

## E-learning readiness of teachers in the new normal education: The case of national high schools in Eastern Samar

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### ABSTRACT

Online learning readiness assessment allows for the comprehensive planning of online learning strategies. Therefore, this study was conducted to examine the readiness of 207 national high school instructors in the southern part of Eastern Samar for online learning in the new normal education. The study used a descriptive-comparative research plan and a survey questionnaire for data collection. The study found that teachers were ready to implement e-learning. Specifically, teachers are ready in terms of technical skills, attitude toward online learning, as well as time management and time commitment, but only somewhat prepared in terms of experience with online learning and teaching. It is recommended that teachers participate in different training, workshops, and seminars related to e-learning to gain more online learning and teaching experience and fully prepare for e-learning implementation.

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## 1. INTRODUCTION

The worldwide coronavirus (COVID-19) outbreak has impacted practically every facet of life, and the Philippines were no exception. It caused extensive interruption such as travel restrictions and crises in the tourism industry [1], global economic recession [2], political conflicts [3], racism [4], misinformation and controversies [5], and others. Other than the health sectors, one most vulnerable sector of this pandemic is the education sector [6].

Onyema *et al.* [7] argued that the occurrence of COVID-19 presents significant challenges to global education systems. Academic activities, as well as professional goals, have been disrupted. [8]. As part of international efforts to contain COVID-19, home teaching for students from early childhood to tertiary education was implemented [9]. Other schools have been shut down in many countries, which became a communal tactic to several nations [10], [11]. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) monitoring, more than a hundred countries have closed across the country, affecting more than half of the world's student population [12].

Even though health measures are undoubtedly a top priority during these trying times, Filipinos' education cannot be neglected [13]. Hence, in today's changing environment, where face-to-face communication is no longer possible, educational institutions are pushed to seek alternative venues to continue to provide high-quality education to include online learning or distance teaching, e-learning, correspondence education, flexible learning, external studies, and the likes [9]. The Department of Education (DepEd), one of the Philippine' educational institutions, implements e-learning or online teaching as one of its learning delivery modalities for School Year 2020-2021 apart from modular remote learning [13].

Dhawan [14] argued that online education is no longer an option; it is already necessary given our condition. Thus, it is evident that technology will play a significant part in today's education.

According to Ventayen [15], e-learning is a method of imparting education through technology, such as the linked network. Educators can supply information and teaching to students in addition to face-to-face sessions. Teaching online necessitates a unique set of skills, including how to run virtual classrooms, when and how to use video conferencing, exchange content, respond to student submissions, and more [16]. The success of e-learning depends on good internet connections, digital literacy, learning software, availability, and access to technology [7]. Furthermore, the following components must be addressed while implementing e-learning: readiness of the staff and administration, economic readiness, environmental readiness, technological readiness, and cultural readiness [17].

Teachers are the academe's most valuable assets, as they are solely responsible for building knowledge [15]. On the other hand, teachers were immediately tasked with implementing distant learning modes when the pandemic began, even if they were not equipped to teach online [18] due to a lack of adequate supervision, training, or resources [19]. As such, educational institutions should review first their preparation to implement e-learning, including teacher readiness. Hung [20] emphasized that preparedness is vital for practice if they want to feel the benefits of online learning [21]. From these, the researchers conducted the study. Likewise, it is imperative to examine the organization's e-learning preparedness to design e-learning strategies comprehensively. The study may also inspire educationalists to learn more about technological competencies required for distance education. Also, the study's findings will be used to determine whether or not to use e-learning and identify areas for development.

Thus, the study answered the following questions: i) What is the demographic profile of the teachers in terms of gender, age, the highest level of education, number of years of teaching experience, number of training or webinars attended related to e-learning, academic rank, and field of specialization?; ii) What is the level of e-learning readiness of the teachers of National High Schools in the Southern part of Eastern Samar in terms of technical skills, experience with online teaching and learning, attitudes toward online learning; and time management and time commitment?; and iii) Is there a significant difference on the level of e-learning readiness of teachers across their demographic profile?

## 2. RESEARCH METHOD

The study employed a descriptive-comparative research design. A total of 207 randomly selected regular permanent teachers from the National High Schools of Southern Part of Eastern Samar, Philippines, were utilized in the study, namely: the Lawaan National School of Craftsmanship and Home Industries (LNSCHI), Southern Samar National Comprehensive High School (SSNCHS), Giporlos National Trade School (GNTS), Quinapondan National High School (QNHS), General MacArthur National Agricultural School (GMNAS), Salcedo National High School (SNHS), Mercedes National High School (MNHS), and Guiuan National High School (GNHS). All participants were exposed to distance learning training provided by the Department of Education of the Division of Eastern Samar. An adopted survey questionnaire, "Faculty Online Readiness Assessment" from UCF's Center for Distributed Learning [22], was used to gather the needed data. The instrument was found to be reliable and valid with each dimension. The instrument determines the readiness of the respondents in e-learning in four dimensions: technical skills; experience with online teaching and learning; attitudes toward online learning; and time management and time commitment. The data were analyzed using frequency, average, percentage, t-test, and Analysis of Variance (ANOVA) at a significance level of 0.05.

## 3. RESULTS AND DISCUSSION

### 3.1. Demographic profile of the respondents

As reflected in Table 1, it is worth noting that National High Schools in the Southern part of Eastern Samar are dominated by female teachers accounting for 150 or 72.50%. In terms of age, 111 or 53.60% of the respondents are between 22 and 34 years old who are in the early adulthood stage. Similarly, the schools are staffed by newly recruited teachers who are Bachelor's degree graduates (118 or 57.00%) and having five years and below (93 or 44.90%) teaching experience resulting in them holding the academic rank of Teacher I-III (193 or 93.20%) which are the lowest teaching positions in the Department of Education. In terms of the training or webinars attended by the teachers, it can be noted 108 or 52.20% of the teachers attended only one or two training or webinars resulting in their low exposure to e-learning. Furthermore, the majority of the respondents are teaching Technical and Vocational Education (TVE)/Technology and Livelihood Education (TLE) subjects. This result can be explained further by the number of concentrations embedded in TVE/TLE subjects. Table 1 shows the demographic characteristics of the respondents in detail.

Table 1. The demographic profile of the respondents

Variable	Categories	Frequency	Percentage
Gender	Male	57	27.50
	Female	150	72.50
	Total	207	100.00
Age	22–34 years old	111	53.60
	35–44 years old	53	25.60
	45–64 years old	43	20.80
	Total	207	100.00
Highest level of education	BS Graduate	118	57.00
	BS Graduate with Units in Masters	50	24.20
	Masters' degree holder	36	17.40
	Master Degree Holder with Units in Doctorate	2	1.00
	Doctorate degree holder	1	0.50
	Total	207	100.00
No. of years of teaching experience	5 years and below	93	44.90
	6–10 years	51	24.60
	11–15 years	26	12.60
	16–20 years	17	8.20
	21 years and above	20	9.70
	Total	207	100.00
No. of training or webinars attended related to e-learning	1–2	108	52.20
	3–4	56	27.10
	5–6	22	10.60
	7 and above	21	10.10
	Total	207	100.00
Academic rank	Teacher I–III	193	93.20
	Master Teacher	14	6.80
	Total	207	100.00
Specialization	TVE/TLE	61	29.50
	Mathematics	39	18.80
	Science	32	15.50
	English	21	10.10
	Filipino	18	8.70
	MAPEH	16	7.70
	Total	207	100.00

### 3.2. Level of e-learning readiness

The level of e-learning readiness of teachers is reflected in Table 2. This table shows that teachers believe they are ready and competent in technology and technical skills, with a computed weighted mean of 3.47. Hence, teachers can independently use technology with expertise in using present technology, troubleshooting technical problems, and supporting learners effectively [23], [24]. According to Lorenzo [25], as well as Espinosa and Caro [26], teachers' technical abilities have improved due to the DepEd's computerization initiative and the Philippines' technological upgrade.

In terms of the teachers' experience with online teaching and learning, the computed weighted mean is 2.96, implying that teachers are moderately ready in e-learning which can be explained further by the number of trainings, seminars and webinars they attended. Zweig and Stafford [27] emphasized that teachers' professional training in online instruction is essential to provide adequate education and additional support to students to ensure their success in the online classroom.

Meanwhile, on the attitude towards online learning, the teachers are at the ready level (3.66), which implies that they are confident and have positive behavior towards the importance of e-learning. This result conforms with the idea of Martin, Budhrani, and Wang [23]. They argue that teachers must modify their views regarding technology and instruction since online teaching differs from the usual classroom teaching. In support, Tucay [28] claimed that teachers are usually branded to be responsive individuals, they have a good attitude towards online teaching [29], and they usage of social media in the classroom [30].

Lastly, in terms of time management and time commitment, teachers are ready (3.53) to manage and commit their time during e-learning to maximize the program's effectiveness. Ahmad, Batool, and Choudhry [31], as well as Cigdem and Ozturk [32] emphasized that the primary achievement of online learning has adequate time-management skills. Overall, despite having limited experience in online teaching and learning, the teachers' readiness for e-learning is ready (3.41) with the implementation of e-learning.

Table 2. Level of e-learning readiness

No.	Statement	Mean	Interpretation
<b>Technical skills</b>			
1.	I have a computer available to me at home or in the office.	4.11	Agree
2.	I travel with a computer.	3.19	Neutral
3.	I access the Internet frequently and can search the Internet for what I need.	3.67	Agree
4.	I am competent in using e-mail.	3.58	Agree
5.	I am competent in using word processing software.	3.69	Agree
6.	I am able to download files from the Internet and can attach files to an e-mail.	3.74	Agree
7.	I am competent in using presentation software such as PowerPoint.	3.61	Agree
8.	I am familiar with and can create a blog.	2.66	Neutral
9.	I am familiar with and can create wikis or Web sites.	2.46	Disagree
10.	I am familiar with and can use social networking technologies, such as Facebook and Twitter.	3.72	Agree
11.	I am familiar with my department's learning management system.	3.59	Agree
12.	I have used technology to support my face-to-face teaching.	3.57	Agree
	Weighted mean	3.47	Ready
<b>Experience with online teaching and learning</b>			
13.	I have experienced at least one online course as a student.	3.74	Agree
14.	I have received training in online instruction.	3.45	Agree
15.	I have used online quizzes in teaching my classes.	2.58	Disagree
16.	I have used online discussions and teaching my classes.	2.60	Disagree
17.	I have used virtual classroom tools like GoToMeeting, Adobe Connect, WebEx, or Skype in teaching my classes.	2.33	Disagree
18.	I have used chat in teaching my classes.	3.44	Agree
19.	I have used a publisher website in teaching my classes.	2.43	Disagree
20.	I have used my school's learning management system to supplement my classroom teaching.	3.08	Neutral
	Weighted mean	2.96	Moderately ready
<b>Attitudes toward online learning</b>			
21.	I believe that online learning is as rigorous as classroom instruction.	3.44	Agree
22.	I believe that high quality learning experiences can occur without interacting with students face-to-face.	3.13	Neutral
23.	I support the use of discussion as a means of teaching.	3.91	Agree
24.	I support learner-to-learner interaction and collaborative activity as a central means of teaching.	3.94	Agree
25.	I recognize that community building is an important component of online teaching.	3.84	Agree
26.	I encourage students to bring life experiences into the classroom and create activities that draw on those experiences.	4.04	Agree
27.	I believe that lecture is the best way to convey content in mind discipline.	3.79	Agree
28.	I feel comfortable communicating online and feel that I'm able to convey who I am in writing.	3.20	Neutral
29.	I am a critical thinker and can develop assignments that encourage critical thinking in my students.	3.65	Agree
	Weighted mean	3.66	Ready
<b>Time management and time commitment</b>			
30.	I am able to log in to an online course at least once a day.	2.87	Neutral
31.	I am able to post my online class at least four to five times per week.	2.82	Neutral
32.	I am able to manage my time well.	3.69	Agree
33.	I am flexible in dealing with students on such issues as due dates, absences, and makeup assignments.	3.90	Agree
34.	I am fairly organized and tend to plan ahead in my teaching.	4.45	Extremely agree
35.	I am responsive to my students, responding to e-mail within 48 hours and assignments within one week.	3.46	Agree
	Weighted mean	3.53	Ready
	Overall weighted mean	3.41	Ready

### 3.3. Difference between the respondents' profile variables and their level of e-learning readiness

The study also looked into the difference between teachers' profile and their level of e-learning readiness. The results are reflected in the succeeding tables. Table 3 reveals that female teacher is readier for using technology in instruction than male teachers, as evidenced by the mean scores. Male and female teachers' technological competence or skills are diverse. Female teachers possess a more substantial technical [33], more robust, and higher participation in online teaching and course development [23]. However, further analysis of the data found no significant differences in teachers' readiness across gender in terms of their technical skills ( $p=.947$ ), experience with online teaching and learning ( $p=.625$ ), attitudes towards online learning ( $p=.908$ ), and time management and time commitment ( $p=.323$ ). The findings of this study are comparable to those of a survey conducted by Ventayen [15], which indicated no differences in male and female teachers' readiness to teach online in terms of the four aspects. Furthermore, Kisanga [34] discovered that gender had no bearing on teachers' attitudes about e-learning.

Table 3. Difference between gender and level of e-learning readiness

Readiness of the teachers	Gender	Mean	t-value	p-value
Technical skills	Male	3.46	.066	.947
	Female	3.47		
Experience with online learning and teaching	Male	2.92	.490	.625
	Female	2.99		
Attitudes toward online learning	Male	3.66	.116	.908
	Female	3.67		
Time Management and time commitment	Male	3.47	.991	.323
	Female	3.58		

Table 4 demonstrates a significant difference in instructors' readiness for e-learning across their age groups in terms of technical skills ( $p=.000$ ), experience with online teaching and learning ( $p=.001$ ), attitudes toward online learning ( $p=.002$ ), and time management and time commitment ( $p=.011$ ). The data reveal that the younger the teacher, the higher is their e-learning readiness. Cutri and Mena [21] as well as Gay [35] found that age influences teachers' perceptions of e-learning, with the younger age being optimistic towards e-learning and less technophobia. In support, the study of Kiboro [36] showed that demographic factors such as age influenced teachers' information and communication in technology (ICT) integration in schools.

Table 4. Difference between age and level of e-learning readiness

Profile	Readiness of the teachers	Mean	Sum of squares	df	Mean square	F	Sig.
Age	Technical skills	Between groups	13.493	2	6.747	15.500	.000
		Within groups	88.795	204	.435		
		Total	102.289	206			
	Experience with online learning and teaching	Between groups	12.294	2	6.147	7.583	.001
		Within groups	165.360	204	.811		
		Total	177.654	206			
	Attitudes toward online learning	Between groups	5.429	2	2.715	6.342	.002
		Within groups	87.310	204	.428		
		Total	92.739	206			
	Time management and time commitment	Between groups	4.280	2	2.140	4.573	.011
		Within groups	95.472	204	.468		
		Total	99.752	206			

Table 5 shows that when teachers are grouped according to their highest level of education, there is no significant difference in their readiness in terms of technical skills ( $p=.886$ ), experience with online teaching and learning ( $p=.446$ ), attitudes toward online learning ( $p=.770$ ), as well as time management and time commitment ( $p=.194$ ). The results of this study oppose that of Islam *et al.* [37], where their findings indicated that educational attainment has a significant effect on the success of the e-learning execution. It is presumed that a high level and solid academic attainment results in broader learning on the use of technology, higher exposure to the modern development in technology, higher expectation of becoming computer literate, and being more updated of the knowledge and information learned through e-learning.

Table 5. Difference between highest level of education and level of e-learning readiness

Profile	Readiness of the teachers	Mean	Sum of squares	df	Mean square	F	Sig.
Highest level of education	Technical skills	Between groups	.579	4	.145	.288	.886
		Within groups	101.710	202	.504		
		Total	102.289	206			
	Experience with online learning and teaching	Between groups	3.221	4	.805	.932	.446
		Within groups	174.433	202	.864		
		Total	177.654	206			
	Attitudes toward online learning	Between groups	.825	4	.206	.454	.770
		Within groups	91.914	202	.455		
		Total	92.739	206			
	Time management and time commitment	Between groups	2.938	4	.735	1.533	.194
		Within groups	96.814	202	.479		
		Total	99.752	206			

Table 6 shows a significant difference between the teachers' number of years of teaching experience and their level of e-learning readiness in terms of technical skills ( $p=.000$ ) and experience with online learning and teaching ( $p=.022$ ). However, a significant difference was not determined regarding attitudes

towards online learning ( $p=.374$ ) and time management and time commitment ( $p=.157$ ). Previous teaching engagement is positively associated to self – efficacy and the attitudes of teachers towards online teaching and learning [38]. Faculty with more teaching experience online perceived their pedagogical competencies online to be better and built higher self-confidence to teach online [39]. Hence, teachers with less teaching experience tend to have a high level of struggle in interaction and familiarity with online instruction and technology.

Table 6. Difference between number of years of teaching experience and level of e-learning readiness

Profile	Readiness of the teachers	Mean	Sum of squares	df	Mean square	F	Sig.
Number of years of teaching experience	Technical skills	Between groups	11.096	2	2.774	6.145	.000
		Within groups	91.193	204	.451		
		Total	102.289	206			
	Experience with online learning and teaching	Between groups	9.717	2	2.429	2.922	.022
		Within groups	167.937	204	.831		
		Total	177.654	206			
	Attitudes toward online learning	Between groups	1.917	2	.479	1.066	.374
		Within groups	90.822	204	.450		
		Total	92.739	206			
	Time management and time commitment	Between groups	3.204	2	.801	1.676	.157
		Within groups	96.548	204	.478		
		Total	99.752	206			

Table 7 reflects a significant difference between the teachers' number of training or webinars attended related to e-learning and their e-learning readiness in terms of technical skills ( $p=.044$ ). However, no significant difference was determined in terms of experience with online learning and teaching ( $p=.280$ ), attitudes towards online learning ( $p=.246$ ), and time management and time commitment ( $p=.182$ ). The data also reveals that the more training attended by faculty members, the better their technical skills. The experience they gained from training impacts online facilitation. Martin *et al.* [40] highlighted that for teachers to be skilled in technology and pedagogy in online learning, teachers must participate in different pieces of training related to online learning, allocate time to learn how online learning is done, and stay updated with the new techniques on teaching online.

Table 7. Difference between number of training or webinars attended related to e-learning and level of e-learning readiness

Profile	Readiness of the teachers	Mean	Sum of squares	df	Mean square	F	Sig.
Number of trainings, seminars, and webinars attended related to e-learning	Technical skills	Between groups	3.998	2	1.333	2.752	.044
		Within groups	98.291	204	.484		
		Total	102.289	206			
	Experience with online learning and teaching	Between groups	3.318	2	1.106	1.288	.280
		Within groups	174.336	204	.859		
		Total	177.654	206			
	Attitudes toward online learning	Between groups	1.871	2	.624	1.393	.246
		Within groups	90.869	204	.448		
		Total	92.739	206			
	Time management and time commitment	Between groups	2.358	2	.786	1.638	.182
		Within groups	97.394	204	.480		
		Total	99.752	206			

The data in Tables 8 and 9 reflect no substantial variation in teacher readiness in terms of technical skills, experience with online teaching and learning, attitudes towards online learning, and time management and time commitment when grouped based on their academic rank and specialization. The study findings are backed up by Hosny *et al.* [41], who claim that as faculty rank increases, the teacher's readiness for online teaching decreases. However, the difference was found to be insignificant. Likewise, Martin, Budhrani, and Wang [23] found that teachers with higher academic rank were inferior to teachers with lower positions in both abilities to teach online and attitude.

Meanwhile, the study results contradict the previous research [42]. The study found that the academic discipline of teachers was perceived as a potential source of variation of online teaching and learning. In another study, Baran [43] also emphasized that teacher discipline is a crucial aspect of successful online course creation and implementation.

Table 8. Difference between academic rank and level of e-learning readiness

Readiness of the teachers	Academic rank/position	Mean	t-value	p-value
Technical skills	Teacher I–III	3.57	1.578	.116
	Master teacher	3.36		
Experience with online learning and teaching	Teacher I–III	3.08	.759	.449
	Master teacher	2.84		
Attitudes toward online learning	Teacher I–III	3.58	.725	.469
	Master teacher	3.74		
Time management and time commitment	Teacher I–III	3.47	.755	.451
	Master teacher	3.59		

Table 9. Difference between specialization and level of e-learning readiness

Profile	Readiness of the teachers	Mean	Sum of squares	df	Mean square	F	Sig.
Specialization	Technical skills	Between groups	7.678	2	1.280	2.705	.115
		Within groups	94.611	204	.473		
		Total	102.289	206			
	Experience with online learning and teaching	Between groups	18.851	2	3.142	3.957	.213
		Within groups	158.803	204	.794		
		Total	177.654	206			
	Attitudes toward online learning	Between groups	7.400	2	1.233	2.890	.305
		Within groups	85.339	204	.427		
		Total	92.739	206			
	Time management and time commitment	Between groups	2.237	2	.373	.765	.598
		Within groups	97.515	204	.488		
		Total	99.752	206			

#### 4. CONCLUSION

The study concluded that teachers in the National High Schools of Southern part of Eastern Samar are ready to implement e-learning as seen in their level of readiness in technical skills, attitudes toward online learning, and time management and time commitment and experience in online learning and teaching. It is recommended that teachers should be encouraged, especially the older teachers, to attend or participate in the different pieces of training, workshops, seminars, and webinars related to e-learning to elevate more their technical skills, attitudes toward online teaching, time management and time commitment, for the teachers to be more experienced in online teaching and learning and be fully ready in the implementation of e-learning. Moreover, the schools in the Southern part of Eastern Samar may tap the universities in the province through its extension program to help the school improve their technology literacy and capacity.

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