Graduate school students' self-efficacy toward online learning in the midst of the COVID-19 pandemic

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Article Info	ABSTRACT
	The COVID-19 pandemic brought drastic changes in graduate education. One of the most pressing concerns that graduate education students experience is their adjustment to the online learning modality. This study was conducted to determine their self-efficacy in online learning. A descriptive method of research was employed by 147 graduate school students in the Northern Philippines. The findings showed that students have a high level of self-efficacy when it comes to online learning. Despite their struggles and challenges in the online classroom, particularly in social interactions and communication with their classmates and teachers, they are eager to complete their respective degrees since they are confident in their learning management system's use. In addition, their current level of self-efficacy in online learning varies according to their age, occupation, and online courses they were previously enrolled in.

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1. INTRODUCTION

The COVID-19 pandemic had a significant effect on the global educational system, prompting the closure of schools and universities, which has a negative impact on student fraternities worldwide. COVID-19 needs containment and enforced isolation due to its infectious nature, which had a significant impact on teacher-student interactions. Computer-based learning has emerged as the closest replacement for offline teaching in the absence of conventional classroom teaching and one-to-one contact. In early March, 2020, the Philippines implemented community quarantine procedures, leaving most higher education institutions with a few steps to complete before the semester ends. Since physical connections are minimal, exacerbated by stalled public transit and the danger of COVID-19 virus exposure, a transition to online and flexible learning modes was seen as necessary to ensure that learning continues. Also, in current scenarios, closing schools has been found to be successful in reducing the number of COVID-19 incidents.

The shift to an online teaching and learning process is a result of changing views on physical contact, social isolation, and other factors. Professors and graduate students face numerous challenges in all aspects of the effort to maintain the new educational setup, especially in terms of technology [1]. In a country where internet access is notoriously costly and sluggish, going online to promote teaching and learning is a herculean task. Countries in the Southeast Asian region have had trouble connecting to the internet for educational purposes. The time factor is also important to remember, as teachers have no choice but to adjust to the entire curriculum and assessment methods due to a lack of preparation time [2].

In fact, prior to the COVID-19 pandemic, many graduate education institutions in the Northern Philippines still implemented face-to-face learning and only a few schools utilized blended learning and full online learning. Graduate school students are then immersed fully in a traditional face-to-face set-up with limited opportunities to engage in online classes. With this kind of learning environment, graduate school students need to adjust to a new learning modality that is different from the traditional mode of the teaching and learning process. Since most Filipino students are caught off guard by the rapid and dramatic changes brought about by the health crisis, switching to online set-up is seen as the quickest and most efficient way to keep up with their academic and study obligations. Continuing education when the whole population is preoccupied with the consequences of COVID-19 is a difficult task.

Self-efficacy is an important factor to remember while studying online [3]–[5]. Bandura defined self-efficacy as a quality that affects an individual's judgment of himself/herself and how his/her conduct emerges, in terms of his/her capacity to coordinate the requisite activities to carry out a specific performance and do it successfully [6]. Furthermore, self-efficacy is an individual's confidence in his or her ability to perform the actions needed to deal with possible situations [7]. Individuals' expectations about how well they can carry out the tasks they need to do in order to achieve a specific goal can also be influenced by these definitions. Furthermore, self-efficacy refers to a person's assessment of his or her own ability to complete and excel at a task. Naturally, self-efficacy is known as a key indicator of people's ability to complete stressful activities that they have never done before [8]. In this sense, self-efficacy is thought to be a major factor in online learning environments, where many students get their first experience. Accordingly, students' attitudes toward online technologies will influence how they communicate with their classmates and teachers, as well as how they use technology [9]. It is clear that self-efficacy is a critical psychological element in online learning environments. Since self-efficacy has been found to have a significant impact on academic achievement, it is expected that constructive techniques directed at students' perceptions of their online learning will have an impact on their success [10].

However, in the midst of the COVID-19 pandemic, research on self-efficacy has only focused on students in basic and higher education [11]–[13]. There have been limited studies looking into graduate students' self-efficacy in online learning, especially in the Philippines. In this context, research should be conducted to evaluate the factors that influence graduate students' self-efficacy in online learning. Graduate education institutions should take advantage of this ability to boost students' self-efficacy in this way. As a result, this research is being carried out to determine the self-efficacy of graduate school students in online learning.

This study is significant for graduate education institutions as the results of the study reveal the current status of graduate students in their online learning during the COVID-19 pandemic. In this way, graduate schools can develop initiatives and interventions that will address the different issues and challenges experienced by graduate school students in online learning. In addition, this study addressed the dearth of literature regarding the self-efficacy of graduate school students in online learning.

As a result of the COVID-19 pandemic, colleges and universities have moved to more versatile learning methods to meet the needs of students. Online learning is one of the most popular open learning modalities used by higher education institutions. The term "online learning" was first used to describe computer-based internet technology-based learning systems [14]. Initially, much research on online learning was conducted in the basic education level [15]–[17], but recently, much research on online learning has been conducted in primary schools [14], [18]. Various research has found that the growth of online learning would substantially aid students in thinking how to apply self-regulation tactics. Online learning is an important approach to adopt in education because the bulk of its implementations are at the secondary and higher education levels, where students are already familiar with technology [19]–[21]. Furthermore, the introduction of online learning is merely a test that will be completed within a specific time frame. Online learning will undoubtedly have a significant impact on its effectiveness.

The growing number of schools and universities around the world adopting online learning indicates they have ability to expand information access beyond geographical boundaries. Online learning is characterized as a set of learning arrangements made up of three components: modern information, communication technologies, and the Internet. Computer-based, web-based, technology-based learning, and virtual education opportunities, on the other hand, are described as the applications and processes that help to scaffold online learning [22]. The introduction of social media and other technologies into the scene serves as a catalyst for improving online learning experiences, as they are reported to be the most preferred resources available to date [23]. As a result, a number of studies have revealed positive feedback from students as a result of their improved user satisfaction, awareness, and overall learning [24]–[26].

Online learning has a number of benefits, according to research [27]. Providing schools with more flexibility in terms of time and location; fostering self-directed and self-paced learning by enabling learner-centered activities; fostering a collaborative learning environment by connecting each learner with

geographically dispersed experts and peers; and allowing knowledge to be maintained and updated more quickly are just a few of them. Students' contentment with an online learning program, as well as their desire to utilize it again, influences its effectiveness. Students who are participative to online learning activities, according to research, are more engaged, inspired, and receptive; they contribute to a great learning environment; and they do better. On the other side, dissatisfied or ambivalent students make it more difficult for teachers to create conducive learning environments [28].

Since the COVID-19 pandemic, online learning has risen by leaps and bounds, teachers and institutions must establish whether students are content with their online learning and intend to continue using it. Students' final grades, course completion rates, and attitudes toward online classes [29] as well as students' self-reports of satisfaction in relation to course content, interaction, and learner characteristics have all been used by various researchers to calculate these principles over time [30]. Meanwhile, another study shows that teaching presence is the most important factor in how students judge online learning [31]. Learner importance, successful learning, genuine learning, learner autonomy, and technology competency were recognized as five components of student satisfaction in another study [32].

Self-efficacy refers to trust in one's ability to plan and carry out the steps necessary to achieve specific goals [33]. That is, someone's level of trust in their ability to complete a specific mission, operation, action, or challenge. Self-efficacy is described by Bandura as a person's confidence in their ability to achieve specific levels of performance and exert control over events that affect their lives [6]. People's self-efficacy values influence how they feel, think, and are inspired, and hence how they act and behave. If a person believes he or she will not be able to achieve the desired goals, they will make no attempt to do so. People's self-efficacy beliefs influence the courses of action they want to take, how much effort they put forth in specific endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-defeating or self-helping, and how much stress and depression they experience as a result of stressful environmental demands.

Self-efficacy research began between the late 1970s and the early 1990s, well before the advent of online learning [34]. Self-efficacy research in online settings is still in its infancy. He indicated that more research into self-efficacy in online learning is required. Unlike research on self-efficacy in conventional learning environments, much of the research on self-efficacy in online learning environments has been conducted in higher education. Self-efficacy is described as one's confidence in one's abilities, especially in terms of one's ability to meet challenges and complete given tasks successfully [7]. Self-efficacy is one's confidence in one's ability to effectively perform and complete a mission within one's capabilities [35]. Self-efficacy has received a lot of attention in educational psychology in the domain of online learning, which is identified as the most common mode of learning due to the COVID-19 pandemic [36]. The altering paradigm shifts appear to have a significant impact on student self-efficacy. When students switch to full-time online study as a preventive step against the coronavirus pandemic, they are often at a loss because it is a completely new experience for them. Students are discouraged from being optimistic due to inadequacies in current learning methods. Adaptation is supposed to occur in order to sustain successful academic success, such as good grades and continued learning, but students are discouraged from being optimistic due to inadequacies in current learning methods.

According to Key, returning to school in a virtual environment during the epidemic can be unpleasant, lonely, and difficult. It may, however, be overcome if one believes in oneself and is prepared to put up the necessary work and desire. Individuals with low general self-efficacy had more trouble performing tasks than those with higher reported levels, according to a report [6]. Those with low self-efficacy were more likely to equate themselves negatively with others, limiting their ability to improve their self-efficacy. Students are extremely inspired to learn online, but they lack the ability to use online resources and self-efficacy in online communication [33]. While students are familiar with using social media platforms, they lack the ability to use technical resources or software for educational purposes [37]. Additionally, students' socioeconomic situation has an impact on their distance learning effectiveness, as an increase in their family's monthly income leads to a rise in internet self-efficacy aspects [38].

Following the COVID-19 pandemic, education has shifted to online learning, and people's personal and professional lives have been drastically altered. Graduate students have to juggle a number of professional and personal changes in addition to their student positions, as a result of this transition. Graduate students, who find themselves navigating a modern educational system as both students and teachers, have faced a complex set of obstacles as a result of the pandemic. Graduate school is a big decision that requires a lot of thought, especially in terms of time, costs, and priorities. Graduate students are required to juggle classes, studies, and academic-related activities for a finite length of time after they conclude their occupations as they transition to full-time employment. Graduate students' research and work environments are becoming increasingly constrained at home, thanks to mandatory work-from-home programs.

Despite the pandemic's challenges, graduate education has seen a nearly endless supply of online recruitment interviews, which are described as contributing to new practices and opportunities [39].

Similarly, the COVID-19 experience is a driving force behind educational creativity and challenges. The introduction of virtual teaching has provided an answer to school closures in Pakistan's postgraduate education [40]. Accordingly, graduate students have looked into a variety of options for coping with the pandemic's consequences. Although some simply ignored the situation and went about their daily activities, the majority of them turned to online resources and platforms. It is also interesting to learn how certain people see the experience as an opportunity. Technology and internet access are two of the most pressing issues. Subscribing to pay services is seen as a concern, since graduate study is supposed to be about research activities. It is also important to understand how the experience has impacted students' stress levels. Students' technical potential is enhanced, personal beliefs and viewpoints are realigned, and academic efforts are sustained by the use of free and open access journals [2].

2. RESEARCH METHOD

This study utilized a quantitative type of research employing a descriptive method of research. The research was carried out at five different Graduate Education Institutions in the Northern Philippines. The respondents to the study were 147 graduate school students who were randomly selected. Due to the current educational set-up brought about by the COVID-19 pandemic, the researchers utilized online data gathering through the use of Google Forms. In addition, ethical considerations were employed by the researchers to keep the confidentiality and anonymity of the respondents and avoid biases in the results.

2.1. Research instrument

Self-efficacy of graduate school students in online learning was measured using the Self-Efficacy Questionnaire for Online Learning (SeQoL) developed by Tsai *et al.* [41]. The tool consists of 30 items divided into five major dimensions: i) Self-efficacy to complete an online course (eight items); ii) Self-efficacy to handle tools in a learning environment (six items); iii) Self-efficacy to interact socially with classmates (five items); iv) Self-efficacy to interact with instructors in an online course (five items); and v) Self-efficacy to interact with classmates for academic purposes (six items). The items were rated by the respondents on a 5-point Likert scale, from 5 (strongly agree) to 1 (strongly disagree). Prior to the administration of the questionnaire to target respondents, a reliability test was conducted to evaluate its validity and reliability. The result of the reliability test showed .85 reliability value. Hence, the questionnaire is valid and reliable.

2.2. Data analysis

The data that were gathered were analyzed using the following statistical tools: i) Frequency and percentage were used to describe the profile of the respondents; ii) Weighted mean was used to describe the self-efficacy of the respondents in online learning using the following range and qualitative as presented in Table 1. Independent Sample T-Test and One-Way Analysis of Variance (ANOVA) were used to determine significant difference on the self-efficacy of the respondents in online learning when grouped according to profile variables.

Table 1. Range and qualitative description

Range	Qualitative descriptions
4.50–5.00	Very high
3.50–4.49	High
2.50–3.49	Moderate
1.50–2.49	Low
1.00–1.49	Very low

3. RESULTS AND DISCUSSION

Table 2 shows the profile of the respondents. It can be shown from the results that there are more female graduate school student-respondents than male graduate school student-respondents. In addition, almost half of the respondents are 21-30 years old. Majority of the respondents are pursuing master degree. Meanwhile, the table further shows that many of the respondents are enrolled in the Master of Arts and Master of Science in Teaching programs, which are considered as non-thesis programs in graduate school. In addition, almost all of the respondents are currently employed. Some of the respondents work as teachers in public and private schools, while others work in offices. Along with their online learning background, almost half of them do not complete any online courses, while some have at least completed one online course. Half of them also use multiple devices for online learning, with some using cellular phones, desktop computers, tables, and laptops. Finally, respondents use postpaid plans, prepaid and mobile data in their online learning.

Table 2. Profile of the respondents

Profile variables		Frequency (n=147)	Percentage (%)
Sex	Male	40	27.21
	Female	107	72.79
Age	21-30 years old	78	53.06
	31-40 years old	44	29.93
	41-50 years old	25	17.01
Degree level	Master degree	125	85.03
	Doctorate degree	22	14.97
Degree pursuing			
	PhD/EdD Educational Management	22	14.97
	Master of Arts in Education	27	18.37
	Master of Arts/Science in Teaching	98	66.66
Occupation	Public school teacher	75	51.02
	Private school teacher	38	25.85
	Office staff	15	10.20
	None	19	12.93
Employment status	Employed	128	87.07
	Not employed	19	12.93
Online courses previously completed	More than 3	8	5.44
	2	10	6.80
	1	62	42.18
	None	67	56.46
Device/s used in online learning	Smartphone	22	14.97
	Desktop computer	8	5.44
	Tablet	10	6.80
	Laptop	29	19.73
	More than 1 gadget	78	53.06
Source of internet connection	Postpaid plan	58	39.46
	Prepaid	57	38.78
	Mobile data	32	21.76

Meanwhile, Table 3 shows the self-efficacy of graduate school students in online learning. It can be shown from the results that, specifically, students have a moderate level of self-efficacy in interacting socially with their classmates, interacting with instructors in an online course and interacting with classmates for academic purposes. Moreover, they have a high level of self-efficacy along with completing an online course and handling tools in a learning management system. The findings suggest that graduate school students are confident in the use of online learning as their learning modality in the midst of the pandemic. However, they have concerns and issues with regards to relationship factors and social interactions. Specifically, it can be shown on the table that students have high self-efficacy in completing an online course. This indicates that they have a high degree of self-efficacy when it comes to overcoming difficulties such as online learning, comprehending complex concepts, assessing learning tasks using guidelines given by their teachers, and successfully completing an online course. This just goes to show that graduate students are serious about completing their graduate degrees, whether online or in a traditional setting. In reality, many graduate students prefer online learning because it eliminates the need for them to attend school every weekend and allows them to study at their leisure. Furthermore, they have more time to learn their lessons at their own pace, free from the demands of the learning world.

The table further shows the self-efficacy of graduate school students in interacting socially with their classmates in an online learning environment is moderate. This indicates that students have a moderate level of self-efficacy, as well as initiating social interaction with classmates, using different social interaction skills depending on the situation, and developing friendships with their classmates. Students may share their ideas about different subjects with one another through social interaction in online learning. Student-led online discussions also lead to a deeper understanding of course concepts and hypotheses, as well as fascinating personal applications. A student may also use discussion boards to express their challenges or victories in their course work in order to receive input, suggestions, or praise from their peers. However, the findings of this study indicate that graduate school students have difficulty communicating socially with their classmates. According to the literature, a good and active social life on campus can be used to explain both high persistence and learning satisfaction among students, leading one to believe that online courses have lower persistence rates due to a lack of community and social connectedness in the online learning environment [42].

Moreover, the self-efficacy of graduate school students in handling tools in learning management systems is high. Because of the COVID-19 pandemic, most graduate schools in the Philippines have shifted to online learning to meet the needs of their students. This, schools and universities have adapted different modes and learning management systems to be used in learning. Many colleges and universities use free

online learning management systems such as Google Classroom, Schoology, Edmodo, and Moodle. Meanwhile, some institutions, especially private higher education institutions, have subscribed to paid learning management systems to be used in teaching and learning, such as the NEO learning management system, Violet learning management system (LMS), Canvass, and Docebo. When using LMS in the classroom, students must become acquainted with its functions and operations. The study revealed that graduate school students have a high level of self-efficacy in handling the tools in their LMS. This means that graduate students are already adept at using their learning management systems.

Graduate students, in particular, understand how to use and navigate the various functionalities of their learning management system, such as submitting learning tasks to the LMS, replying to other people's messages on a discussion board, opening files within the learning management system, downloading instructional materials and resources, and posting a new message on a discussion board. This can be attributed to the fact that prior to the COVID-19 pandemic, many graduate school institutions had already shifted to blending learning where the combination of face-to-face learning and online learning was implemented among graduate school classes [40], [42]. LMSs which are primarily course management systems (CMSs) that are widely used to assist blended learning, support blended learning. Furthermore, research suggests that proper usage of learning management systems is critical to student learning achievement [40]. LMSs are web-based platforms designed for management, documentation, monitoring, reporting, and delivery of courses in both higher education and other educational systems. It can help in traditional classrooms, online classes, or a combination of both.

Furthermore, self-efficacy of graduate school students in interacting with instructors in an online course is moderate. This means they only have a moderate level of self-efficacy when interacting with instructors in an online course. Specifically, respondents have a moderate level of self-efficacy in asking questions to their instructors, seeking help from their instructors when needed, informing their instructors when unexpected situations arise, and initiating discussions with the instructors. According to the findings, despite the full implementation of online learning in graduate school due to the COVID-19 pandemic, there was a problem with students' interaction with their teachers. Researchers suggest that one of the negative consequences of implementing a full online learning modality is that it decreases the teacher-student relationship due to limitations and restrictions [19], [21], [29]. One of the major limitations of the online learning experience is a lack of communication with classmates and teachers, which can be frustrating for some students [25]. Because the amount of face-to-face interaction between students and teachers at an online learning academy is restricted, it's critical that teachers and students have a solid working connection. Two-way communication is critical, and both parties must be able to rely on one another.

Finally, graduate students have a moderate level of self-efficacy in interacting with classmates for academic purposes in an online learning environment. They have a moderate level of self-efficacy, as well as actively participating in online discussions, effectively communicating with classmates, responding to other students in a timely manner, requesting help from others when needed, expressing opinions to other students in a respectful manner, and providing help to other students in a respectful manner. It is worth nothing that social engagement in online learning encourages students to share their perspectives on a variety of topics. In online learning, it is generally assumed that student-to-student interaction is important. However, the findings of this study show that in an online learning environment, contact between classmates is not fully manifested.

The relevance of student interactions in the teaching and learning process has long been recognized by researchers. Collaborative learning is required for the development of one's cognitive process. If group members are unable to effectively communicate their information, poor learning results may result [43], [44]. Furthermore, some of the reasons for students' moderate level of self-efficacy in interacting with classmates for academic purposes in an online learning environment can be attributed to the slow internet connection. It effects in students' disengagement in online discussions and students' unfamiliarity with their classmates, particularly in the graduate school setting.

Table 3. Self-efficacy of graduate school students in online learning

Dimensions	Mean	Qualitative description
Self-efficacy of graduate school students to complete an online course	3.89	High
Self-efficacy of graduate school students to interact socially with classmates	3.40	Moderate
Self-efficacy of graduate school students to handle tools in learning management system	4.06	High
Self-efficacy of graduate school students to interact with instructors in an online course	3.37	Moderate
Self-efficacy of graduate school students to interact with classmates for academic purposes	3.27	Moderate
Overall mean	3.60	High

Additionally, Table 4 shows the significant difference in the self-efficacy of graduate school students in online learning when grouped according to profile variables. It can be shown from the table that there is a significant difference in the self-efficacy of graduate school students in online learning when grouped according to age, occupation, and online courses they were previously enrolled in. This means that the self-efficacy of graduate students in online learning varies regardless of their age, occupation and online courses they were previously enrolled in. Moreover, there is no significant difference in the self-efficacy of graduate school students in online learning when grouped according to sex, degree level, degree pursuit, employment status, device/s used in online learning and source of internet connection. Hence, the null hypothesis is accepted.

Table 5 shows the post hoc test analysis of the significant difference in the self-efficacy of graduate school students in online learning when grouped according to age. It can be shown from the results that graduate school students who are 21-30 years old have a high level of self-efficacy in online learning, while those who are 31-50 years old have a moderate level of self-efficacy. This can be attributed to the fact that younger graduate school students are more competent and exposed to different technologies. Hence, they have a higher level of engagement in online learning.

Table 4. Significant difference on the self-efficacy of graduate school students in online learning when grouped according to profile variables

Profile variables	t-value/F-value	P-value	Decision
Sex	-1.560	.690	Not significant
Age	6. 324	.001	Significant
Degree level	1.201	.450	Not significant
Degree pursuing	2.013	.120	Not significant
Occupation	5.201	.001	Significant
Employment status	2.102	.060	Not significant
Online courses previously enrolled	6.102	.000	Significant
Device/s used in online learning	-1.012	.451	Not significant
Source of internet connection	0.102	.081	Not significant

Table 5. Post hoc test analysis on the significant difference on the self-efficacy of graduate school students in online learning when grouped according to age

Age	Mean	21-30 years old	31-40 years old	41-50 years old
21-30 years old	4.06	1		
31-40 years old	3.40	.000*	1	
41-50 years old	3.38	.000*	.909	1

Table 6 reveals the post hoc test analysis of the significant difference in the self-efficacy of graduate school students in online learning when grouped according to occupation. It can be shown from the results that private school teachers have the highest level of self-efficacy in online learning among the different occupation groups. This is due to the fact that private school teachers are already familiar with the use of online learning because it was their primary learning modality during the COVID-19 pandemic in their classes, as opposed to public school teachers, who primarily use modular learning and other flexible methods such as radio-based and television (TV) broadcasting. Furthermore, because they are new to this type of learning modality and are still in the adjustment period, these office workers and unemployed people have a moderate level of self-efficacy.

Finally, Table 7 presents the post hoc test analysis of the significant difference in the self-efficacy of graduate school students in online learning when grouped according to online courses they were previously enrolled in. According to the table, those with prior experience and engagement with online courses have a high level of self-efficacy in online learning, whereas those with no prior experience have a moderate level of self-efficacy in online learning. This can be attributed to the fact that students enrolled in online courses have already acquired the necessary skills and competency in taking online classes, making adjustment easier for them than for those with no prior online learning experience.

Table 6. Post hoc test analysis on the significant difference on the self-efficacy of graduate school students in online learning when grouped according to occupation

Occupation	Mean	Public school teacher	Private school teacher	Office staff	None
Public school teacher	3.55	1			
Private school teacher	4.05	.000*	1		
Office staff	3.30	.101	.000*	1	
None	3.40	.089	.000*	.042	1

Table 7. Post hoc test analysis on the significant difference on the self-efficacy of graduate school students in online learning when grouped according to online courses previously enrolled

Online courses previously enrolled	Mean	More than 3	2	1	None
More than 3	3.90	1			
2	3.78	.067	1		
1	3.53	0.460	.045	1	
None	3.26	.000*	.000*	.000*	1

4. CONCLUSION

The study concluded that graduate school students have high level of self-efficacy towards online learning. Despite their struggles and challenges in the online classroom, particularly in social interactions and communication with their classmates and teachers, they are eager to complete their respective degrees, especially since they are confident in their learning management system's use. In addition, their current level of self-efficacy in online learning varies according to their age, occupation, and online courses they were previously enrolled in.

Graduate schools should continue to orient their students to the use of online learning, particularly in the various functionalities of their learning management systems. In addition, graduate school institutions should regularly evaluate the effectiveness of online learning to determine whether this kind of learning modality is effective among graduate school students.

Furthermore, graduate school deans should regularly monitor the status of their students, especially if their academic needs are really attained, especially in their constant interaction with their teachers. Graduate school deans may implement virtual social-recreation activities such as day and night socialization, online sports festivals, and recollections to ensure that social interactions are enforced among students and teachers and that holistic development is continuously ensured. Finally, an extension of this study is to look into the experiences, issues and challenges of graduate school students and teachers in online learning.

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