Senior high school teachers' and students' engagements during the emergency remote teaching (ERT): Perceptions on readiness, attitude, and competence

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Abstract: This quantitative study investigates teachers' and students' perceptions on remote emergency teaching in terms of readiness, attitude, and competence, their significant differences based on their profile, and the significant difference of the respondents' identified variables. Participated by 147 teachers and 409 students of a Senior High School in a comprehensive Catholic university in Manila, results revealed that respondents show their readiness, positive attitude, and competence toward online teaching; however, specific measurements affect student attitude on their online engagement and learning, such as their discomfort and ineffectiveness of this learning modality in producing creativity, interaction, and innovation in e-learning that affects the acquisition of knowledge. Among the respondents' profiles, only their age shows a statistically significant difference, while educational advancement established its significant difference in readiness and competence. Finally, a statistically significant difference between the teachers' and students' readiness, attitude, and competence was evident. Results further proved that behind the sudden shift of the learning environment, the respondents remain positive and resilient in dealing with academic challenges caused by the COVID-19 pandemic. This study further implicates that measuring teachers' and students' readiness, attitude, and competence in different inevitable

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circumstances remains a significant frame of reference for academic and instructional policy-making.

1. Introduction

COVID-19 pandemic has caused a severe impact on the education system in multidimensional ways but specifically highlighting its repercussion to those poor and marginalized students (Reimers, 2020). Indeed, this global health crisis has dramatically changed many students' learning systems (Tam & El-Azar, 2020) in various parts of the world, especially those heavily affected by this new disease. Nevertheless, contrary to this world education devastation, this life-threatening disease gives way for both education and government to create different modalities to continue its service to their clienteles in response to the required physical distancing. Hence, the outmoded learning approaches appear to be creative in delivering the lessons in whatever possible means supported by the community's available infrastructures, such as online tools, smartphones, televisions, and radios (Saavedra, 2020). Corollary to these changes, the students are expected to become experimental, collaborative, autonomous, and self-directive through online learning. In a general view, digitization urges the education system to develop resiliency to give various opportunities for the students to discover their other skills needed in their "decision making, creative problem solving and adaptability" (para. 16) (Reimers, 2020; Tam & El-Azar, 2020).

In the Philippines, the Department of Education (DepEd) stands firmly that education must continue following the protocols of the health agencies like the Department of Health (DOH) and the World Health Organization (WHO). With the DepEd's consultations to and collaboration with its partner institutions, Learning Continuity Plan (LCP) is set to pioneer its implementation, explicitly responding to the needs and demands of time by making adjustments and alignments of the learning competencies and materials, instructional modalities, and other practices involving all the stakeholders in facing the "new normal" (Department of Education, 2020). Similarly, UNICEF also supports the continuity of learning behind the stoppage of schooling. For instance, in Bosnia and Herzegovina, several innovative practices were identified to improve learning quality during this pandemic. With UNICEF's support, their government started to implement an online teaching mode by acquiring tablets and internet packages to benefit students' learning and teachers' professional development (UNICEF, 2020). While the developed countries like the U.S., China, Japan, and Hong Kong have started to have online learning through various learning interactive apps, those students from less developed countries still have access to common digital platforms like email (Tam & El-Azar, 2020;).

These online modes appear in many forms depending on how philosophical underpinnings serve their purposes, like distance learning, blended learning, online learning, and mobile learning. However, behind this revolutionary shift to online learning still faces negative feedback being a poor or weak mode of achieving quality learning compared to face-to-face instructions. But contrary to a planned online teaching-learning approach, emergency remote teaching (ERT) is a "temporary shift of instructional delivery to an alternative delivery model due to crisis circumstances" (para. 13) like certain forms of struggles and violence.

Accordingly, this coined term is adapted because of its simplicity of meaning "the act, practice, or profession of a teacher" and "the concerted sharing of knowledge and experience" (Merriam-Webster; Olo, Correia & Conceição Rego, 2020, cited in Hodges, Moore, Lockee, Trust & Bond, 2020, para. 6). This definition tends to give a clear distinction to what online learning is. Its temporary access to online teaching intends to return to its original learning mode once the problem or crisis is over. With the challenges and limitations, ERT faces, teachers are expected to critically play their role to successfully provide quality learning to the students by requiring the "faculty take more control of the course design, development, and implementation process" Hodges, Moore, Lockee, Trust & Bond, 2020, para. 15).

For Saavedra (2020), remote learning is only about online engagements, but significantly, a "mixed media learning" whose goal is to reach as many students as possible (para. 5) in order to sustain student participation, social relationship, and socio-emotional skills in order for the students to become responsible members of the society in its nation-building. Likewise, it also supports teachers in developing their digital skills to support the school system's goal to develop social responsiveness. In the end, the goal of education is still to eradicate learning challenges to ensure the same quality of education. Truly enough, online learning engagement generally gains favorable impacts on the learning process, especially supporting students' self-regulated learning, flexibility, accessibility, and interest (Gilbert, 2015).

To establish a successful online delivery, the following were investigated by several researchers as they show competencies: teachers' and students' readiness (Al-Awidi & Aldhafeeri, 2017; Martin, Satmper & Flowers, 2020; Rahim, Yusoff & Latif, 2014; Rasouli, Rahbania & Attaran, 2016; Ullah, Khan, & Khan, 2017;), attitude (Alazzam, Bakar, Hamzah & Asimiran, 2012; Guillén-Gámez & Mayorga-Fernández, 2020; Kisanga, 2016; Paris, 2004; Phan & Dang, 2017; Wasserman & Migdal, 2019), and competence (Ally, 2019; Bigatel, Ragan, Kennan, May, and Redmond, 2012; Gulbahar and Kalelioglu, 2015; Wiklund-Engblom, 2018). Despite these numbers of studies, together with a massive inclusion of online teaching supported by teachers' training, it appears that teachers still face challenges in terms of their assertion in the use of technology in teaching and their insufficiency to the conceptual and practical use of online teaching in response to the demands of the curriculum (Al-Awidi & Aldhafeeri, 2017).

1.1. Readiness and Attitude

Readiness pertains to the faculty's preparedness to teach online, which is observed in the context of their attitude and perception toward the significance and ability to engage in online teaching (Martin, Budhrani & Wang, 2019). Specifically, readiness is measured by introducing innovations to digital understanding, approaches, roles, attitudes, eagerness to integrate technology in the preparation and the delivery of the program or coursework (Hoppe, Jr., 2015; Ruggiero & Mong, 2015; Sabzian & Gilakjani, 2013; Singh & Chan, 2014; Summaka, Baglibel, & Samancioglu, 2010, cited in Al-Awidi & Aldhafeeri, 2017; Mahdy, Samad, & Mahdi, 2020). An attitude refers to the viewpoint a person has about something and its relevance to them (Krosnick & Petty, 1995, cited in Martin, Budhrani & Wang, 2019). Paris (2004) cited Burns' (1997) definition of attitudes, which pertains to the assessed principles or even opinions that cause an individual to respond or react in a "preferential way" (p. 101).

In the study conducted by Ventayen (2018), teachers' readiness toward online teaching is measured through their attitudes that are specifically manifested in technical and technological skills, their online experiences, and their time management manifested explicitly anticipated by both elementary and secondary school teachers, the study found out that in terms of technical and technological skills, they are ready and competent as supported by the Department of Education's computerization project and the country's technological improvement. This high level of readiness also reflects in the respondents' time management and commitment as affected by the Filipino teachers' responsiveness in addressing the demands of their profession despite those job-related challenges. However, in terms of online experience, their profession's demand is still at a confident level. This is attributed to their limited exposure to online engagements as the education agency had yet to provide guidelines and policies for e-learning purposes. Relating these to the respondents' profiles, this study proves that teachers' length of service can also be considered in building respondents' readiness toward online teaching, but not applied to other variables such as grade level handled by the teachers.

In Martin, Wang, Jokiaho, and May's (2019) paper, readiness is determined through the differences in gender and faculty ranking or employment status. It was mentioned that female teacher-respondents expressed the significance of online technical-related skills than the male teacher-respondents; thus, establishing women's lesser confidence and much anxiety in e-learning. Similarly, the difference between the faculty rankings is also manifested concerning online teaching commitments. Between lecturers and full professors, it was identified that lectures had shown a better technical competency than the latter. However, this result was justified that full professors have other academic commitments such as research, which is not commonly a privilege among lectures.

Student readiness is the focus of Afolabi's (2015) study, which determines that while the respondents are ready for whatever changes the academe would offer in relation to online learning, still some issues affect their present level of readiness. Hence, the following were identified as barriers to achieving successful e-learning skills: lack of basic understanding and skills, inadequate or lack of access to the digital environment, and teachers' non-integration of technology into their teaching. Again, behind these observations and perceptions of the respondents, they have highly expressed their readiness to shift into this online teaching mode once the school system introduces digitization of instructions.

In the study conducted by Forson and Vuopala (2019), it was found out that the respondents have a positive attitude toward online teaching and learning in contrast to the face to face mode of instruction. Accordingly, this preference is positively affected by the flexible feature of the online mode against the other. Similarly, this study considered students' self-regulated learning skills about their readiness toward online learning; hence, the positive status of these skills is manifested through goal setting, the initiative in processing those goals, organizing information, especially for the success of all forms of assessments, and avoiding distractions that affect their attention. These positive results proved their significant role in supporting the success of their overall performance through online learning.

For Paris (2004), the respondents have similar positive acceptance and readiness in using online teaching because of a more available and accessibility to online learning resources like e-books and other relevant materials to understand the content fully. For a more specific reason, the respondents prefer online learning because the provided learning materials appear

to be more interesting in a way that graphics and animations are undoubtedly helpful to their learning. Relating this to the gender of the respondents, females proved that they are more engaged in online instructions than males whose online engagements are linked mostly to online games rather than academic matters. Generally, the study proves that multimedia presentations such as animation, movies, and other graphics and sounds support students' learning.

The issue of gender and online teaching and learning is similarly covered in the study of Peytcheva-Forsyth, Yovkova, and Aleksieva (2018), where females appear more likely to appreciate and receive learning through online means than males. Aside from gender, this study also determined factors that influence the learners' shaping attitudes in utilizing online and distance learning; these include their skills and personal engagement to technology. Accordingly, good technical skills and engagement produce confidence and a positive attitude toward e-learning. In contrast, lack of the needed skills and access brings anxiety and demotivation.

Competence / Ability

According to the International Board of Standards for Training, Performance, and Instruction (IBSTPI), competency is the "knowledge, skill, or attitude that enables one to effectively perform the activities of a given occupation or function to the standards expected in employment." On the other hand, Gulbahar and Kalelioglu (2015) mentioned that competent instructors adapt readily to different learning environments to transform itself from traditional to online teaching. It was also emphasized that both teachers and learners should be prepared for the continuous process of transformation of technology, institutional and political elements. These processes are stimulated by faculty development, self-development, and support from the educational administrations. Hence, teachers and the institutions are responsible for keeping up with the e-instructor competencies to provide effective and efficient instructions to the learners.

In qualitative research made by Ally (2019), several experts in different areas in education from different countries provided the competence areas of future educators such as general qualities to provide quality support to learners; digital literacy; digital learning resources; re-mix digital learning resources; communication using digital technology; facilitation of learning, re-imaging the pedagogical strategies; assessment of learning based on the learning outcomes; and personal characteristics providing quality education and supporting learners. These competence areas will support the transformation of the learners and prepare them for a different learning environment. The study further emphasized that the educational system will be judged not on the numbers of students who finished their courses but on the capacity and the capability of the young ones to adapt and work well in the 21st century and the Fourth Industrial Revolution.

Wiklund-Engblom (2018) interviewed 29 teachers targeting their experiences of their digital didactical designs for distance learning using the design-based research method using snowball strategy. It is a study of digital relational competence that focused on students' sensitivity and responsivity, which includes the following six categories: emotional, cognitive-epistemic, meta reflective, self-regulatory, social, and practical-logistic needs. The implementation of distance digital didactical designs demands anticipative, sensitive, and responsive teachers, which require teachers to be agile in interpreting any digital

communications with the learners. Nevertheless, combining distance and co-located students revealed inequality and anonymity due to different learning environments that the teacher and the learner have. The different schedules across different schools further limit it. In digital didactical design, the competent teachers must possess empathy, and part of it is psychological safety. Students are vulnerable to different elements in a distance learning environment, which must be given paramount importance. Another competency requirement is the acceptance of the new norms and affirmation of each other's significance in digital learning. It was proven that the active involvement and collaborative learning between teachers and learners empower them to be active members in the process.

In a study by Bigatel, Ragan, Kennan, May, and Redmond (2012), the success of online learning was assessed based on the following competencies: active learning, administration and leadership, active teaching/ responsiveness, multimedia technology, classroom decorum, technological competence, and policy enforcement. It appears that communication is the most significant element in active learning, and it is in the student-centred approach that learners will likely be motivated to engage themselves in online learning actively. Activities that involve critical thinking, simulations, and other practices that may involve hands-on experience and team tasks will encourage learners to participate with enthusiasm. The online instructor needs to be visible in all learning processes and must give quality feedbacks to learners because teachers online teaching connect the learners to the learning management system, and thus, the caring response of the teachers will play a vital role in the success of the online learning for the students. Moreover, the technological competence of the instructor of the learning management will mirror the effectiveness of such a system. Teachers' confidence in handling technological challenges ignites the learners' interest, plus the competencies in multimedia technology, classroom decorum, and policy enforcement lead to the eventual success of online learning. The study also suggests profound communication teaching strategies, administrative, policy adherence, and technical behaviors. In terms of administration/ leadership, the same amount of vigor must be observed as traditional management and administration.

An exploratory study was conducted by Martin, Budhrani, Kumar, and Ritzhaupt (2019) from among the award-winning online faculty members from the United States, and researchers made clear discussions on the competencies needed by an online instructor. Teachers must first have the technical skills to utilize the learning management system in teaching the subjects handled. It also emphasized the general competencies such as willingness to learn, knowledge of how people learn, content expertise, course design skills, and student learning assessment skills. In China, a study was conducted about re-identifying tutors' roles and competencies in the e-learning environment and found out that three critical new roles, institutional designer, manager/ administrator, and social roles. It was further discussed the value of pedagogy, and as an instructional designer, it is essential to consider knowledge organization in providing cognitive support to students. Tutors must also lean towards constructivism pedagogy and fused with any open educational resources online. Thus, the learning management system plays a significant role in providing an effective and efficient e-learning environment (Li, Zhang, Yu & Chen, 2017).

1.2. Research Objectives

This present study aimed to determine the readiness, attitude, and competence of senior high school teachers and students toward remote emergency teaching during the COVID-19 pandemic. Specifically, this study sought to answer the following questions:

1. What is the student-respondents' demographic profile in terms of gender, age, grade level and strand?
2. What is the teacher-respondents' demographic profile in terms of gender, age, strand, years in service, and highest educational attainment?
3. What is the level of teachers' perceptions of online teaching in terms of readiness, attitude, and competence?
4. What is the level of students' perceptions of online teaching in terms of readiness, attitude, and competence?
5. Are there significant differences in the teachers' readiness, attitude, and competence-based on their profile?
6. Is there a significant difference between the level of teachers' and students' perceptions of online instructions in terms of readiness, attitude, and competence?

1.3. Hypotheses

This present study tested the null hypothesis with a 5% level of significance:
1. There are no significant differences in teachers' perceptions of readiness, attitude, and competence based on their profiles.
2. There is no significant difference between the teachers' and students' perceptions of online instructions in terms of readiness, attitude, and competence.

1.4. Theoretical Framework

This study employed Rollnick, Mason, and Butler's (2010, adapted from Martin, Budhrani & Wang, 2019) theoretical framework for faculty readiness to teach virtually. In this adapted framework, it is emphasized that the faculty's knowledge of e-learning is an initial step in establishing their readiness in this mode of teaching. Hence, virtual learning's success depends on teachers' attitude (importance) and ability (competence) as predictors of their readiness in the online engagements. Their relationship is supported by the idea that virtual teaching demands require faculty competence to make necessary adjustments in the use of technology in teaching. In this case, faculty attitude to achieve learning competencies virtually can affect students' attitude or behavior in this learning modality. Therefore, teacher-students positive relationship to establish positive learning outcomes produces pedagogical success.

Similarly, teachers' ability to online learning management also helps to develop learning success. Some of the essential elements of e-learning ability include effective instructional strategies, teaching ability, instructional resources, virtual class delivery and supervision, assessment strategies, communication, and time management. In the end, this theory argues that teachers' ability to conduct virtual teaching improves their professional development. In the end, it produces positive learning outcomes.
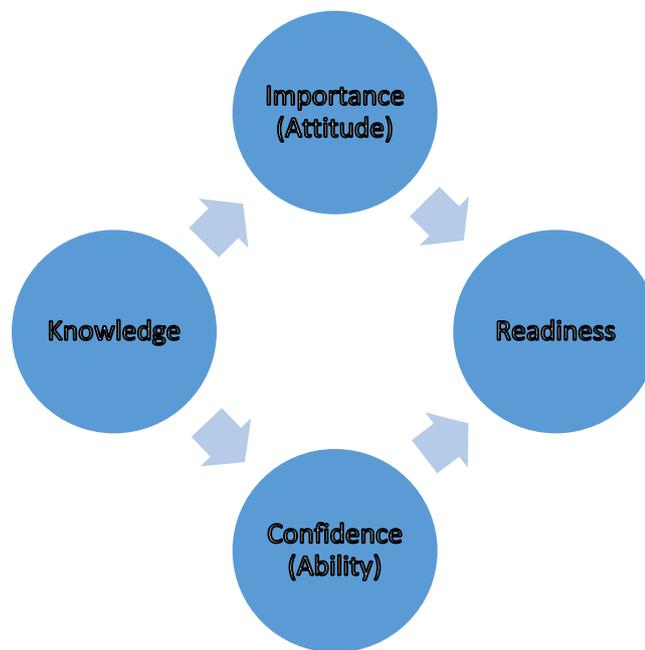
Figure 1.

Rollnick, Mason & Butler's (2020) Theoretical framework for faculty readiness to teach online. (Adapted from Martin, Budhrani & Wang (2019).

2. METHODS

This quantitative research, which generally aims to explore both the teachers' and students' readiness, attitude, and competence in their engagement to emergency remote instructions, was participated by Senior High School students and teachers in a comprehensive university during the emergency remote teaching when all schools must shift from face-to-face to online instruction. The study includes pilot-testing before the actual data gathering to validate the research instrument's internal consistency and reliability. The pilot testing was participated by 36 teachers and 39 students, while the actual data gathering was partaken by 409 students and 147 teachers in which 13 students from the pool were also interviewed. The study employs non-probabilistic sampling of convenience while upholding anonymity, willingness to participate, and mutual respect.

The study employs a researchers' made instrument for teacher and student respondents. Each survey instrument consists of seven sections, including Data Privacy Statement and Consent Form, Personal Background, and the two variables under study about Perceptions on Emergency Remote Teaching such as Readiness, Attitude, and Competence. The Perceptions on Emergency Remote Teaching consists of Likert scale questions capturing the respondents' degree of agreement on the questions indicated in each of the components or variables under study. The research instrument consists of 9 questions each for both variables. Each question in Perceptions on Emergency Remote Teaching Instrument used a four-point Likert scale: 4 – Strongly Agree; 3 – Agree; 2 – Disagree; and 1 – Strongly Disagree.

The instruments that underwent the pilot test were participated by 36 teachers and 39 students, and data was analyzed using Cronbach's Alpha. Results of the pilot test showed high reliability of all scales in both teacher and student research instruments. The research instrument for teachers has an overall Cronbach's Alpha of 0.875 (0.857-Readiness, 0.801-Attitude, and 0.931-Competence), a reliability statistics which suggest that the instrument has an excellent internal consistency $(0.9 > α > 0.8)$. In the same way, the research instrument for students also has an overall Cronbach's Alpha of 0.753 (0.737-Readiness, 0.765-Attitude, and 0.765-Competence), which suggests that it has an acceptable internal consistency $(0.8 > α > 0.7)$. The overall mean of each scale in both teacher and student instruments were interpreted using a range: 1.00-1.75 Strongly Disagree; 1.76-2.50 Disagree; 2.51-3.25 Agree; and 3.26-4.00 Strongly Agree. The link to the online instrument was given to the students and teachers across the institution's Senior High School Department.

3. RESULTS AND DISCUSSION

3.1. Respondents' Demographic Profile. This study includes Senior High School teachers and students in a comprehensive university. There are 409 students and 147 teachers who participated in the study, and pertinent background is presented.

Table 1. Demographic Profile of Student-Respondents

	Frequency	Percentage (%)
Gender		
Male	140	34.23
Female	269	65.77
Age		
16 years old	51	12.47
17 years old	214	52.32
18 years old	123	30.07
19 years old	21	5.13
Grade Level		
Grade 11	270	66.01
Grade 12	139	33.99
Strand		
STEM (Science, Technology, Engineering & Mathematics)	118	28.85
ABM (Accountancy, Business & Management)	64	15.65
H.A. (Health Allied)	104	25.43
HUMSS (Humanities and Social Science)	74	18.09
PES (Physical Education and Sports)	19	4.65
MAD (Music, Arts, and Design)	30	7.33

n=409

Among the student respondents, there are more female, with 65.77% than 34.23% of male students who participated in the study during the emergency remote teaching. More than half of the student respondents were 17 years of age (214, 52.32%), followed by 30.07% (123) of students age 18 years old, while there are only 51 (12.47%) who were 16 and 21 (5.13) 19-year old respondents. Student respondents are represented by both grade levels of senior high school with 270 (66.01%) Grade 11 and 139 (33.99%) Grade 12. Also, the respondents were from the different strands where STEM (Science, Technology, Engineering & Mathematics)

and H.A. (Health Allied) have the highest number of students participating in the study with 188 (28.85%) and 104 (25.43%), respectively. On the other hand, strands such as MAD (Music, Arts, and Design) and PES (Physical Education and Sports) have the lowest number of participating students, 30 (7.33%) and 19 (4.65%), respectively.

The study was also participated by SHS teachers from across strands and learning areas. Gender, age, strand, years in service, and highest educational attainment were the teacher respondents' data.

Table 2. Demographic Profile of Teacher-Respondents

	Frequency	Percentage (%)
Gender		
Male	73	49.66
Female	74	50.34
Age		
20-29 years old	63	42.86
30-39 years old	36	24.49
40-49 years old	31	21.09
50-59 years old	17	11.56
Strand		
STEM (Science, Technology, Engineering & Mathematics)	9	6.12
ABM (Accountancy, Business & Management)	25	17.01
H.A. (Health Allied)	14	9.52
HUMSS (Humanities and Social Science)	22	14.97
PES (Physical Education and Sports)	6	4.08
MAD (Music, Arts, and Design)	6	4.08
Specific Learning Areas	65	44.22
Years in Service		
3 years & below	78	53.06
4 to 10 years	47	31.97
11 to 20 years	17	11.56
More than 20 years	5	3.40
Highest Educational Attainment		
Bachelor's	47	31.97
Masters	94	63.95
Doctorate	6	4.08

n=147

There is a right balance between the number of teacher respondents who participated in the study in terms of their gender: 73 (49.66%) males; and 74 (50.34%) female teachers. Young and seasoned faculty members also represented the teacher respondents wherein 20-29 years old age group has the most number of participants of 63 (42.86%), 36 (24.49%) from 30-39 year old, 31 (21.09%) from 40-49 years old, and 17 (11.56%) from 50-59 years old age group. Sixty-five (44.22%) of the teacher respondents were from specific learning areas teaching subjects like General Mathematics, Earth and Life Science, Philosophy, and alike that are being taught to almost all the strand. On the other end of the spectrum, strands like STEM (Science, Technology, Engineering & Mathematics), PES (Physical Education and Sports), and MAD (Music, Arts, and Design) have the least number of respondents in the study with 9 (6.12%) while PES and MAD have 6 (4.08%) respectively. This study was participated by 78 (53.06%) of teacher respondents who are 3 years and less in the service, 47 (31.97%) were in their 4 to 10 years of service, 17 (11.56%) were in their 11 to 20 years, and 5 (3.40%) teaching for more than 20 years. Ninety-four (63.95%) of the teacher respondents were also at least a master's degree holder, 6 (4.08%) have a Doctorate, while 47 (31.97%) have bachelor's degree and are those taking their masters.

Teachers' Perception of Online Teaching

3.2.1. Readiness.

Table 3. Teachers' Readiness for Online Teaching

Statement	Mean	Interpretation
I utilized social media platforms to communicate with my students.	3.66	Strongly Agree
I showed familiarity with learning management systems such as Blackboard/ Canvas or Aralinks.	3.44	Strongly Agree
I easily designed online assessments to measure learning.	3.27	Strongly Agree
I employed an online discussion forum as part of delivering the lessons.	3.36	Strongly Agree
I created online tasks necessary to develop the critical and creative thinking skills of my students.	3.48	Strongly Agree
I could integrate technology in executing the suggested competencies and skills to manage successful learning.	3.49	Strongly Agree
I showed comfort in communicating online through speaking and writing.	3.45	Strongly Agree
I managed my time using technology-driven instruction with ease.	3.37	Strongly Agree
I dealt with technology-laden classroom management concerns such as checking of attendance, misbehaviour, and participation.	3.04	Agree
Overall Mean	**3.40**	**Strongly Agree**

The result shows that teachers are ready, prepared and could integrate technology in the teaching and learning process during the emergency remote teaching. Among the statements under readiness scale, utilization of social media platforms (3.66, Strongly Agree), integrating technology in executing the suggested competencies (3.49, Strongly Agree), and creating online task (3.48, Strongly Agree) generated the three highest means. In contrast, managing concerns in a technology-laden classroom (3.04, Agree) received the lowest mean. Overall, the teachers display an excellent readiness and preparedness on using technology in different aspects of instruction, including managing concerns, designing assessments, familiarity, and integrating flexible tasks for students with a grand mean of 3.40 interpreted as Strongly Agree.

The respondents' perceived readiness in using online teaching paralleled with Ventayen's (2018) study where teacher-participants also expressed their readiness, especially in the use of technological and technical skills, despite the participants' lack of exposure to virtual instructions. Still, many studies have claimed the readiness of the teachers toward the integration of e-learning in teaching and learning processes (Afolabi, 2015), primarily that it promotes engagements using graphics and animations (Paris, 2004). However, in the study conducted by Al-Awidi and Aldhafeeri (2017), teacher-respondents only showed moderate readiness in digitizing their curriculum with an emphasis on its significant components, which are technical and pedagogical. The results were highly associated with "time constraints, knowledge and skills, infrastructure and technical support" (p. 105).

3.2.2. Attitude

Table 4. Teachers' Attitude on Online Teaching

Statement	Mean	Interpretation
I showed discomfort in using online strategies in evaluating my students.	2.84	Agree
I was comfortable and confident in applying online teaching to execute the lessons.	3.23	Agree
I showed eagerness in learning and knowing new and more concepts of online teaching.	3.59	Strongly Agree
I fully understand that e-learning is an important approach in achieving learning goals successfully.	3.59	Strongly Agree
I believe that online instruction can produce a more creative, interactive, and innovative teaching and learning process than the usual physical classroom setting.	3.01	Agree
I enriched my knowledge in the field of my specialization through digital teaching.	3.33	Strongly Agree
I considered technology-based instructions, strategies, and approaches as parts of my instructional routines.	3.44	Strongly Agree

I prioritized online teaching in lesson planning, designing, and executing.	3.09	Agree
I recommended the use of online engagement to my students as an effective way of learning.	3.14	Agree
Overall Mean	**3.25**	**Agree**

The study finds that teacher respondents exemplify positive attitudes towards online teaching during the emergency remote instruction with an overall mean of 3.25, which is interpreted as Strongly Agree. Teachers display acceptance as they embrace new challenges in online teaching by enriching knowledge through digital teaching, being confident to execute the lessons, and maintains a positive outlook that online teaching could generate a more creative, interactive, and innovative classroom setting. The respondents show eagerness in adapting to the new demands of teaching during the emergency remote instructions (3.59, Strongly Agree) and understanding the importance of this new approach to achieving learning goals (3.59, Strongly Agree) as the two with the highest mean scores. However, teachers have experienced some discomfort (2.84, Agree) using online strategies as the usual face-to-face instruction was abruptly transformed into online teaching.

As revealed in this present study, teachers' positive attitude is supported by the study conducted by Kisanga (2016), whose majority of the respondents also have positive inclinations in e-learning engagement. This result is highly attributed to the respondents' exposure and active usage of computers in their workplaces, like working on students' information management systems and ICT training programs implemented in their institution. In critical literature made by Phan and Dang (2017), it was stressed that positive attitudes, as appeared in the reviewed materials, can strongly influence e-learning modality in the tertiary level. Hence, understanding the participants' attitude is "useful for the school administrators to have strategic plans to support and motivate them to participate in the adoption of e-learning with a willingness" (p. 11). Finally, Wasserman and Migdal (2019), who compared the attitude of the teachers enrolled in online and traditional training courses, identified several factors that are associated with teachers' attitude in the use of online teaching. These include "effectiveness and application, environment, course assignments, and attitudes towards ICT (information and communication technology)" (p. 132).

3.2.3. Ability / Competence

Table 5. Teachers' Ability on Online Teaching

Statements	Mean	Interpretation
I extended sharing my knowledge, skills, and expertise to my colleagues and students.	3.44	Strongly Agree
I facilitated online-driven discussions and activities.	3.38	Strongly Agree
I applied that acquired knowledge in real-life situations.	**3.48**	Strongly Agree
I used other available online resources to enrich the delivery of the lessons.	**3.60**	Strongly Agree

I constructed effective discussions, clarifications, and learning solutions through designed online tasks.	3.32	Strongly Agree
I acquired proficiency in using a learning management system (Blackboard) and other forms of social media (Email, Facebook, Messenger, Twitter).	3.46	Strongly Agree
I determined learning barriers and the possible solutions to address those conflicting ideas that affect successful learning.	3.35	Strongly Agree
I showed expertise in managing a virtual classroom.	**2.96**	Agree
I observed and implemented policies that promote scholastic integrity, especially on plagiarism issues.	3.36	Strongly Agree
Overall Mean	**3.37**	**Strongly Agree**

Results reveal that teacher respondents possess the ability and competence to facilitate online instruction during emergency remote teaching. Among the statements under the ability scale, teachers enrich their classes by providing various online resources (3.60, Strongly Agree) and applying real-life situations to deepen the lessons' delivery (3.48, Strongly Agree) were the two with the highest means. On the other hand, a statement like managing virtual classroom (2.96, Agree) received the lowest mean but still on the spectrum's positive side. Overall, teacher respondents' ability scale shows their determination to find solutions to various barriers to those challenges in online teaching, extending their knowledge and expertise to help others and provide practical discussions. Accordingly, our respondents' confidence demonstrates their competence in their skills and knowledge that makes it easier for them to adapt to the new learning system. This is supported by Gulbahar & Kalelioglu (2015), stating that competent instructors possess the capacity to adjust quickly from traditional to online teaching.

3.3. Students' Perception of Online Teaching
3.3.1. Readiness.

Table 6. Students' Readiness for Online Teaching

Statements	Mean	Interpretation
I utilized social media platforms for communicating with my teachers.	3.32	Strongly Agree
I showed familiarity with learning management systems such as Blackboard.	3.21	Agree
I easily responded to the online assessments to measure my learning.	2.83	Agree
I participated in online discussion forum as part of delivering the lessons.	3.19	Agree

I participated in online tasks necessary to develop critical and creative thinking skills.	3.26	Strongly Agree
I could easily use technology in developing the suggested competencies and skills to manage successful learning.	2.73	Agree
I showed comfort in communicating online through speaking and writing.	2.54	Agree
I managed my time using technology-driven instruction with ease.	2.52	Agree
I dealt with technology-laden classroom management concerns such as updating my attendance, avoiding misbehavior, and enhancing positive participation.	3.05	Agree
Overall Mean	**2.96**	**Agree**

This study finds that students were generally ready for online instructions during the sudden emergency remote teaching due to the global pandemic with an overall mean of 2.96. Results show that students in their generation are fully immersed and integrated with technology, the internet, social media, and other mobile applications. The two highest-rated statements under the readiness scale were about using social media to communicate with their teachers (3.32, Strongly Agree) and their participation to accomplish online tasks to develop critical and creative thinking skills (3.26, Strongly Agree). While most of the statements were rated positively, statements such as showing comfort in communicating online (2.54, Agree) and managing time with ease (2.52, Agree) have the lowest mean scores. The respondents show the ease of using technology, familiarity with using learning management systems, and responding to the online assessment.

Malaysian learners also showed their readiness toward e-learning, as appeared in the study of Rahim, Yusoff, and Latif (2014). Accordingly, their readiness is enhanced through the academic institution's effort to strengthen its online program or teaching modality. Hence, students' perceived readiness in using technology and internet skills in learning must be supported by a strong e-learning environment. Martin, Stamper, and Flowers (2020) measured students' readiness using two dimensions: importance and confidence. In this study, the level of importance was attributed highly to "online student attributes, time management, and technical competencies" (p. 38). For confidence, the respondents rated highly "student attributes and technical competencies" (p. 38). Generally, the respondents in this study have shown their readiness in an online learning engagement in most competencies, except in communication competencies.

3.3.2. Attitude.

Table 9. Students' Attitude on Online Teaching

Statements	Mean	Interpretation
The use of online strategies in assessment brought discomfort.	3.73	Strongly Agree
I was comfortable and confident in applying online teaching to learn the lessons.	2.23	Disagree

I showed eagerness in learning and knowing new and more concepts of online teaching.	2.49	Disagree
I fully understand that e-learning is an important approach in achieving learning goals successfully.	2.73	Agree
I believe that online instruction can produce a more creative, interactive, and innovative teaching and learning process than the usual physical classroom setting.	2.02	Disagree
I enriched my knowledge in the field of my specialization through digital teaching.	2.24	Disagree
I considered technology-based instructions, strategies, and approaches as parts of my instructional routines.	2.71	Agree
I prioritized online learning as a response to the execution of the lessons.	2.73	Agree
I recommended the use of online engagements to my fellow students as an effective way of learning.	1.87	Disagree
Overall Mean	**2.53**	**Agree**

Student-respondents experience the same amount of adjustment to accomplish and overcome the global pandemic's emergency remote teaching. With the rapid change in curriculum delivery, the study finds that students disagree on online instructions with an overall mean of 2.53. Among the statements under the attitude scale, students prioritized online learning as a response to the lessons. They showed a full understanding of online teaching's importance to accomplish the learning goals, both with a mean score of 2.73, reflecting a positive attitude towards the emergency remote teaching. However, the students who participated in the study reveals that the online strategies bring discomfort (3.73, Strongly Agree), and they do not find online teaching and learning as an effective way of learning with a mean of 1.87. Student respondents do not also believe that they could produce creative, interactive, and innovative learning with a mean of 2.02, enrich their knowledge with a mean of 2.24, and do not show eagerness in learning with a mean of 2.49 the emergency remote teaching.

Measuring the participants' attitude, Ullah, Khan, and Khan (2017) examined their interest in the computer, determined the computer usability, and explored the ease of students using the computer and their relationship to online learning. This study showed that the learners have a negative attitude toward online learning because of their lack of understanding and familiarity with this instructional modality behind the government's effort in providing and improving ICT equipment in education. Likewise, the negative results were associated with the lack of guidance in online learning engagement.

3.3.3. Ability / Competence

Table 7. Students' Ability on Online Teaching

Statements	Mean	Interpretation
I extended sharing my knowledge, skills, and expertise with my fellow students.	2.97	Agree
I responded to online-driven discussions and activities.	3.28	Strongly Agree
I applied that acquired knowledge in real-life situations.	2.66	Agree

I used other available online resources to enrich my learning.	3.24	Agree
I constructed effective learning through designed online tasks.	2.55	Agree
I acquired proficiency in the use of a learning management system (Blackboard) and other forms of social media (Email, Facebook, Messenger, Twitter).	2.97	Agree
I determined learning barriers and the possible solutions to address those conflicting ideas that affect successful learning.	2.94	Agree
I showed expertise in participating in a virtual classroom.	2.53	Agree
I adhered to the policies that promote scholastic integrity, especially on plagiarism issues.	3.38	Strongly Agree
Overall Mean	**2.95**	**Agree**

This study shows that all the statements under the ability scale were positively rated with an overall score of 2.95, which suggests a high competence of the student respondents to respond in various activities on online teaching. Students who responded to online-driven discussions and activities and adhered to policies to maintain academic honesty were the two highest mean scores under the ability scale, 3.28 and 3.38, respectively. Though all statements were within the student respondents' perceptions, they sense that joining the virtual class and constructing effective learning were things that they wanted to improve on with a mean of 2.53 and 2.55, respectively. Overall, the respondents embody an above-average online teaching ability due to their competence to integrate the learning process using their electronic gadgets like mobile phones, laptops, Ipad, and desktop computers. In many studies, students' competence in virtual learning is highly dependent on the teachers' competence in that learning modality (Ally, 2019; Bigatel, Ragan, Kennan, May & Redmond, 2012; Wiklund-Engblom, 2018; Elfatihi & Ait Hammou, 2019).

3.4. Significant Differences of Teachers' Readiness and Attitude Based on their Profiles

ANOVA

			Sum of Squares	Df	Mean Square	F	Sig.
Gender	**Readiness**	Between Groups	.006	1	.006	.031	.859
		Within Groups	28.160	145	.194		
		Total	28.167	145			
	Attitude	Between Groups	.051	1	.051	.275	.601
		Within Groups	26.745	145	.1884		
		Total	26.796	146			
	Competence	Between Groups	.043	1	.043	.247	.620
		Within Groups	24.953	145	.172		
		Total	24.996	146			
Age	**Readiness**	Between Groups	3.665	3	1.222	7.129	.000
		Within Groups	24.502	143	.171		
		Total	28.167	146			
	Attitude	Between Groups	2.225	3	.742	4.317	.006
		Within Groups	24.570	143	.172		
		Total	26.796	146			
	Competence	Between Groups	3.091	3	1.030	6.727	**.000**
		Within Groups	21.905	143	.153		

		Total	24.996	146			
Strand	**Readiness**	Between Groups	1.470	6	.245	1.284	.268
		Within Groups	26.697	140	.191		
		Total	28.167	146			
	Attitude	Between Groups	1.357	6	.226	1.245	.287
		Within Groups	25.438	140	.182		
		Total	26.796	146			
	Competence	Between Groups	1.465	6	.244	1.453	.199
		Within Groups	23.531	140	.168		
		Total	24.996	146			
Years in Service	**Readiness**	Between Groups	2.493	3	.831	4.629	.004
		Within Groups	25.674	143	.180		
		Total	28.167	146			
	Attitude	Between Groups	2.130	3	.710	4.116	.008
		Within Groups	24.666	143	.172		
		Total	26.796	146			
	Competence	Between Groups	1.500	3	.500	3.043	**.031**
		Within Groups	23.496	143	.164		
		Total	24.996	146			
Highest Educational Attainment	**Readiness**	Between Groups	2.267	2	1.134	6.303	.002
		Within Groups	25.899	144	.180		
		Total	28.167	146			
	Attitude	Between Groups	.228	2	.114	.619	.540
		Within Groups	26.567	144	.184		
		Total	26.796	146			
	Competence	Between Groups	2.289	2	1.145	7.258	**.001**
		Within Groups	22.707	144	.158		
		Total	24.996	146			

3.4.1. Gender. The study found no statistically significant difference between the teacher's readiness, attitude, ability, engagement, and satisfaction when grouped according to their gender at $p < .05$ level. The result reveals that when grouped according to gender: teacher's readiness of emergency remote teaching [$F(1, 145) = .031$, $p = 0.859$]; attitude [$F(1, 145) = .275$, $p = 0.601$]; competence [$F(1, 145) = .247$, $p = 0.620$], though the interaction between these terms was not significant. Taken together, these results suggest that regardless of gender, teacher's readiness, attitude, and competence in emergency remote teaching do not have an effect or has no difference on how they perceive ERT in those specific components. Specifically, the results suggest that teacher-respondents, whether male or female have the same perceptions on emergency remote teaching.

3.4.2. Age. The study has a statistically significant difference between the teacher's readiness, attitude, and competence when grouped according to their age at $p < .05$. The result reveals that when clustered according to specific age groups: teacher's readiness of emergency remote teaching [$F(3, 143) = 7.129$, $p = .000$]; attitude [$F(3, 143) = 4.317$, $p = .000$]; competence [$F(3, 143) = 6.727$, $p = .000$], the interaction between these terms was significant. These results suggest that teacher's readiness, attitude, and competence in emergency remote teaching is different from those who are in the 20-29 years old bracket than the other age groups. Specifically, the results suggest that teachers' perceptions of emergency remote teaching differ based on different age groups.

3.4.3. Strand. The study found no statistically significant difference between the teacher's readiness, attitude, and competence when grouped according to the strand they belong while a significant difference is noted in satisfaction at $p < .05$ level. The result reveals that when teacher respondents are grouped according to their strand: readiness of emergency remote teaching [$F(6, 140) = 1.284$, $p = 0.268$]; attitude [$F(6, 140) = 1.245$, $p = 0.287$]; and competence [$F(6, 140) = 1.453$, $p = 0.199$], though the interaction between these terms was not significant.

The results suggest that the strand where the teacher belongs does not have an effect or has no difference in how they perceive ERT on these specific components such as readiness, attitude, and competence. Specifically, the results suggest that teacher respondents from across strands and learning areas have the same perception of ERT in these specific components, such as readiness, attitude, and competence.

3.4.4. Years in Service. The study found no statistically significant difference between the teacher's engagement when grouped according to their years in service, while a significant difference is noted in readiness, attitude, and competence at $p < .05$ level. The result reveals that when teacher respondents are grouped according to the years they have been teaching: teacher's readiness of emergency remote teaching [$F(3, 143) = 4.629$, $p = .004$]; attitude [$F(3, 143) = 4.116$, $p = .008$], and competence [$F(3, 143) = 3.043$, $p = .031$] on ERT shows a significant difference in terms of the years they have been in the service as teachers. The results suggest that teacher respondents have the same perception of ERT, specifically on engagement, regardless of the number of years they spent as teachers, while they have different views about readiness, attitude, and competence of ERT.

3.4.5. Highest Educational Attainment. The study found no statistically significant difference between the teacher's attitudes when grouped based on their educational attainment, while a significant difference is noted in readiness and competence at $p < .05$ level. The result reveals that when teacher respondents are grouped according to their educational attainment: attitude [$F(2, 144) = .619$, $p = 0.540$] was not significant. On the other hand, teacher's readiness of emergency remote teaching [$F(2, 144) = 6.303$, $p = .002$]; and competence [$F(2, 144) = 7.258$, $p = .001$] on ERT shows significant difference in terms of respondent's educational attainment. The results suggest that educational attainment does not have an effect or has no difference in how teachers perceive attitude on ERT. Specifically, the results suggest that teacher respondents have the same perception of ERT, specifically on attitude regardless of the educational attainment, while they have different views about readiness and competence of ERT.

Accordingly, age, sex, and education level do not show any significant difference in the level of online teaching readiness, attitude, and ability, especially in terms of technical skills, time management, and commitment. On the other hand, teachers' years of service and their field of specialization show significant differences, especially those who specialized in Computer Science (Ventayen, 2018). For Martin, Budhrani, and Wang (2019), the gender of the respondents have significant difference since female teachers showed significantly higher than male teachers' attitude toward course design, course communication, and time management in online teaching. However, the respondents' length of teaching services (online teaching experience) has no statistically significant difference toward their teaching attitude. It is supported by Alazzam, Bakar, Hamzah, and Asimiran (2012), stating that male teachers' readiness is higher than female because of the perceived ICT skills of male respondents. Finally, the educational background does not establish its significance to online teaching readiness.

3.5. Significant Difference between the Level of Teachers' and Students' Perceptions of Online Instructions in Terms of Readiness, Attitude and Competence

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
READINESS	Between Groups	20.928	1	20.928	92.104	**.000**
	Within Groups	125.881	554	.227		
	Total	146.809	555			
ATTITUDE	Between Groups	83.907	1	83.907	318.208	**.000**
	Within Groups	146.083	554	.264		
	Total	229.990	555			
COMPETENCE / ABILITY	Between Groups	19.815	1	19.815	107.006	**.000**
	Within Groups	102.590	554	.185		
	Total	122.406	555			

The study has a statistically significant difference between the teacher's and student's readiness, attitude, and competence in emergency remote teaching at $p < .05$ level. The result reveals that teacher's and student's perception on ERT: readiness [$F(1, 554) = 92.104$, $p = .000$]; attitude [$F(1, 554) = 318.208$, $p = .000$]; and competence [$F(1, 554) = 107.006$, $p = .000$], the interaction between these terms was significant. These results suggest that teacher's readiness, attitude, and competence in emergency remote teaching and learning is different from how students perceive these ERT. Specifically, the results suggest that readiness, attitude, teachers, and students' ability in taking emergency remote teaching are different.

Behind the unavailability of the studies that explored students' and teachers' differences in readiness, attitude, and competence toward online teaching and learning, most of the published studies proved that both of them show readiness and positive attitude in the shift of the learning environment to virtual modality. Accordingly, its favorable results on both readiness and attitude have been associated with different dimensions like technological and technical skills (Ventayen, 2018), exposure and active and practical application of computer in the workplaces, and attitude toward ICT (Kisanga, 2016; Wasserman & Migdal, 2019) that encourage instructional engagements using graphical features of technology-based instructional materials (Afolabi, 2015). In the case of the students, their online attributes, time management, and technical competencies were attributed in producing high importance and confidence, the dimensions used in measuring learners' readiness on online learning (Martin, Stamper & Flowers, 2020); however, students' poor understanding and engagement to online instructions produced negative attitude toward e-learning (Ullah, Khan & Khan, 2017; Gatcho, & Ramos, 2020).

4. Conclusion

COVID-19 pandemic has caused serious and sudden changes in the field of education. In response, the education system has done possible measurements to provide quality education for the students. On top of those innovations is the implementation of online instructions as a teaching and learning modality; however, with the country's reality as far as technology and the internet are both concerned, several issues and challenges are being faced by the different stakeholders like the teachers and the students. Thus, it is appropriate to know and understand their readiness and attitude as significant references in creating relevant policies in continuing education.

With that goal, this present study has proven that the respondents are generally equipped to address different challenges that directly and indirectly affect the learning processes. Interestingly, their readiness is also supported by their positive attitude in an online engagement. While the respondents' profiles do not show significant differences in their readiness and attitude, the results generally established flexibility, resiliency, and preparedness of the Filipino teachers and learners in the challenges of time and circumstances, including technological constraints like poor internet connection and lack of access to gadgets as learning aids. While the results show favorable situations on the part of the respondents and their institutions, related studies are still encouraged to be conducted using a broader scope, especially in the case of the public school systems, to fully understand the reality of online modality in materializing the goals of Philippine basic education. In the end, any attempt to investigate the condition, employment, and implication of online teaching will serve as a frame of reference to future planning, decision making, and structuring significant educational policies to benefit all stakeholders in bringing the best for educational advancement.

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