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Online Learning Readiness of Public Secondary Schools: The Perspective Between School Heads and Teachers

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ABSTRACT

Globally, academic institutions have been impacted by COVID-19, and the majority have gone online. During the pandemic, online learning was most effective. This study aimed to determine the readiness of secondary schools for online learning in the Division of Antique as perceived by the school heads and teachers of the Division of Antique. A validated survey instrument was used to gather data from the respondents. Statistical tools used include frequency, percentage, standard deviation, and mean for the descriptive analysis, then One-way ANOVA and Kruskal-Wallis Test, Least Significant Difference (LSD), and Bonferroni for the inferential analysis. The study found that secondary schools in the Division of Antique were ready to adapt to the online learning platforms of curriculum delivery as perceived by school heads and teachers. Further, it was found that there exists a significant difference in the online learning readiness of school heads and teachers when categorized according to the school size. Despite the findings that the secondary schools were ready to implement online learning, it was proposed that the Schools Division of Antique should strategically plan for it to make sure that the readiness of school heads, teachers, and students, especially in terms of the availability of Information and Communication Technology (ICT) gadgets, digital technology skills, and availability of online learning home support is established to ensure the quality of implementation.

INTRODUCTION

As a precautionary measure against the coronavirus, the governments of more than 170 nations have ordered the closure of schools, affecting around 1.5 billion kids (COVID-19). Through the use of distant learning, the global education system strives to maintain a continuous learning environment for children and young people. The majority of the time, efforts consist of utilizing a variety of digital platforms that feature instructional content in addition to a wide range of educational technology (EdTech) solutions in order to make communication and learning spaces as open and dynamic as is humanly possible (Moreno & Gortazar, 2020). According to Galecia et al. (2022), the COVID-19 epidemic expands worldwide opportunities for online education. Due to this pandemic, all nations have changed their educational systems to online learning methods. Mental and technical readiness for the online learning mode must be assessed so that appropriate assistance can be provided and addressed, aside from its ICT set-up amenability. Undeniably, the dilemma facing all countries is that, while these technological solutions seem to be the greatest approach to limit major learning losses during the crisis (particularly for vulnerable pupils), they also risk further growing equity inequalities in education. Thus, if the digital gap in education were to expand as schools are closed, learning inequality and learning poverty would also unavoidably increase. Learning continuity would then be ensured for some but denied to others.

The first step is to make sure that all students have access to the internet, which is the first dimension of the digital gap. All students would be able to use online learning tools and digital platforms with educational content. But the COVID-19 crisis has shown that there are two more parts to the digital gap, even in rich countries where everyone has access to the Internet but not everyone does. The second factor is the digital use gap. Without guidance, students from lower socioeconomic backgrounds are less likely to use online content in a way that helps them learn. The third dimension is the digital school gap, which is the ability and capacity of each school to provide individualized, or appropriately leveled and sequenced, digital learning for students, to promote and track engagement with these materials, and to give feedback that helps maximize learning outcomes. One school, for instance, might only send printed materials or suggest that students watch videos made for the general public. On the other hand, other schools can keep classes going online or come up with creative ways to use digital apps for group learning and one-on-one student support. It's easy to see why this is the most important digital gap for making sure that students can keep learning during the pandemic, given how different schools are (Moreno & Gortazar, 2020).

It is, therefore, apt to evaluate the readiness of public secondary schools for online learning in this time of pandemic as perceived by the school heads and teachers. This initiative has to be done to improve the instructional delivery of schools and to find out the significant role it plays, hence, this study.

LITERATURE REVIEW

In recent decades, technology has entered the everyday lives of more people of all ages at a tremendous pace.

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Looking through history, Personal Computers (PC) for home use were commercially available in the 1980s, and PCs equipped with the internet started around the 1990s. In the early 2000s, not long after, mobile phones became widespread, and smartphones followed them after 2007 with the introduction of Apple's iPhone. Undoubtedly, the Internet is important in the widespread use of information technologies. However, according to Basol and Cevik (2006), computers without an Internet connection resemble an empty box, a typewriter, or an introverted child; hence nothing positive.

Since the mid-1990s Internet boom, distance education has changed (especially in developed countries). Distance education methods from the 1990s (correspondence courses, radio-based courses, videotaped lectures) are being updated or replaced with internet-based or computer-based methods (NCES, 1999). In 2002, more than 1.6 million college students took at least one online course, and more than 500,000 completed their degrees online (The Sloan Consortium, 2004). However, E-learning is not just for colleges and universities. Many private companies deliver training online (American Society for Training and Development [ASTD], 2003; Stephenson, 2003). The delivery of training programs via e-learning platforms (DVD, CD-ROM, internet) increased to 29% in 2002 and 31% in 2003, according to the ASTD (2003). While 32% to 74% of organizations used the internet for e-learning delivery in 2003, questions remain about instructional soundness and learner readiness for online learning environments.

Researchers have attempted to determine the variables related to the online learning readiness of schools. Literature on online learning readiness seems more focused on inspecting students' online readiness to other variables such as student-directedness and computer self-efficacy (Robinson, 2008) rather than studying the relevance of important pre-entry characteristics to the online readiness level of the users. As an important dynamic for student success in online learning, readiness was at the core of the current study. Anything new introduced to a blended learning environment, e.g., flipped classrooms, discussion boards, e-quizzes, workshops, etc., new studies have emerged looking at their effects on achievement (Basol, Cigdem, & Unver, 2018).

Similarly, Basol, Cigdem, and Unver (2018) pointed out studies on online learning strategies. Drawing broader conclusions from these studies reduces their external validity. Who is more willing to take advantage of online learning? What characteristics help them make that decision? Investigating the importance of student characteristics on e-learning readiness may help us design better online instruction. While user characteristics such as having a computer or mobile phone with Internet access affect students' ability to use online learning, topics such as user preferences, inspired by marketing research to drive sales, have been studied. In Turkey, a survey on smartphone use by both men and women found that people used them for social networking, talking on the phone, searching the Internet, and texting.

Experience has been studied for its relationship to academic achievement in online learning literature. According to the results, taking a web-based course before could affect students' online readiness. Online learning may have improved their learning in a previous course. A mobile phone with Internet access can help process information. The internet has dominated our lives by providing "intercultural and personalized" knowledge through digital apps on smartphones, computers, and tablets (Holmes & Gardner, 2006). A smartphone with the internet can replace a computer. 64% of Americans own a smartphone, and 63% of adult cell owners go online with their phones. Moreover, Turkish people are just as tech-savvy as Americans. Computers, laptops, mobile phones, Ipads, and smartphones quickly spread from schools to homes. 90% of Turkish smartphone users have Internet access, with 53% male and 47% female Pew Research Center, 2014).

Researchers should consider age, socioeconomic status, technology availability, prior experience, self-efficacy, education (Ng, 2012), and disciplinary differences to understand the concept better. According to the literature, online learners must own a computer, spend more time on it, and have Internet access (Helsper & Eynon, 2010). Web as an instructional tool is supported by research. McMullin (2005) says a website is like a library for students. Leacock, Warrican, and Veira (2013) reported that students used netbooks at home and school and suggested educating them on safe and beneficial use rather than limiting Internet access. Building and maintaining an online course takes time from the instructor. It can be difficult for a tech-novice or multi-course instructor. This also applies to students who do not use technology often. It would be interesting to see how online learners' technology preferences affect their readiness for online learning.

Moreno and Gortazar (2020) looked at the PISA 2018 principals' questionnaire in assessing the readiness and management of digital learning experiences. According to the study, the results were disappointing, but they showed the reality and are still hopeful. Only a few countries have universal access to such platforms, including all the Nordic countries, Singapore, Qatar, and the four Chinese provinces participating in PISA 2018, and to a lesser extent, Australia, New Zealand, Thailand, and the United States. In most countries, 35 to 70% of students attend schools with effective online learning support. Thus, the world's education systems lack universal online learning platforms. (2) Do teachers have the technical and pedagogical skills to integrate digital devices? Principals were more positive. In most countries, two-thirds of 15-year-olds attend schools where principals believe teachers have the technical and pedagogical skills for digital learning. High-income OECD members do worse than middle-income countries. LAC and MENA lag behind ECA, East Asia, and the Pacific (EAP). In the COVID-19 crisis, the responses to this question offer

some hope. However, two-thirds seem low for teachers and raise concerns about the remaining third, whose teachers lack skills essential for successful digital learning during school closures.

Online learning, a subset of distance education, has always provided access to a more flexible educational experience than campus-based education. In developed countries, Web access is widespread. For example, in Canada, 68 percent of the population uses the Internet regularly, which is likely higher today, especially among younger users and students. This high percentage of users includes over 95% of those interested in formal education. Access to the Web is primarily through home or workplace computers, libraries, Internet cafes, and personal wireless devices. Most people in developed countries have easy access. In addition, access is faster and more convenient, as shown by 33% annual increases in broadband connectivity in OECD countries between 2005 and 2006 (OECD, 2006).

Numerous studies, including a meta-analysis of over 200 studies, have found no significant difference in learning outcomes in online versus face-to-face courses (Bernard et al., 2004; Bowen, Chingos, Lack, & Nygren, 2012). Nevertheless, online course dropout rates range from 20-40% (Pierrakeas, Xenos, Panagiotakopoulos, & Vergidis, 2004), and online attrition rates have been reported as 7-20 percentage points higher than those for face-to-face courses (Nora & Snyder, 2009; Patterson & McFadden, 2009). However, there is little research on the effects of online course-taking on college persistence and completion, and what results are available are mixed (Shea & Bidjerano, 2014; Xu & Jaggars, 2011). However, examining student characteristics may help to predict which students are at the highest risk online.

In her article, Ilona (2021) underscored that during quarantine throughout most of the Philippines, education officials have proposed using online platforms for the school year 2020-2021 to continue the schooling of millions of Filipino students. The Philippines, however, cannot support online schooling for most of its students, and the attempt will prove ineffective for most of the country. According to DepEd's ICT Service Director Aida Yuvienco, as cited by Ilona (2021), "only 26 percent of public schools are connected to the internet or can connect to the internet", and nearly 5,000 public schools in remote areas do not even have access to electricity. Obviously, the Philippines is far from being technologically advanced, 83rd out of 138 countries in digital readiness, according to the Department of Science and Technology.

METHODOLOGY

Research Design

This study utilized the descriptive research design. Descriptive research is a purposive process of gathering, analyzing, classifying, and tabulating data about prevailing conditions, practices, beliefs, processes, trends, and cause-effect relationships and then making an adequate and accurate interpretation of such data with or without the aid of statistical methods (Calderon & Gonzales, 2011). The study is descriptive design since it assessed the readiness of the public secondary schools for online learning as perceived by both school heads and teachers.

Respondents of the Study

The respondents of this study were all secondary school heads and randomly selected teachers in the Division of Antique during the school year 2020 -2021. The number of respondents is shown in the succeeding table.

Table 1: Distribution of Respondents by School Size

Variables	School Head		Teachers	
	f	%	f	%
Small	9	16	43	13
Medium	18	51	69	20
Large	9	16	54	16
Very Large	21	37	175	51
Total	**57**	**100**	**341**	**100**

Research Instruments

The researchers made use of a survey questionnaire on the readiness of schools for online learning were used to gather data needed in the study. Online Learning Readiness Questionnaire for School Heads was used to determine the level of readiness of school heads for online learning. The instrument consisted of a four-point Likert type scale of three (3) dimensions: digital technology skills, task-based skills for online learning, and availability of ICT gadgets for online learning. Each dimension has indicators that measure the readiness of school heads to implement online learning in school. Then, the school head respondents were asked to rate each item for the digital technology skills and task-based skills for online learning using the following options: 4-Always; 3-Sometimes; 2-Seldom; and 1-Never. For the availability of ICT gadgets, each item was asked to be assessed as follows: 4-Personally Owned; 3-Provided by the School; 2-Borrowed; and 1-Does Not Own.

On the other hand, the Online Learning Readiness Questionnaire for Teachers was used to determine the level of readiness of teachers for online learning. The instrument consists of a 4-point Likert-type scale consisting of the following dimensions: digital technology skills, task-based skills for online learning, willingness to adopt online learning for delivery of lessons, availability of ICT gadgets, and status of ICT infrastructure in the school. Each dimension has indicators that measure the readiness of teachers for online learning. To answer the questionnaire, the teacher-respondents were asked to rate each item for digital technology skills, task-based skills for online learning, availability of ICT gadgets, task-based skills for online learning, and willingness to adopt online learning for delivery of lessons using the following options: 4 – Always; 3 – Sometimes; 2 – Seldom; and 1 – Never. To rate the indicators for the availability of ICT gadgets, teachers were asked to use the following options: 4-Personally Owned; 3-Provided by the School;

2-Borrowed; and 1-Does Not Own. Responding to the indicator for the status of ICT infrastructure in schools, the following options were used: 4-Excellent; 3-Very Good; 2-Good; and 1-Poor.

Validity and Reliability of the Instruments

The research instruments used in the study were submitted for a reliability test to a panel of jurors for face and content validation. To ensure the reliability of the instruments, the researchers administered them for pilot testing to selected school heads and teachers in the Division of Antique. In establishing the internal consistency of the instrument's items, the Cronbach alpha reliability test was used. The reliability test results showed the following Cronbach's alpha results for the various dimensions of online learning for school heads: Digital Technology Skills = 0.916; Task-based skills for online learning = 0.735; and Availability of ICT Gadgets = 0.746. On the other hand, results of the reliability test showed the following Cronbach's alpha results for the various dimensions of online learning for teachers: Digital Technology Skills = 0.886; Task-based Skills for Online Learning = 0.694; Willingness to adapt Online Learning in the Delivery of Lessons = 0.600; Availability of ICT Gadgets = 0.724; and Status of ICT Infrastructure in School = 0.877. None of the items were suggested to be removed by the validators. Given the reliability values, the instruments were generally considered good and accepted.

Data Gathering Procedure

Before conducting the instruments, the researchers sought permission from the Office of the Schools Division Superintendent to gather the needed data. After the permission was granted, the researchers distributed the questionnaires to school heads and teachers in the Division of Antique. An online instrument for each group of respondents was deployed using the Google form, and the link was sent to the identified respondents. This was done in compliance with health and safety protocols and to avoid direct contact with the respondents during the pandemic time when this study was conducted. The researcher assured the respondents that all their responses were treated with utmost anonymity and confidentiality. They would also be allowed to withdraw as respondents anytime if they are not comfortable participating in the study.

Data Analysis Procedure

The data gathered in this research were analyzed using the following statistical tools: to determine the number of respondents who participated in each school, the frequency was used; to find out the proportion of respondents who participated in each school, the percentage was used; to determine the level of readiness for online learning of school heads and teachers, and students, mean was used; then, to determine the score of an individual school head, teacher, and student-respondent in a specific dimension, the numerical equivalents of the options chosen by the respondents were added, and the mean for that particular dimension was computed. The mean was translated into a numerical scale with a corresponding verbal description shown below:

Scale	Description
3.26 – 4.00	Very ready
2.51 – 3.25	Ready
1.76 – 2.50	Fairly ready
1.00 – 1.75	Not ready

On the other hand, to find out the homogeneity and heterogeneity of the data gathered, Standard Deviation was used. Then, to determine the significant differences in the level of readiness for online learning of teachers and students in terms of the school size, the One-Way ANOVA was used; to determine the significant difference in the level of readiness for online learning of school heads in terms school size, the Kruskal-Wallis test was used; to determine the significant difference in the various dimensions of online learning for teachers and students, the LSD was used; to determine the significant difference in the various dimensions of online learning for school heads, Bonferroni Pairwise Multiple Comparison was used. All inferential statistics were set at a 0.05 level of significance. Data generated from the study were electronically processed using the Statistical Packages for the Social Sciences (SPSS) software, version 22.0.

RESULTS AND DISCUSSION

Level of Readiness for Online Learning of School Heads

Table 2 shows the level of readiness for online learning of school heads.

Table 2: Level of readiness for online learning of school heads as an entire group

Areas of online learning	Mean	SD	Description
Digital technology skills	3.38	0.47	Very Ready
Availability of ICT	2.85	0.18	Ready
Task-based Skills for Online Learning	3.32	0.50	Very Ready
Over-all Mean	3.35	0.44	Very Ready

Results of the study show that, as an entire group, the school heads are "very ready" for online learning in the aggregate, as indicated by an overall mean of 3.35 (SD= 0.44). Likewise, they are "very ready" in terms of digital technology skills, with a mean score of 3.38 (SD=0.47). In terms of the availability of ICT gadgets to be used for the implementation of online learning, the school heads indicated they are "ready" with a mean score of 2.85 (SD=0.18). These results tell that the school heads are "very ready" to implement and manage online learning

in their schools, for they believe they possess the digital technology skills, and they have the ICT gadgets to use, which they either personally own or provided by the school. In addition, it was observed that school heads demonstrated skills in the use of productivity tools inasmuch as submission of reports and preparation of school learning resources and performance evaluation-related resources demand. It was further observed that the DepEd Computerization Program (DCP) provided an opportunity for the school heads to learn and apply digital technology skills because of the available laptops and desktop computers.

On the other hand, Table 3 shows the level of readiness for online learning of school heads as to their school size.

Table 3: Level of readiness for online learning of school heads as to school size

Areas of online learning	School Size	Mean	SD	Description
Digital Technology Skills	Small	3.36	0.36	Very Ready
	Medium	3.48	0.51	Very Ready
	Large	2.91	0.37	Ready
	Very large	3.47	0.38	Very Ready
Task-based Skills for Online Learning	Small	3.32	0.40	Very Ready
	Medium	3.44	0.54	Very Ready
	Large	2.93	0.41	Ready
	Very large	3.37	0.49	Very Ready
Availability of ICT Gadgets	Small	2.89	0.22	Ready
	Medium	2.91	0.15	Ready
	Large	2.88	0.16	Ready
	Very large	2.76	0.15	Ready

Results show that school heads of small, medium, and very large schools are "very ready" in terms of digital technology skills for online learning, with mean scores of 3.36 (SD=0.36), 3.48 (SD=0.51), and 3.47 (SD=0.38), respectively while school heads form large schools are "ready" with the mean score of 2.91 (SD=0.37). Looking at the readiness of the school heads in terms of task-based skills relevant to the implementation of online learning in school, the school heads of large schools are "ready" with a mean score of 2.93 (SD=0.4), while the rest of the school heads are "very ready" with at a minimum average score of 3.32. In terms of the availability of ICT gadgets, school heads are "ready" regardless of school size, as indicated in Table 3.

With these results, the researchers observed that the ICT gadgets that the school heads can use to implement online learning are available, whether personally owned or provided by the school. Records also show that desktop computers and laptops were provided by the Central Office of the Department of Education through its DepEd Computerization Program (DCP), where all schools are recipients irrespective of school size; thus, school heads always find an opportunity to learn and apply the digital technology skills relevant to the performance of their duties and responsibilities. Furthermore, the researcher noted that school heads from large schools are slightly lower compared to small, medium, and large schools in terms of digital technology skills. This can be attributed to the school structure of large schools with a bigger number of ICT-enabled personnel and a set of non-teaching personnel who can do the ICT-based tasks compared to smaller schools. Looking back at the explicit responses, it can be noted that they indicated lower scores in PC-based operations like managing files and sending emails and attachments.

Level of Readiness for Online Learning of Teachers

Table 4 presents the level of readiness for online learning of school heads was determined by computing the mean scores.

Table 4: Level of readiness for online learning of school heads as an entire group

Areas of online learning	Mean	SD	Description
Digital technology skills	3.38	0.53	Very ready
Task-based Skills for Online Learning	3.18	0.59	Ready
Willingness to Adopt Online Learning in the Delivery of Lessons	3.67	0.46	Very Ready
Availability of ICT Gadgets	2.84	0.29	Ready
Status of ICT Infrastructure in School	2.67	0.68	Ready
Over-all Mean	3.15	0.40	Ready

Results of the study show that, as an entire group, the teachers are "'ready" for online learning in the aggregate, as indicated by an overall mean of 3.15 (SD= 0.40). This is because, in the four domains of online learning readiness, the teachers are only "very ready" in terms of digital technology skills and willingness to adopt online learning for the delivery of lessons but are recorded as "ready" in the remaining indicators such as task-based skills for online learning, availability of ICT gadgets for online learning and status of ICT infrastructure in the school. These data show that secondary school teachers possess the technical skills for online learning, making them somewhat ready to contextualize their pedagogical skills to online teaching. In compliance with DepEd policy

on curriculum implementation during the COVID-19 pandemic that as much as possible, learning materials and curriculum content shall be converted into formats such as but not limited to digital formats (flat PDF and e-Self-Learning Modules), educational video, radio, and others (DepEd Memorandum CI-2020-00162), teachers were obliged to capacitate and familiarize themselves of the ICT to cope with the demands of their jobs in the so-called new normal. The researcher observed that since the school heads share the same privilege with the teachers in using the school-owned laptops and computers in the school, the teachers shared the same readiness level as the school heads—Ready—in terms of availability of ICT gadgets for online learning. With the DCP, laptops and desktop computers were made available in secondary schools for teachers. These gadgets have enticed teachers to learn more about the ICT and the ICT-enabled processes integrated into DepEd, like the computer-based performance management system of the agency.

On the other hand, Table 4 shows the level of readiness for online learning of teachers as to school size.

Results show that teachers of small, medium, and very large schools are "very ready" in terms of digital technology skills for online learning, with mean scores of 3.44 (SD=0.50), 3.56 (SD=0.39), and 3.32 (SD=0.55), respectively while school heads from large schools are "ready" with the mean score of 3.26 (SD=0.56). In terms of the availability of ICT gadgets, teachers are "ready" regardless of school size. Regarding willingness to adopt the online learning delivery of the lessons, teachers indicated a Very High readiness regardless of the size of the schools. Moreover, teachers from small and medium schools indicate that they are "very ready" in terms of pedagogical skills to integrate ICT in instruction with mean scores of 3.35 (SD=0.59) and 3.28 (SD=0.56), respectively. On the other hand, teachers from large and very large indicated only that they were "ready" with mean scores of 3.04 (SD=0.55) and 3.15 (SD=0.50), respectively. Further, results show that teachers are "ready" in terms of the availability of ICT gadgets regardless of their schools' size. In terms of the status of ICT Infrastructure in school, teachers from small schools indicated that they are "fairly ready" with a mean score of 2.16 (SD=0.71) while teachers from medium, large, and very large have mean scores of 2.92 (SD=0.61), 2.66 (SD=0.61) and 2.69 (SD=0.66) respectively indicating they are "ready."

Table 5: Level of readiness for online learning of school heads as to school size

Areas of online learning	School size	Mean	SD	Description
Digital Technology Skills	Small	3.44	0.50	Very Ready
	Medium	3.56	0.39	Very Ready
	Large	3.26	0.56	Ready
	Very large	3.32	0.55	Very Ready
Willingness to adopt the online learning delivery of lessons	Small	3.75	0.43	Very Ready
	Medium	3.67	0.44	Very Ready
	Large	3.53	0.58	Very Ready
	Very large	3.70	0.42	Very Ready
Task-based Skills for Online Learning	Small	3.35	0.59	Very Ready
	Medium	3.28	0.56	Very Ready
	Large	3.04	0.55	Ready
	Very large	3.15	0.60	Ready
Availability of ICT Gadgets	Small	2.85	0.29	Ready
	Medium	2.87	0.27	Ready
	Large	2.94	0.16	Ready
	Very large	2.80	0.32	Ready
Status of ICT Infrastructure in school	Small	2.16	0.71	Fairly ready
	Medium	2.92	0.61	Ready
	Large	2.66	0.61	Ready
	Very large	2.69	0.66	Ready

The data implied that teachers are at least ready for online learning except for those from small schools, which indicated that they are Fairly Ready in terms of ICT infrastructures in the school. However, the researchers observed that most small schools are situated in barangays and inland areas where internet services and phone signals are relatively poor. Moreover, ICT gadgets and infrastructure were not really optimized. Moreover, the school budget depends on the school size; thus, small schools hardly take an amount for establishing ICT infrastructure out of their meager funds with all the priority expenditures.

Differences in the Level of Readiness for Online Learning of School Heads

Table 6 presents the significant differences in the level of readiness for online learning of school heads.

As shown in the above table, results show that there is enough evidence of a significant difference in the level of readiness of school heads in terms of digital technology skills (H=8.404, p=0.038) and availability of ICT gadgets (H=9.351, p=0.025), but not task-based skills (H=5.664; p=0.130). Thus, Post-hoc analysis using Bonferroni's Pairwise Multiple Comparison was sued to measure the significant differences of the said variables, as shown in

Table 6: Kruskal-Wallis test of the difference in the level of readiness for online learning of school heads as to school size

Indicator	School Size	Mean Rank	H	df	p-value
Digital technology skills	Small	28.11	8.404*	3	0.038
	Medium	32.76			
	Large	13.75			
	Very Large	31.79			
Task-based Skills	Small	28.5	5.664	3	0.130
	Medium	33.26			
	Large	16.88			
	Very Large	29.98			
Availability of ICT Gadgets	Small	33.89	9.351*	3	0.025
	Medium	34.13			
	Large	31.00			
	Very Large	21.50			

Table 7: Bonferroni's pairwise multiple comparisons in the online learning readiness of school heads according to school size

Variables	Group 1	Group 2	Mean Difference	p-value	Remarks
Digital Technology Skills	Small	Medium	-0.119	1.00	Not Significant
	Small	Large	0.455	0.224	Not Significant
	Small	Very Large	0.112	1.00	Not Significant
	Medium	Large	-0.574	0.018	Significant
	Medium	Very Large	0.007	1.00	Not Significant
	Large	Very Large	0.567	0.18	Significant
Availability of ICT Gadgets	Small	Medium	0.235	1.00	Not Significant
	Small	Large	-0.014	1.00	Not Significant
	Small	Very Large	-0.127	0.403	Not Significant
	Medium	Large	-0.037	1.00	Not Significant
	Medium	Very Large	-0.150	0.044	Significant
	Large	Very Large	-0.113	0.697	Not Significant

Table 7.

Then, the result shows that a significant difference in digital technology skills exists between medium and very large schools (Mean Difference = -0.574, p= 0.018) and large and very large schools (Mean Difference = 0.567, p= 0.018) based on a 0.05 level of significance. In terms of the availability of ICT gadgets, enough evidence was obtained that there is a significant difference in the level of readiness for online learning of school heads from medium and very large schools (Mean Difference =-0.15, p-value = 0.044). It was also observed that the school heads' readiness for online learning significantly differs in the teachers' group because of variation in their digital technology skills. School heads coming from smaller schools tend to capacitate themselves because they do not have the non-teaching personnel who could assist them. Thus, they are compelled to capacitate themselves for them to deal with the ICT-enabled tasks.

Furthermore, the researchers observed that schools depend on the DCP deliveries of laptops, tablets, and desktop computers and donations from stakeholders and benefactors. However, the capital outlay of schools is insufficient to fund the procurement of ICT gadgets like laptops, smart TV, and other gadgets that cost more than Fifteen Thousand Pesos as procurement policy of DepEd.

Differences in the Level of Readiness for Online Learning of Teachers

Table 8 shows the significant differences in the level of readiness for online learning of teachers.

Results show that there is enough evidence of a significant difference in the level of readiness for online learning in terms of digital technology skills (F-ratio=4.910, p=0.002), pedagogical skills to integrate ICT in the instruction (F-ratio=3.123, p=0.026), availability of ICT gadgets (F-ratio=4.432, p=0.017), and status of ICT infrastructure in school (F-ratio=12.404, p=0.000).

Since there are significant differences noted in the level of readiness for online learning of school heads as to school size, a post-hoc analysis was used to determine which group made them significantly different using the LSD, as shown in Table 8 below.

As reflected in the table above, teachers coming from schools of different sizes show that there exists a significant difference in the digital technology skills between the group of teachers from medium and large schools (Mean Difference=0.3132, p=0.001) and between a group of teachers from medium and very large schools (Mean Difference=0.2449, p=0.001).

It was found out too that there is enough evidence of a significant difference in the online learning readiness in terms of pedagogical skills to integrate ICT in the instructions between the group of teachers from medium and large schools (Mean Difference=0.313, p=0.001) and medium and very large schools (Mean

Table 8: Kruskal-Wallis test of the difference in the level of readiness for online learning of school heads as to school size

School Size		Sum of Squares	df	Mean square	F-ratio	p-value
Digital technology skills	Between groups	3.9797	3	1.3266	4.910**	0.002
	Within groups	91.3280	338	0.2702		
	Total	95.3077	341			
Willingness to adopt the online learning delivery of lessons	Between groups	1.5411	3	0.5137	2.430	0.065
	Within groups	71.4729	338	0.2115		
	Total	73.0141	341			
Task-based Skills for Online Learning	Between groups	3.2128	3	1.0709	3.123*	0.026
	Within groups	115.9141	338	0.3429		
	Total	119.1269	341			
Availability of information and communications technologies	Between groups	0.8513	3	0.2838	3.432*	0.017
	Within groups	27.9495	338	0.082		
	Total	28.8008	341			
Status of ICT Infrastructure in school	Between groups	15.88463	3	5.2949	12.404**	0.000
	Within groups	144.2854	338	0.4269		
	Total	160.17	341			

Table 9: LSD results in the difference in readiness for online learning of teachers according to school size

Variables	Group 1	Group 2	Mean Difference	p-value	Remarks
Digital Technology Skills	Small	Medium	-0.1332	0.188	Not Significant
	Small	Large	0.1800	0.091	Not Significant
	Small	Very Large	0.1117	0.207	Not Significant
	Medium	Large	0.3132	0.001	Significant
	Medium	Very Large	0.2449	0.001	Significant
	Large	Very Large	-0.0683	0.399	Not Significant
Task-based Skills for Online Learning	Small	Medium	-0.133	0.188	Not Significant
	Small	Large	0.180	0.091	Not Significant
	Small	Very Large	0.112	0.207	Not Significant
	Medium	Large	0.313	0.001	Significant
	Medium	Very Large	0.245	0.001	Significant
	Large	Very Large	-0.683	0.399	Not Significant
Availability of Information and Communications Technologies	Small	Medium	0.070	0.539	Not Significant
	Small	Large	0.316	0.009	Significant
	Small	Very Large	0.198	0.048	Significant
	Medium	Large	0.246	0.021	Significant
	Medium	Very Large	0.128	0.126	Not Significant
	Large	Very Large	-0.118	0.195	Not Significant
Status of ICT Infrastructure in School	Small	Medium	-0.169	0.763	Not Significant
	Small	Large	-0.8589	0.146	Not Significant
	Small	Very Large	0.0516	0.292	Not Significant
	Medium	Large	-0.0687	0.190	Not Significant
	Medium	Very Large	0.0685	0.095	Not Significant
	Large	Very Large	0.1372	0.002	Significant

Difference=0.245, p=0.001). Moreover, in terms of the availability of Information and Communications Technologies that they may use for online learning, there is a significant difference between the groups of teachers from small and large schools (Mean Difference=0.316, p=0.009) between the group of teachers from small and very large schools (Mean Difference=0.198, p-value = 0.048) and between medium and large schools (Mean Difference=0.246, p=0.021). Finally, regarding the status of ICT infrastructure in schools for teachers' use, a significant difference in online learning was found between the group of teachers from large and very large schools (Mean Difference=0.1377, p=0.002).

CONCLUSIONS

Based on the study's findings, the researchers conclude that school heads of secondary schools were considered "very ready" for online learning. They possess the digital technology skills necessary for a school head to manage the implementation of online learning if adopted by the school as a learning delivery mode. The ICT gadgets needed for the use of school heads for the implementation of online learning classes in schools are available either by personal ownership or provision of DepEd through the computerization program of the agency or donation by the stakeholders. The emerging ICT-enabled tasks in schools which demand the use of productivity tools and the internet led to the development of digital technology

skills of school heads that are useful for online learning; School heads have access to ICT gadgets which enabled them to participate in ICT-enabled tasks and environment which led to the development of relevant technical skills needed for the management of online learning platforms of the school. Results also disclosed a significant difference in the online learning readiness of school heads, depicting that the opportunities for the development of digital technology skills come along with the availability of ICT gadgets and support in the school and workforce support for the execution of ICT-enabled tasks in school. Schools with available ICT gadgets likely offer opportunities for school heads to learn the ICT-based operations. On the other hand, teachers possess the digital technology skills and relevant pedagogical skills for implementing online learning in their delivery of the lessons. Their participation in virtual conferences with the present work arrangements during community lockdowns brought about by the COVID-19 pandemic and ICT-based jobs in the preparation of learning modules for students giving them hands-on learning experience to use the productivity tools, virtual meeting platforms, collaboration with co-workers online, and the internet which enabled them to learn the educational technologies easily and made them adaptable to online learning delivery of lessons; Smartphones, laptops, and tablets are the most common ICT gadgets the teachers personally own. With the adoption of online platforms for school operations and printing jobs for the learning material of students in the implementation of the module-based learning delivery, the demand for the use of ICT gadgets has dramatically increased and provided ICT experiences for the teachers. Further, online learning not being institutionalized and adapted by secondary schools in the Division of Antique results in significant differences in the online learning readiness of teachers. Since online learning is considered an alternative to learning delivery in public schools, teachers with prior knowledge and skills manifested better readiness inasmuch as no official training program for all schools was implemented to the level of knowledge and skills in implementing online learning. Lastly, schools' readiness for online learning varies with the differences in the level of readiness between the school heads and teachers for online learning. On the other hand, the researchers highly recommend that the division office may conceptualize the implementation of online learning through strategic planning in its implementation that ascertains the readiness level of online learning in the different secondary schools and capacitates the school heads and teachers. More so, strategic planning is required to make sure that the weak aspects of online readiness of teachers, such as availability of ICT gadgets, digital technology skills among school heads and teachers in installing and managing ICT applications, improving the status of ICT infrastructures in schools, are certainly addressed to ensure the quality of online learning implementation of schools.

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