Original Research Article

Online Distance Learning Readiness of Senior High School Students in a Philippine Public School

ABSTRACT

Aims: The unprecedented arrival of the COVID-19 pandemic made the schools in the country adopt online mediums and platforms, so that learning may continue without causing potential harm to every student's health. Due to the non-availability of data on online distance learning readiness of senior high school students in Public Senior High School X, together with the dearth of literature that could guide school administrators and stakeholders in the school in crafting empirically established programs, projects, and innovation, the study was conducted.
Methodology: The study employed a descriptive-comparative and -correlational approach. It was participated by 346 senior high school students determined through multi-stage sampling. Their level of online distance learning readiness was assessed using a standardized instrument. Data were analyzed using mean, standard deviation, Mann-Whitney U test, and Spearman rho rank correlation.
Results: Results revealed that senior high school students are generally capable and ready to learn online, using various technologies. The level of readiness significantly differed between grade level *(P=0.04)* and residence *(P=0.007)*, favoring the grade 12 for the former, and those who live within the city proper for the latter. The study established a correlation exists between students' stability of internet connection and their online distance learning readiness *(P=0.003)*.
Conclusion: The study concludes that students' maturity and constant immersion in various digital technologies play a vital role in making them more ready to learn online. The study also established that the stability of internet connection is indispensable in urging the students to actively participate in online distance learning.

Keywords: Distance Education, Distance Learning, Readiness, High School Students, Pandemic, Philippines

1. INTRODUCTION

Before the pandemic, the world was discussing Education 4.0, which envisions that learners will not anymore be limited to learning new skills and knowledge from teachers, instead, they will take initiative in identifying other sources to acquire knowledge and skills, mastering competencies, and tracking their own learning progress [1]. Apparently, the COVID-19 pandemic hastened this by the employment of online learning modes, for the sake of continuity of learning [2], unconsciously compelling all educators around the world to achieve technological and digital literacy and competence [3].

In the Philippines, Modular Distance Learning (MDL) was employed, consistent with parents' and students' nationwide survey results on learning modality preference [4]. Noteworthy is that parents play a significant role in this modality as facilitators for learning [5], and while they perform their utmost best to meet the demands of the modality, a plethora of challenges are faced by them from instructional competence to fulfilling their expected roles at home [6,7,8]. The preceding suggests that while students are generally satisfied with the implementation of MDL [6], it is a matter of time before the challenges it carries result in the need to maximize student's learning through other modalities as a consequence of new normal in education.

Accordingly, the study was proposed. It sought to provide data regarding the needs of senior high school students, should the mode online distance learning be pursued, thereby addressing the knowledge gap on students' online distance learning readiness and population gap relative to the context of the study. More than that, it seeks to intensify the academic support of teachers to every senior high school student, thereby easing the parents' challenges as they extend academic support to their children. In the study's conclusion, an action plan was proposed, to provide the school with a set of programs and actions to be undertaken in the school's implementation of online distance learning, whether for a particular group of students or for the majority of its population.

1.1 Statement of the Problem

At present, Public Senior High School X employs modular distance learning (MDL) for most of its population. While students are satisfied with MDL [6], teachers and parents have doubts and concerns about the quality of learning that they get from this modality [9]. To strengthen the implementation of distance learning, a study on students' online distance learning readiness was proposed. While a recent study conducted in school revealed that almost all students have available gadgets for academic use at home [6], there is no available data that suggests whether the students are ready for online learning. In essence, the study will fill in the knowledge gap on students' online distance learning readiness in Public Senior High School X, and the population gap relative to the context of the study. Consequently, the study could generally contribute to the dearth of literature regarding the topic.

This study aimed to determine the level of Online Distance Learning Readiness (ODLRs) of students in Public Senior High School X in terms of the following: a.) computer/internet self-efficacy (CIS); b.) self-directed learning (SDL); c.) learner control (LC); d.) motivation for learning (MFL); and e.) online communication self-efficacy (OCS), when they are taken as a whole and as they are grouped according to demographics (sex, grade level, track, residence, availability of smartphones, and stability of internet connection), during the School Year 2021-2022. Specifically, it sought to answer the following questions:

1. Is there a significant difference in the level of senior high school students' online distance learning readiness and sex, grade level, track, and residence?
2. Is there a significant relationship between the level of senior high school students' online distance learning readiness and availability of the smartphone, and the stability of their internet connection?

1.2 Hypotheses

1. There is a significant difference in the level of senior high school students' online distance learning readiness and sex, grade level, track, and residence.
2. There is a significant relationship between the level of senior high school students' online distance learning readiness and availability of the smartphone, and the stability of their internet connection.

1.3 Review of Related Literature

Online distance learning (ODL) is one of the three distance learning modalities (with two others as Modular Distance Learning and TV/Radio-Based Instruction) stipulated in "The Basic Education - Learning Continuity Plan". It is described as a modality that:

> …features the teacher as facilitator, engaging learners' active participation through the use of various technologies accessed through the internet while they are geographically remote from each other during instruction… [5, pp. 31-32].

It is good to note that a recently concluded study by Coros [6], showed that the majority of public senior high school students have available gadgets for academic use. Assuming that educational devices and digital technology are already available, it requires a "fast and stable internet connection", for it to be effectively carried out [10,11]. The good news is that the Philippines' global ranking on internet speed has been improving, now ranked 89th from 90th out of 138 countries in mobile internet, and 63rd from 72nd in broadband [12]. With these necessities met, a high chance of implementing ODL enables "real-time instruction", subsequently making the learning experience "more interactive", through virtual means.

Hung et al. [13], whose study centered on re-examination of concepts of online distance learning to develop a standardized scale that assesses students' readiness on the modality, established (5) dimensions of online distance learning readiness, innumerably: computer/internet self-efficacy (CIS), self-directed learning (SDL), learner control (LC), motivation for learning (MFL), and online communication self-efficacy (OCS).

Self-efficacy is generally defined as "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" [14, p.2]. Drawn from the preceding, CIS could be described as the belief of the student regarding his competence in using the computer and internet to perform academic tasks. In the same light, OCS may be described as the belief of the student in his competence to effectively deliver his message through online platforms in written, verbal, or non-verbal means. A study revealed that These dimensions of ODLRs are especially necessary for vocational students [15].

Incorporating the definition of SDL by Knowles [16] to the online distance learning environment, SDL then mean as the ability of a student to achieve competence in a particular skill needed in online learning, or in achieving success in a particular task in online learning modality, whether he is supported by the people that surround him or not. This dimension also enables the student to give his objective or unbiased judgment, whether he learned the skill or succeeded in the online learning task or not.

Learner control (LC) emerged as an important dimension of online distance learning readiness because contrary to the traditional learning environment where it is positioned, ODL has a web-based environment. A web-based environment follows a flexible instructional sequence and individualized approach. Simply put, the learners have the "maximum freedom" to "choose the amount of content, the sequence, and the pace of learning" [13, p. 1082]. Hence, it demands a strong sense of prioritization, decisiveness, and even self-awareness to the learner's end.

Motivation for learning is described as the underlying reason for an individual's attitude and behavior in a learning situation [13]. In theory, all individuals are intrinsically motivated to learn from the day they were born until that motivation is gradually curtailed by social pressures and responsibilities, during their early childhood [17]. This is especially confirmed by the recent findings of Coros and Madrigal [18], revealing that the motivation to learn of public senior high school students is generally "extrinsic". Nevertheless, motivation for learning is an important dimension in online distance learning, since it can influence students' self-direction, which is another vital dimension in online distance learning [18,19].

Below is the review of literature on online distance learning readiness of students as it relates to variables used in the study:

1.3.1 Sex and ODLRs. Hung et al.'s [13] study revealed that there were no significant differences in online learning readiness of male and female students in all constructs. Contrary to this are the recent findings of Laudato and Punzalan [2], Firat and Bozkurt [20], and Clemen et al. [21] who have all shown that the online learning readiness of females is significantly higher than males. Laudato and Punzalan [2] even recommend that it might be useful to initiate programs that would help male students cope with online learning. Interestingly, it is the study of Laudato and Punzalan [2] that has a close association with the current study since their respondents are

senior high school students, while those from the earlier mentioned are from tertiary education. The present study could potentially provide future researchers with additional data about the topic of investigation in association with this variable, and with consideration of different contexts.

1.3.2 Grade Level and ODLRs. The study by Hung et al. [13] showed that students from the higher grade level are significantly more ready for online distance learning compared to the students from lower grade levels. Hung et al. [13] state that "…findings means that students' maturity may play an important role in their monitoring, managing, control, and motivation relative to online learning*"* [p. 1087]. The preceding agrees with the findings of Firat and Bozkurt [20] and Clemen et al. [21], in the light of age, in the sense that the Hung et al.'s [13] classification of "maturity" coheres with these studies' [20,21] classification of respondents by age brackets, ultimately revealing significant difference and significant relationship in online learning readiness of age groups, favoring the older groups.

1.3.3 Track and ODLRs. A recent study made by Diaz [22] showed that Science, Technology, and Engineering (STE) students have a high level of readiness in online distance learning. Remarkably, the readiness of this group of students in online distance learning is well informed by their social self-efficacy, that is their belief that the people in their circle will help them achieve success in prospective situations [14]. As for students in Technical-Vocational and Livelihood (TVL) track, the findings of Cigdem [15] suggest that students in vocational courses are overall ready for online learning, but there is a need to improve two of their dimensions for readiness so that they could maximize their learning potentials, specifically their computer or internet self-efficacy and online communication self-efficacy. This coheres with the findings of Coros and Madrigal [18], that students' self-efficacy may be influenced by the track where they belong.

1.3.4 Residence and ODLRs. The research report of Alipio [23] revealed that students who are financially disadvantaged and who live in rural areas have a low level of readiness for online learning. To him, this low level of readiness may be attributed to financial constraints, lack of equipment, and issues with internet connectivity. Consistent with this are the findings of Clemen et al. [21], that students from low-income families and from rural areas have significantly lower readiness for online distance learning than their counterparts. The same findings were shown in a separate study [24] in Indonesia, that students from rural areas are not ready for online distance learning and that they need more Information and Communications Technology (ICT) competence training.

1.3.5 Availability of Smatphone and ODLRs. Though the recently concluded study of Coros [6] showed that the majority of public senior high school students have available gadgets for academic use at home, it would be more useful to narrow it down to a particular technological device, hence in this study is the smartphone. Out of four technological devices which may be used by students for online learning, the study of Firat and Bozkurt [20] revealed that online distance learners most prefer smartphones (with three others as a personal computer, laptop computer, and tablet). Undeniably, the presence of technological devices is a requirement in online distance learning [10], correspondingly and significantly affecting learners in some dimensions of online distance learning readiness [15]. The phrase "in some areas" from the preceding sentence means that not because the students have the available technological device for online learning, their learning experience would certainly be effective [25]. To encapsulate, the availability of smartphones may significantly affect some dimensions of students' online distance learning readiness [15,25].

1.3.1 Stability of Internet Connection and ODLRs. The availability of the internet leveraged students' opportunities to learn beyond the bounds of physical structure and time [26]. For efficiency and effectiveness in the facilitation of online distance learning, a fast and reliable internet connection is necessary [10,11,26,27]. The study of Mac Domhailll et al. [11] revealed that school principals have the perception that student engagement may be adversely affected due to low coverage of high-speed broadband, hence government intervention may prove helpful in resolving this.

While the need to have a fast and reliable internet connection is recognized as a necessity for the active participation of students in online distance learning, it is equally important to recognize the possible problem that it may bring. According to the study by Matthews and Schrum [28], students' locus of control may get affected due to high internet speed. In other words, they may prefer to do non-academic activities first before attending the academic ones. Grenestam and Nordin [29] explicate that this is especially true for male students, for, with high and reliable internet speed, they tend to prioritize leisure over academics.

2. METHODOLOGY

2.1 Research Design

This study will utilize descriptive-comparative and descriptive-correlational design. Since the study would like to determine if a significant difference exists in the online distance learning readiness of students as they are grouped according to demographic variables and that it seeks to investigate whether a particular variable has a significant correlation to their online distance learning readiness, the design was found by the researchers most appropriate.

2.2 Respondents

Respondents of the study were the 346 Senior High School Students from Public Senior High School X, during the Second Semester of School Year 2021-2022. The sample size was taken using the Taro Yamane formula. The samples were determined using multi-stage sampling, proceeding with stratified sampling for grade level, stratified sampling for the track, and convenience sampling due to COVID-19 protocols.

2.3 Research Instrument

The instrument consisted of two parts, the respondent's profile and assessment of the level of their online distance learning readiness as a whole and in five dimensions, innumerably: computer/internet self-efficacy, self-directed learning, learner control, motivation for learning, and online communication self-efficacy. Respondents' profile included their name (optional), sex, grade level, track, residence type, availability of smartphones, and stability of internet connection.

To assess respondents' online distance learning readiness, the Online Learning Readiness Scale (OLRS) developed by Hung et al., [13] was utilized. Its dimensions have composite reliabilities that exceed 0.7, hence considered acceptable. The convergent validity of OLRS was established using Confirmatory Factor Analysis (CFA), showing that all items have high loading on corresponding constructs. In addition to CFA, average variance extracted (AVE) was also analyzed for convergent validity, of which the results for the dimensions yielded a range of 0.486 to 0.686. Furthermore, the discriminant validity was established by analyzing the correlations among constructs. Based on the square root of AVE, passed since the values are larger than the cross-correlations with other constructs.

To determine the reliability of the instrument, a trial - run was conducted on thirty (30) students in Public Senior High School X. Since the study sought to establish an instrument whose scale scores are attributable to the true scores in the conduct of the final run, Cronbach's alpha coefficient was found by the researcher most appropriate. The instrument was found reliable at Cronbach's alpha coefficient value of 0.927.

The respondents had five alternatives to choose from, of which the results was described and interpreted as patterned from the Assessment model of the e-LRS [30]:

Table 1. Online Distance Learning Readiness Scale

Scale	Mean Range	Verbal Description	Verbal Interpretation
5	4.21 - 5.00	Very High	The learner is highly capable and ready to actively participate in online distance learning, using various technologies.
4	3.41 – 4.20	High	The learner is capable and ready to actively participate in online distance learning, using various technologies.
3	2.61 – 3.40	Moderate	The learner is approaching the capability and readiness to actively participate in online distance learning, using various technologies.
2	1.81 - 2.60	Low	The learner needs to be capacitated to be capable and ready to actively participate in online distance learning, using various technologies.
1	1.00 - 1.80	Very Low	The learner is not capable and ready to actively participate in online distance learning, using various technologies.

2.4 Data Gathering Procedure

The approval of the Schools Division, through the Schools Division Superintendent and the Principal of Public Senior High School X, was obtained before the conduct of the study. Upon approval, the researcher coordinated with the school's Grade-Level-in-Charge for sample determination. Due to COVID-19 protocols, parental consent form, orientation to respondents regarding the purpose and scope of the study, the nature, and parts of the questionnaire, and most especially, the affirmation of their willingness to participate in the study was included in the introductory part of the instrument. The administration of the instruments was done online, in coordination with the class advisers. After all the data was collected, it was tabulated and analyzed using the appropriate statistical tools. The researcher adhered to all the COVID-19 minimum health and safety measures, protocols, and standards during data collection.

2.5 Data Analysis Procedure

For the respondents' demographic profile, frequency count and percentage distribution were used. For descriptive problems, the mean was utilized for it can show the average level of respondents' online distance learning readiness as a whole and as grouped according to demographic profile. In addition, the standard deviation was employed to examine the magnitude of scatteredness of the respondents' responses. For inferential problems, non-parametric tests were utilized because according to Kolmogorov-Smirnov and Shapiro-Wilk test [KS=0.079, p=0.000], the data is not normally distributed. Correspondingly, Mann-Whitney U test was utilized in the determination of significant differences between the level of respondents' ODLRs as they were grouped according to sex, grade level, track, and residence. To determine the correlation between the level of respondents' ODLRs with the availability of smartphones and stability of internet connection, Spearman rho was utilized.

3. RESULTS AND DISCUSSION

3.1 Profile of Respondents

Table 2 shows the demographic profile of a total of 346 senior high school students who served as respondents to the study. Since the number of respondents was determined using stratified sampling, relative to their grade level and track, the profile correspondingly shows that students in Public Senior High School X are dominated by Grade 11 (f = 185, % = 53.47) and they belong to

Academic Track (f = 262, % = 75.72). Sex was not pre-determined, revealing that majority of the students in the school are female (f = 232, % = 67.05).

Noteworthy is the fact that almost all the respondents said that they have smartphones (f = 327, % = 94.51), however majority said that they have unstable internet connection (f = 187, % = 54.05). The instability of the internet connection appears contrary to the fact that most of the respondents live within the city proper (f = 225, % = 65.03). This is due to the fact that city proper are the centers of infrastructure developments, including the infrastructure for information and communications technology. Moreover, despite the recent reports that the Philippines has continually been improving its global ranking for mobile internet speed and broadband speed, compared to the preceding years, [12], results suggest that there remains a huge work needed for the stability of the internet in the country be at par with other countries.

Table 2. Demographic profile of respondents

Variable	f	%
Sex		
Male	114	32.95
Female	232	67.05
Grade		
11	185	53.47
12	161	46.53
Track		
Academic	262	75.72
TVL	84	24.28
Residence		
Urban	225	65.03
Rural	121	34.97
Availability of Smartphones		
Yes	327	94.51
No	19	5.49
Internet Stability		
Stable	159	45.95
Unstable	187	54.05
Total	***346***	***100***

3.2 Level of Online Distance Learning Readiness of Respondents

Table 3 shows the level of ODLRs of senior high school students when they are taken as a whole and when they are grouped according to demographics. The students generally have a high level of readiness for online distance learning (M = 3.65, SD = 0.59). Hence, they are generally capable of participating in learning activities remotely, using various technologies.

The consistent lowest mean score in all areas of ODLRs (CIS: M=3.25, SD=0.62; SDL: M=3.40, SD=0.41; LC: M=3.21, SD=0.65; MFL: M=3.63, SD=0.89; OCS: M=3.12, SD=0.61), correspondingly as a whole (M=3.35; SD=0.45), was shown by the students who are from rural areas. This suggests that compared to those who live within the city proper, students coming from rural areas may have relatively lesser belief in their competence in facilitating their learning progression using digital technologies, and lesser disposition at achieving competence in a given academic task, which could be easily distracted when placed in a virtual platform, may have a lesser drive to pursue learning online, and lesser belief in their capability to convey their ideas using an online platform [13].

Similarly, consistent low mean scores in all respondent demographics, correspondingly as a whole (M=3.38, SD=0.72), could be observed in the area of Learner Control (LC). It is important to recognize that learner control is about having a sense of prioritization of academic matters over

leisure or pleasure when one is placed in a situation requiring the most appropriate decision. This means that senior high school students generally struggle with directing their progression and experience in the online environment, given the fact that it offers a lot of distractions. Hence, students may still need consistent reminders over what matters most as they continue learning on online platforms with the help of their parents and teachers. A high level of learner control is considered vital in online distance learning since learners are given the maximum freedom "to choose the amount of content, the sequence, and the pace of learning" that they could get from their subjects [13].

Despite the preceding findings, it is good to note that regardless of respondents' demographics, they have consistently shown the highest mean score of motivation for learning, correspondingly as a whole (M=4.06, SD=0.81). This tells us that senior high school students remain to be very much motivated to learn even via an online platform. Correspondingly, they may take additional measures to better understand the concepts in different academic subjects, especially the difficult ones, and they would find ways how they could better retain these learnings for future use [13]. The findings conform with the results of Coros and Madrigal [18], specifying however that students' primary motivator in learning is extrinsic. In other words, they have strong consideration on what they could get from learning a concept, skill, and the like, not on getting a personal joy out of learning [17].

Table 3. Online Distance Learning Readiness of Public Senior High School Students

Variable	CIS			SDL			LC			MFL			OCS			ODLRs		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex																		
Male	3.51	0.84	H	3.54	0.72	H	3.27	0.71	M	3.97	0.83	H	3.36	0.85	M	***3.56***	***0.63***	H
Female	3.67	0.69	H	3.64	0.65	H	3.43	0.71	H	4.11	0.79	H	3.55	0.71	H	***3.70***	***0.56***	H
Grade-level																		
11	3.56	0.72	H	3.56	0.67	H	3.33	0.67	M	4.00	0.84	H	3.44	0.73	H	***3.60***	***0.57***	H
12	3.68	0.77	H	3.66	0.67	H	3.44	0.76	H	4.13	0.76	H	3.55	0.81	H	***3.71***	***0.60***	H
Track																		
Academic	3.65	0.74	H	3.64	0.66	H	3.37	0.71	M	4.14	0.77	H	3.50	0.75	H	***3.69***	***0.57***	H
TVL	3.51	0.77	H	3.50	0.70	H	3.41	0.73	H	3.81	0.87	H	3.45	0.83	H	***3.55***	***0.64***	H
Residence Type																		
Urban	3.64	0.75	H	3.62	0.68	H	3.40	0.72	M	4.09	0.80	H	3.51	0.77	H	***3.67***	***0.59***	H
Rural	3.25	0.62	M	3.40	0.41	M	3.21	0.65	M	3.63	0.89	H	3.12	0.61	M	***3.35***	***0.45***	M
Availability of Smartphone																		
Yes	3.64	0.74	H	3.58	0.68	H	3.37	0.73	M	4.04	0.82	H	3.48	0.79	H	***3.64***	***0.61***	H
No	3.57	0.75	H	3.65	0.66	H	3.41	0.69	H	4.11	0.77	H	3.51	0.73	H	***3.67***	***0.54***	H
Internet Stability																		
Stable	3.75	0.73	H	3.69	0.63	H	3.52	0.71	H	4.11	0.81	H	3.64	0.76	H	***3.75***	***0.56***	H
Unstable	3.50	0.75	H	3.54	0.70	H	3.27	0.70	M	4.02	0.80	H	3.36	0.75	M	***3.57***	***0.59***	H
As a Whole	***3.62***	***0.75***	***H***	***3.61***	***0.67***	***H***	***3.38***	***0.72***	***M***	***4.06***	***0.81***	***H***	***3.49***	***0.77***	***H***	***3.65***	***0.59***	***H***

3.3 Difference in Level of Online Distance Learning Readiness of Respondents when they are grouped according to Sex, Grade-Level, Track, and Residence

Table 4 shows the difference in the level of ODLRs of public senior high students when they are grouped according to sex, grade level, track, and residence. Results show a significant difference in their level of ODLRs when they are grouped according to grade level [U=12997.00, *P*=0.041] and residence [U=1954.500, *P*=0.007], hence the alternative hypothesis relative thereto was accepted.

The findings suggest that grade 12 students are generally more ready for online distance learning compared to grade 11 students. In the same light, students residing in urban areas are more ready for online distance learning compared to those who are coming from rural areas. This implies that teachers of grade 12 students may find it easier to facilitate online classes and academic activities compared to teachers of grade 11 students. This alludes to the fact that along with readiness on technicalities for technological requirements, is the maturity to direct and pursue individual and flexible learning. In addition, if the teachers could classify their students according to types of residence, then he or they might already have the clue on who are the students that may or may not struggle in attending academic activities and complying with academic requirements needed to be done online, along with all digital, technological, and competence related thereto. Doing this could enable teachers to create measures that could increase the chance that his or her students would actively participate in online distance learning.

Relative to grade level, the findings conform with the results of related studies [13,20,21], that students from higher grade levels are generally more ready to learn online compared to students from lower grade levels. Hung et al. [13] reasons that this could be explained by the fact that students from higher grade levels are generally more mature than those who are from the lower grade level. As to residence, indeed Filipino students from rural areas are less ready than those who are from urban areas. The present results conform with the findings of Alipio [23], who pointed out that the low level of readiness of students in rural areas may be attributed to a lack of equipment and internet problems. The results further conform with the findings of Clemen et al. [21], whose context however is tertiary education, and of Bambang [24], whose study however was done in Indonesia. He pointed out that students in rural areas are not ready for online distance learning and that they need more Information and Communications Technology (ICT) competence training. In the context of his study, ICT competence specifically refer to:

> …basic skills to operate a computer, install software on either PC or mobile, able to use functional features of video conference, good to operate any office applications, send email as well as to find any information on the Internet. (p. 27)

Table 4. Difference in Online Distance Learning Readiness of Public Senior High School Students when they are grouped according to Sex, Grade-Level, Track, and Residence.

Variable	N	Mean Rank	U	Z	P
Sex					
Male	232	180.62	11573.00	-1.889	0.059
Female	114	159.02			
Grade					
11	185	163.25	12997.00	-2.044	0.041*
12	161	185.27			
Track					
Academic	262	179.41	9456.50	-1.941	0.052
TVL	84	155.08			
Residence					
Urban	327	177.02	1954.500	-2.720	0.007*
Rural	19	112.87			

Note: Significant when $p \leq 0.05$

3.4 Relationship between Availability of Smartphones and Internet Stability with Online Distance Learning Readiness of Respondents

Table 5 shows the relationship between the availability of smartphones and stability of internet connection with ODLRs of senior high school students. Among the variables, only stability of internet connection [$\rho(344)=-0.158$, $P=0.003$] has shown a significant relationship with students' online distance learning readiness. In this regard, the alternative hypotheses between stability of internet connection and online distance learning readiness were accepted. Thus, there is no significant relationship between the availability of smartphones and online distance learning readiness, but there is a significant relationship between the stability of internet connection and online distance learning readiness.

The results indicate that students' readiness to actively participate in learning activities remotely is not influenced by the availability of their smartphones. This alludes to the fact that almost all students already have a smartphone these times. Instead, their readiness to actively participate is influenced by the stability of their internet connection. This implies that the stability of internet connection needs to be addressed, perhaps by individual schools, the government, or through

partnerships, as it directly or indirectly affects students' active participation in online academic activities and compliance with academic requirements during these times and as intensified by the new normal of learning.

Results of the present study intensify the need to provide a fast and reliable internet speed, as these may result in issues in efficiency and effectiveness in the facilitation of online distance learning [10,11,26]. As revealed by a current study that despite the apparent readiness of students, in general, to participate in online learning, they may show significantly differing levels when they are grouped according to demographic variables, simply due to unstable internet connection [27]. It is important to recognize however that along with addressing the need for stable and fast internet speed, is the need to consider the students' locus of control, because the students may get easily distracted by non-academic related online activities when they are already provided with high speed and very stable internet connection [28]. As explicated by Grenestam and Nordin, [29], this is due to students' reduced academic effort, due to the prioritization of leisure, especially among male students.

Table 5. Relationship between Availability of Smartphone and Internet Stability, with Online Distance Learning Readiness of Public Senior High School Students

Variable	ρ	df	P
Availability of Smartphone x ODLR	0.020	344	0.717
Stability of Internet Connection x ODLR	-0.158*	344	0.003

Note: the relationship is significant when $p \leq 0.05$

SUMMARY OF FINDINGS

Senior High School Students in Public Senior High School X are dominated by Grade 11, belonging to the Academic track, and females. Almost all of them have smartphones but the majority have an unstable internet connection. Findings suggest that students are generally capable and ready for online distance learning, using various technologies.

The students from rural areas have shown consistent lowest mean score in all areas of online distance learning readiness, innumerably computer/internet self-efficacy, self-directed learning, learner control, motivation for learning, and online communication self-efficacy. Among these areas, a consistent low mean score in learner control was shown by all student demographics. Noteworthy however is the consistent highest mean score shown by all student demographics in motivation for learning.

The level of online distance learning readiness significantly differs when they were grouped according to grade level and residence. Grade 12 students are generally more ready for online distance learning compared to grade 11 students. Also, students residing in urban areas are generally more ready for online distance learning compared to students residing in rural areas.

There was a significant relationship between the stability of internet connection and online distance learning readiness. This indicates that internet stability influences students' readiness to actively participate in online activities, with various technologies, remotely.

CONCLUSIONS

Senior high school students in Public Senior High School X are generally ready for online distance learning. They generally have the knowledge, skills, attitude, and competence needed to actively participate in online activities. The study concludes that student maturity, as indicated by results in grade level, plays a vital role in making the students more ready for this mode of learning. Moreover, constant immersion of students in various digital technologies, as indicated by results in residence, enables them to be more ready for this mode of learning. Furthermore, the study establishes that the stability of internet connection is indispensable should school implement online distance learning, for it has a direct influence on students' active participation in online academic activities.

Ethical Approval:
As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONSENT

Due to COVID-19 protocols, parental consent, orientation to respondents regarding the purpose and scope of the study, the nature, and parts of the questionnaire, and most especially, the affirmation of their willingness to participate in the study was included in the introductory part of the instrument.

RECOMMENDATIONS

Given the findings and conclusions of the study, the following recommendations are suggested:

For school administrators, it may be helpful to conceptualize and implement information and communications technology training for grade 11 students and those who reside in rural areas, and other programs that could enhance online distance learning readiness. It may also be helpful to weld partnership between the school and telecommunications company, authorities, agencies, or organizations, whichever is possible so that the stability of internet connection experienced by all students is achieved. This is considered an indispensable need, especially for the new normal of learning.

Teachers should take advantage of the fact that students remain to be motivated to learn even through online means. It would be helpful to give them rewards for their active participation in online activities and for their sense of urgency to comply with the requirements done through online platforms. Teachers should also consider that students way easily be swayed by distractors online, perhaps by social media and games, as indicated by their consistent lowest mean score in the area of learner control. It may be helpful to continually remind them to remain focused and keep having an awareness of time, for them to comply with their academic requirements done online. Furthermore, it may be helpful that teachers to identify who among their students are coming from rural areas, and provide technical assistance to them when necessary so that they could better participate in online learning.

Parents should consistently remind their children to remain focused on their academics and to remind them that they should not invest so much time in distractors online. Also, it would be very much helpful if they ensure that their students receive the highest quality of internet service if they are learning remotely, especially during school hours, so that their participation in online activities and compliance with requirements related thereto may not be significantly affected.

Students are encouraged to practice self-discipline and prioritization so that they may have a greater sense of control over their online activities, leading to the achievement of their academic goals. Students from lower grade levels and rural areas are encouraged to keep themselves abreast of various digital skills and technologies so that they perform well in online academic activities.

Future researchers may replicate the study in other schools so that they may as well gather data about the level of online distance learning readiness of their students to create plans and programs that could improve address any identified problem on its implementation or planned implementation. Other contexts may include undergraduate level, junior high school level, or even elementary level when considered by researchers and administrators necessary. Considering the limited demographic variables investigated in the study, the future researcher may seek to investigate other variables of interest, to saturate the literature regarding the online distance learning readiness of Filipino students.

REFERENCES

1. Hussin AA. Education 4.0 made simple: Ideas for teaching. International Journal of Education and Literacy Studies. 2018 Jul 31;6(3):92-8.
2. Laudato EE, Punzalan CH. Digital Literacy of Selected Senior High School Students: An Analysis for Online Education Readiness. i-Manager's Journal of Educational Technology. 2021 Jul 1;18(2):53.
3. Hernandez L. Strengths and Challenges of Distance Learning Modalities in the New Normal: Basis for Intervention Program. Journal of Humanities and Social Sciences. 2021 Aug 20;3(2):80-7.
4. DepEd, 2020. *Official Statement on LESF*. Accessed 18 September 2021. Available: https://www.deped.gov.ph/2020/07/30/official-statement-on-lesf/
5. DepEd Order No. 12 series of 2020. *Adoption of the Basic Education Learning Continuity Plan for School Year 2020 -2021 in Light of the COVID-19 Public Health Emergency.* Accessed 18 September 2021. Available: deped.gov.ph/2020/06/19/june-19-2020-do-012-2020-adoption-of-the-basic-education-learning-continuity-plan-for-school-year-2020-2021-in-the-light-of-the-covid-19-public-health-emergency/
6. Coros JD. Quantifying Senior High School Students' Satisfaction in the Implemented Modular Distance Learning.
7. Reyes RR. Parental Challenges and School Performance of Junior High School Students in Distance Learning Modality. International Journal of Research in Engineering, Science and Management. 2021 Jul 8;4(7):71-6.

8. Pascual E. Parent-Teacher-Learner Collaboration in Modular Distance Learning. LAP LAMBERT Academic Publishing; 2020.
9. Alvarez MY. Issues And Concerns Of Teachers In Mindanao State University-Sulu Towards Modular Distance Learning Approach: An Analysis. Indonesian Community Empowerment Journal. 2021 Jun 24;1(2):51-69.
10. Priyadarshini A, Bhaumik R. E-readiness of Senior School Learners to Online Learning Transition amid COVID-19 Lockdown. Asian Journal of Distance Education. 2020 Jun 12;15(1):244-56.
11. Mac Domhnaill C, Mohan G, McCoy S. Home broadband and student engagement during COVID-19 emergency remote teaching. Distance Education. 2021 Oct 2;42(4):465-93.
12. Olandres, A. (2022). Internet Speeds: Are we still the slowest in ASEAN? Accessed from https://www.yugatech.com/feature/internet-speeds-are-we-still-the-slowest-in-asean/ on 9 May 2022.
13. Hung ML, Chou C, Chen CH, Own ZY. Learner readiness for online learning: Scale development and student perceptions. Computers & Education. 2010 Nov 1;55(3):1080-90.
14. Bandura A. Exercise of personal and collective efficacy in changing societies. Self-efficacy in changing societies. 1995;15:334.
15. Cigdem H. Effects of students' characteristics on online learning readiness: A vocational college example. Turkish Online Journal of Distance Education. 2014 Jul 1;15(3):80-93.
16. Knowles MS. Self-directed learning: A guide for learners and teachers.
17. Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American psychologist. 2000 Jan;55(1):68.
18. Coros JD, Madrigal DV. Self-Directed Learning, Self-Efficacy in Learning, and Academic Motivation of Public Senior High School Students.
19. Heo J, Han S. Effects of motivation, academic stress and age in predicting self-directed learning readiness (SDLR): Focused on online college students. Education and Information Technologies. 2018 Jan;23(1):61-71.
20. Firat M, Bozkurt A. Variables affecting online learning readiness in an open and distance learning university. Educational Media International. 2020 Apr 2;57(2):112-27.
21. Clemen IG, Ali H, Abdulmadid AN, Jabbar JH. Education During COVID-19 Era: Readiness of Students in a Less-Economically Developed Country for E-Learning. IMCC Journal of Science. 2021;1(2):94-101.
22. Diaz RA. Online learning readiness of the Science, Technology, and Engineering (STE) Program students of Sta. Cruz National High School during COVID-19 pandemic. Sapienza: International Journal of Interdisciplinary Studies. 2021 Jul 9;2(2):9-18.
23. Alipio M. Education during COVID-19 era: Are learners in a less-economically developed country ready for e-learning?.
24. Bambang SM. Comparative Study of E-Learning Readiness and Socio-Economic Factors during Covid-19 Pandemic: Evidence from High School Students in Urban and Rural Areas of Indonesia. InConference Proceedings of International Conference on Teaching, Education and Learning (TEL) 2021 Dec 14 (Vol. 1, No. 1, pp. 14-29).
25. Cortez CP. Blended, distance, electronic and virtual-learning for the new normal of mathematics education: A senior high school student's perception. European Journal of Interactive Multimedia and Education. 2020 May 17;1(1):e02001.
26. Dwiyanti KE, Pratama IP, Manik NP. Online learning readiness of junior high school students in Denpasar. IJEE (Indonesian Journal of English Education). 2020 Dec 30;7(2):172-88.
27. Oducado RM. New Normal in Nursing Education: Sophomore Students' Expectations of and Readiness for Online Learning in the Era of COVID-19 Pandemic. International Journal of Caring Sciences. 2021;14(2):1170-7.
28. Matthews D, Schrum L. High-speed Internet use and academic gratifications in the college residence. The Internet and Higher Education. 2003 Apr 1;6(2):125-44.
29. Grenestam E, Nordin M. High-speed broadband and academic achievement in teenagers: Evidence from Sweden. 2018 Apr 23.
30. Aydın CH, Tasci D. Measuring readiness for e-learning: Reflections from an emerging country. Journal of Educational Technology & Society. 2005 Oct 1;8(4):244-57.