of Education. These government agencies that are mandated to guide public and private schools for a locally and globally competitive basic and higher education should require online teaching-learning platforms like Quipper to align their learning content with the CHED and DEPED's Most Essential Learning Competencies so that the teachers who will use it can efficiently deliver and facilitate its learning content to the students. These agencies should also carry out more webinars, training, and workshops for public and private school administrators about a unified program map for online education so that they will be able to handle their constituents and be able to support the outcomes for their teachers' and students' effective online teaching-learning platforms, devices, engagement, and

4. Future Researchers. They should conduct a study about recognizing strategies for online pedagogical and online assessment tools for effective online teaching-learning engagement.

5. Quipper. This application's administrators should enhance their delivery system by complying with and aligning their learning content to the CHED and DEPED's most essential learning competencies.

6. Zoom. This application's administrators should reduce their bandwidth to avoid delays or lapses in connection, specifically for those with unstable internet connectivity.

7. Postpaid and Prepaid Wi-Fi Providers. These Wi-Fi providers should provide promo plans for the teachers and students to ease their expenses and conduct their online teaching-learning engagement.

ACKNOWLEDGMENT

The researchers would like to express their gratitude to the Lord Jesus Christ, for He has showered them with blessings, wisdom, and strength, the researchers' advisers, statistician and validators, instructors, BEED and BSED graduates of 2020 and High School Teachers of St. Paul University Surigao who tirelessly extended their hands and imparted inestimable insights, knowledge, expertise, precious time, effort, resources, and motivation to the researchers in the making of this research endeavor.

REFERENCES

1. C. Huang et al., "Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China." *The Lancet*, 395(10223), 497–506, [https://doi.org/10.1016/S0140-6736\(20\)30183-5](https://doi.org/10.1016/S0140-6736(20)30183-5), 2020.
2. Q. Li et al., "Early transmission dynamics in Wuhan, China, of novel coronavirus–infected pneumonia." *New England Journal of Medicine*, 382,1199–1207, <https://doi.org/10.1056/NEJMoa2001316>, 2020.
3. WHO World Health Organization, "Social Media in the Classroom: Opportunities, Challenges & Recommendations." <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>, 2020.
4. MW Merriam-Webster Online Dictionary, "Definition of the pandemic." <https://www.merriam-webster.com/dictionary/pandemic>, 2020.
5. RC Red Cross, "What social distancing means." <https://www.redcross.org/about-us/news-and-events/news/2020/coronavirus-what-social-distancing-means.html>, 2020.
6. K. Fry, "E-learning markets and providers: Some issues and prospects." *Education+ Training*, 43(4/5), 233–239. <https://doi.org/10.1108/EUM000000005484>, 2001.
7. C. B. Agaton & L. J. Cueto, "Learning at home: Parents' lived experiences on distance learning during COVID-19 pandemic in the Philippines." <https://files.eric.ed.gov/fulltext/EJ1313094.pdf>, 2021.



8. DEPED Republic of the Philippines' Department of Education, "Policy Guidelines for the Provision of Learning Resources in the Implementation of the Basic Education Learning Continuity Plan." https://www.deped.gov.ph/wp-content/uploads/2020/08/DO_s2020_018.pdf, 2020.
9. C. Burgess and P Cavanagh, "Cultural Immersion: Developing a Community of Practice of Teachers and Aboriginal Community Members." <https://www.cambridge.org/core/journals/australian-journal-of-indigenous-education/article/abs/cultural-immersion-developing-a-community-of-practice-of-teachers-and-aboriginal-community-members/DF0BB28082778AE92E58DBEDA6B591A8>, 2015.
10. SPUS St. Paul University Surigao, "REFLEX." https://spus.edu.ph/home#online_learning, 2020.
11. R. Nanaware and N. Sharma, "Pedagogical Challenges and Opportunities during COVID-19 Pandemic: Perspectives from the Prospective Teachers and Teacher Educators." https://saudijournals.com/media/articles/JAEP_57_205-215.pdf, 2021.
12. S. Rahi, "Research Design and Methods: A Systematic Review of Research Paradigms, Sampling Issues and Instruments Development." https://www.researchgate.net/publication/316701205_Research_Design_and_Methods_A_Systematic_Review_of_Research_Paradigms_Sampling_Issues_and_Instruments_Development, 2017.
13. assets.zoom.us, "Optimizing Performance in Low Bandwidth Environments." <https://assets.zoom.us/docs/user-guides/User%20Guide%20-%20Optimizing%20Performance%20in%20Low%20Bandwidth%20Environments.pdf>, 2021.
14. A. Ramadani and B. Khaferi, "Teachers' Experiences with Online Teaching Using the Zoom Platform with EFL Teachers in High Schools in Kumanova." https://www.researchgate.net/publication/349650323_Teachers'_Experiences_with_Online_Teaching_Using_the_Zoom_Platform_with_EFL_Teachers_in_High_Schools_in_Kumanova, 2020.
15. S. Y. Rachma, "Teacher and Students' Perception Towards the Implementation of Quipper School in English Subject." <https://ejournal.unesa.ac.id/index.php/retain/article/view/42393/37349>, 2021.
16. Coins Ph, "Prepaid vs Postpaid WiFi." <https://coins.ph/blog/prepaid-vs-postpaid-wifi/>, 2021.
17. M. Pavlova, "Smartphone vs. Laptop." <https://www.fastchooser.com/Smartphone-vs.-Laptop>, 2022.
18. Headsets Direct, "Benefits of Noise Canceling Headsets." <https://www.headsetsdirect.com/headsets-101-noise-canceling-headsets-benefits/>, 2020.
19. J. Hapugoda et. al, "An Empirical Study Of The Influencing Factors And Learner Preferences For The Selection Of a Study Programme With The Focus On Undergraduate Management Studies." https://www.researchgate.net/profile/Sohni-Siddiqui/publication/358167019_AAOU2021_Volume2_Final_Online_Published/links/61f3cfa5c8eb3635667ad35d/AAOU2021-Volume2-Final-Online-Published.pdf#page=376, 2021.
20. J. De Vera, "Challenges and Teacher Resilience: The New Normal Classroom Instruction Using Social Media in Philippine Context." In the book: Social Media: Leisure, Health, and Education (pp.83-96), https://www.researchgate.net/publication/344467152_CHAPTER11_Challenges_and_Teacher_Resilience_The_New_Normal_Classroom_Instruction_Using_Social_Media_in_Philippine_Context, 2020.
21. A. Nugroho and M. Haghegh, "Emergency Remote Teaching Amidst Global Pandemic: Voices of Indonesian EFL Teachers." VELES Voices of English Language Education Society (2021) 5(1) 66-80, <https://www.mendeley.com/catalogue/acb6eafd-ea80-342b-a120-cee3c9eb1ab2>, 2021.
22. Quipper Philippines, "Bringing the best education." <https://philippines.quipperschool.com/>, 2021.
23. C. F. Ng, "The Physical Learning Environment of Online Distance Learners in Higher Education – A Conceptual Model." <https://doi.org/10.3389/fpsyg.2021.635117>, 2021.
24. L. N. Piazza, "3 Ways to Keep Your Workplace Clean During Coronavirus Scare." <https://www.shrm.org/resourcesandtools/legal-and-compliance/employment-law/pages/keep-your-workplace-clean-during-coronavirus-scare.aspx>, 2020.
25. O. B. Adedoyin and E. Soykan, "Covid-19 pandemic and online learning: the challenges and opportunities." <https://doi.org/10.1080/10494820.2020.1813180>, 2020.
26. P. Modrzyński et. al, "Conditions and Potential for Remote Student Teaching."



<https://www.mendeley.com/catalogue/b075029b-0b93-33ed-a6f8-3e4812e22b63>, 2020.

27. Sally, "Young Teachers or Old Teachers?" <https://www.elementarymatters.com/2017/09/young-teachers-or-old-teachers.html?showComment=1649075300288#c6156441589217431948>, 2017.
28. P. Frisoli and A. Smiley, "Three ways to help female teachers in conflict and crisis contexts." <https://degrees.fhi360.org/2018/03/three-ways-to-help-female-teachers-in-conflict-and-crisis-contexts/>, 2018.
29. F. Islahi and Nasreen, "Who Make Effective Teachers, Men or Women? An Indian Perspective." *Universal Journal of Educational Research* 1(4): 285-293, <https://files.eric.ed.gov/fulltext/EJ1053959.pdf>, 2013.
30. J. B. Carroll and P. D. Morrell, "A Comparison of Teacher Education Faculty and Preservice Teacher Technology Competence." <https://files.eric.ed.gov/fulltext/EJ876913.pdf>, 2006.

Cite this Article: Mcbon Lyle C. Tagalog, Flora Loyda P. Larong, Ricky Boy E. Limlingan, Alvin J. Sumampong, Maricar M. Saavedra, Liza L. Chua (2023). Pedagogical Challenges and Opportunities during Covid-19 Pandemic: Perspectives from the Pre-Service and High School Teachers. International Journal of Current Science Research and Review, 6(2), 1521-1536