
Online Teaching Readiness of the Faculty of Aurora State College of Technology, Baler, Aurora, Philippines

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Abstract

The online teaching readiness of the faculty of Aurora State College of Technology in Baler, Aurora, Philippines was surveyed from April to May 2020. A survey research design using a questionnaire was employed where quantitative data were obtained. The respondents were all ASCOT faculty except those who were on study leave. The sociodemographic profile of the respondents revealed that most of respondents were male (55.1%) from the age range of 20-29 (34.6%). Mostly from the Department of Arts and Sciences (32.1%) living within Baler, Aurora (53.8%), and had 0-9 years of teaching experience (47.4%). Perceived readiness of faculty in online teaching revealed that faculty are ready but needs improvement for online teaching based on technological readiness (3.871) and cultural readiness (3.788). Using ANOVA at 5% level of significance and Independent sample t-test, it was found out that faculty readiness in online teaching is significantly different when grouped according to their academic department, age group and sex. On the other hand, the result revealed that there is no significant difference among faculty when grouped according to place of residence and years of teaching. Post hoc comparisons using the Tukey HSD test showed that faculty from the Information Technology Department has higher level of readiness for online teaching with a mean score of 4.414 compared to 3.470 and 3.579 scores of Education Department and Agriculture and Aquatic Sciences, respectively.

Keywords: Online Teaching; Technological Readiness; Cultural Readiness.

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1. Introduction

The State Universities and Colleges (SUCs) in the Philippines experienced an abrupt change in the modes of delivering lessons to students amidst this time of coronavirus pandemic. The change started when the President of the Republic of the Philippines issued a Memorandum through the Executive Secretary last March 16, 2020, declaring the entire Luzon including the National Capital Region (NCR) under Enhanced Community Quarantine (ECQ), indefinitely suspending classes in all levels, from pre-school to tertiary. During this time, faculty in State Universities and Colleges were faced with a dilemma on how the current semester will go on without face-to-face contact with students. Some faculty of universities and colleges adapted the so called “new normal” of teaching just to finish the semester and that was through online. The two types of online teaching adapted by faculty were the synchronous, which happens in real-time and the asynchronous, which used online channel without real-time interaction. However, as faculty and students were situated in different locations, problems like slow internet connection would often result to a lag during discussions, sometimes there was no internet connection at all, and some faculty were not familiar on the use of current technology. These were some of the challenges encountered by faculty as they tried to adapt with the online mode of teaching. According to [1], when faculty are asked to re-design their courses to online method, it is important that they receive appropriate training in teaching methods, learner support, and course delivery. Therefore, there is a need to identify areas for development that would enhance faculty competencies in the online environment. These competencies among faculty will differ by culture, contexts, and organizations [2]. Several studies have already been conducted on examining faculty readiness for online teaching using different criteria. Reference [3] developed a Readiness to Teach Online (RTTO) Scale that included social and student engagement, faculty and technology support, course development and instructional design, and evaluation and assessment factors. However, these do not include the criteria that this research wished to examine on the readiness of the faculty of Aurora State College of Technology (ASCOT) for online teaching. The Aurora State College of Technology is planning to adopt an online mode of instruction. However, adoption will be difficult since there are no prior studies that examined the readiness of the college’ faculty in adopting such system, hence a survey was conducted among permanent faculty in the three campuses e.g. Baler, Maria Aurora, and Casiguran from April to May 2020.

1.1. Objectives of the Study

Generally, this study aimed to determine the readiness of Aurora State College of Technology Faculty in online teaching. Specifically, this study aimed to address the following questions:

1. What is the sociodemographic profile of the ASCOT faculty?
2. How do faculty perceive their own readiness in online teaching in terms of:
 - a. Technological Readiness, and
 - b. Cultural Readiness?

3. Is there a significant difference between sociodemographic profile of faculty (e.g. age, sex, years in teaching, academic department and place of residency) on their perceived readiness in online teaching?
4. What are the factors that negatively affect the readiness of ASCOT faculty for online teaching?

1.2. Limitation of the Study

The study on the e-learning readiness of ASCOT will be focused on the teaching personnel of ASCOT three campuses. Instructors who have no permanent positions will not be included in the study. For this particular study, the ASCOT readiness study for e-learning will limit on the teacher's perspective and will exclude analysis on the administrator, students and stakeholders since these will be done in separate studies.

2. Materials and Methods

2.1. Research Design

This study employed a survey research design. A quantitative data was obtained from survey questionnaire.

2.2. Population and Locale of the Study

The respondents of this study were permanent faculty of ASCOT from the three campuses i.e. Baler, Maria Aurora, and Casiguran. However, those who were on study leave were not included in the survey.

2.3. Data Collection Instruments

Self-administered questionnaire was used using google form for those who had accessed with the internet but those who had problem with the internet signal, the questionnaire was administered face-to-face. The questionnaire was adapted from [4], with minor revision, utilizing the five-point Likert Scale except for the socio-demographic part. The first part was on the Demographic Profile of the Respondents. The Second Part was on the Technological Readiness of the respondent which was further divided into two subparts: access to resources and technical skills. The third part was on Cultural Readiness of the respondent with subparts: personal readiness and management readiness.

2.4. Treatment of Data

Table 1: Assessment model for e-learning

Overall Mean	Level of Readiness
1 to 2.5	Not ready, needs a lot of work
2.6 to 3.3	Not ready, needs some work
3.4 to 4.1	Ready but needs improvement
4.2 to 5	Ready, go ahead

All data collected were encoded and analyzed using SPSS. In the analysis of data, descriptive and inferential

statistics were used like frequency, mean, percentage, t-test and One Way Analysis of Variance (ANOVA). The assessment model developed by [5] was used to determine the readiness of ASCOT Faculty. Using this assessment model, average mean of 3.4 and above was categorized as ready for online teaching (Table 1).

3. Result and Discussion

3.1. Socio-demographic profile of the respondents

Table 2: Socio-demographic profile of the respondents.

Gender	Number	Percentage
Male	43	55.1
Female	35	44.9
Age		
20-29	27	34.6
30-39	21	26.9
40-49	16	20.5
50-59	12	15.4
60-69	2	2.6
Academic Department		
Department of Arts and Sciences	25	32.1
Department of Forestry and Environmental Sciences	9	11.5
Education Department	7	9.0
Department of Engineering	10	12.8
Department of Industrial Technology	8	10.3
Department of Information and Technology	6	7.7
Department of Agriculture and Aquatic Sciences	13	16.7
Place of Residence		
Baler	42	53.8
Maria Aurora	17	21.8
Dipaculao	3	3.8
San Luis	8	10.3
Casiguran	2	2.6
Dilasag	1	1.3
Nearby Provinces	5	6.4
Years in Teaching		
0-9	37	47.4
10-19	21	26.9
20 and above	20	25.6

Table 2 shows the socio-demographic profile of the respondents where more than half were male (55.1%) mostly from the age range of 20-29 (34.6%). This implies that most of the respondents are male belonging to the millennial group who are more confident in using online teaching technology. This is because according to Cooper [6], women in general, often show less confidence and more discomfort in using technology. Most of the respondents were from Department of Arts and Sciences (DAS) (32.1%) while the least number of respondents were coming from the Department of Information Technology (7.7%). This indicates that the DAS Department has the highest number of faculty population. It is also in this Department that most of the younger faculty can be found. More than half of the respondents were from Baler, Aurora (53.8%) indicating that most faculty have access to internet connection since Baler is the capital of Aurora. In addition, most of the respondents had 0-9 years of teaching experience (47.4%) implying that most of the faculty are new to the teaching profession.

3.2. Technological readiness

3.2.1. Access to Resources

In terms of access to resources (Table 3), most of the faculty had access to dependable computer/laptop at home with a weighted mean of 4.179. This is followed by having a dependable computer/laptop within ASCOT with a weighted mean of 3.795. This implies that when it comes to access to resources, most of the ASCOT faculty are ready but needs improvement based on the assessment model [5].

Table 3: Mean and standard deviation of faculty's access to resources

Items	Mean	Standard Deviation
1. Within our institution, I have access to a dependable computer/laptop.	3.795	1.3422
2. Within our institution, the speed of the internet is satisfactory.	2.423	1.0992
3. At home, I have access to a dependable computer /laptop.	4.179	1.1136
4. At home, the speed of the internet is satisfactory.	3.231	1.3477
Overall Mean	3.407	

Although most of the faculty had access to dependable computer/laptop at home and within ASCOT, Figure 2 revealed that most of the faculty (39.74%) had access to a very slow internet speed of 1-5 Mbps. Only 7.69% of the faculty had access to more than 15 Mbps internet speed. This implies, that the internet speed serves as one of the factors that hinder faculty's readiness in online teaching. The internet connection and its speed is very crucial for e-learning success because it will affects the teachers and learners experience. Furthermore, the

internet connectivity will affects the intention of a teacher and learner towards acceptance and behavior on e-learning [7].

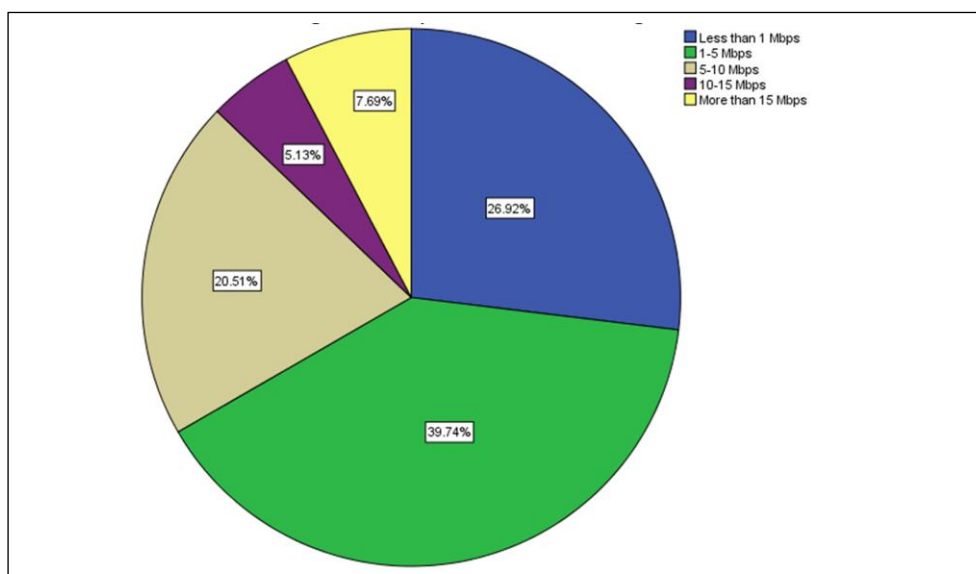


Figure 1: Distribution of respondents according to their average internet speed.

3.2.2. Technical skill readiness

Table 4: Mean and standard deviation of faculty's technical skill readiness

Items	Mean	Standard Deviation
1. I know the basic functions of computer hardware components (CPU and monitor) and its peripherals like the printer, speaker, mouse etc.	4.551	.7670
2. I have Microsoft office suite (e.g. Ms. Word, Excel, PowerPoint) installed in my computer and I use them confidently.	4.628	.6858
3. I can use internet as my information source.	4.423	.7816
4. I have an email address and can open / send an email with file attachments.	4.500	.8490
5. I can use web browser (e.g. Internet Explorer, Google Chrome, Mozilla Firefox) confidently.	4.436	.8617
6. I know how to access an online library and other resource database.	3.897	1.0882
7. I know how to use online video conferencing apps (e.g. Zoom, Google Classroom, Messenger, Skype).	3.910	1.1754
Overall Mean	4.335	

Some ASCOT faculty are ready but needs improvement for online teaching in terms of knowledge on how to access an online library and other resource database (3.897) and knowledge on how to use online video conferencing apps (e.g. Zoom, Google Classroom, Messenger, Skype) 3.910). This is very important aspect because online faculty are expected to be proficient with basic computer operations, such as creating and editing documents and managing files and folders since these are needed in the design and facilitation of an online course [8]. For all other technical skills examined, it is noted that most ASCOT Faculty are ready and can go

ahead for online teaching with weighted mean ranging from 4.423 to 4.628. Most faculty know the functions of computer hardware and its peripherals, can use confidently the Microsoft office installed in their computer, can use the web browser and internet as information source, and are capable of opening and sending email with file attachments. For online teaching to be effective, the faculty's knowledge about and use of technology tools are very important. Although the data revealed that most faculty are ready, still there are considerable percentage of faculty that might lack the necessary skills and knowledge to use the technology needed for online teaching [9].

3.3. Cultural readiness

3.3.1. Perceived personal readiness

Most ASCOT faculty are ready but needs improvement in terms of individual readiness (Table 5). Majority of the faculty believe that training on the use of online teaching apps can improve the quality of their online teaching skill (4.167), using online teaching can increase their productivity (3.821), online teaching is useful for their other functions as a researcher and as an extensionist (3.628), and find it easy to use online teaching applications (3.449). In all other examined perceived individual readiness, ASCOT faculty are not ready and needs some work for improvement. This supports the idea that the perceived ease in using and adopting e-learning management system will significantly affects the e-readiness level of faculty [7, 10]. Furthermore, these results are consistent with the authors in [11] wherein the individual behaviours on e-learning was influenced by the way in which one believes it will affects him and his actions. The results of this study imply that there is a need to prepare the faculty to teach online through training on the use of technology needed since most faculty have no experience in online teaching.

Table 5: Mean and standard deviation of faculty's personal readiness.

Items	Mean	Standard Deviation
1. I believe that using online teaching can increase my productivity.	3.821	.8936
2. I find it easy to use online teaching apps.	3.449	.8922
3. My interaction with online teaching apps is clear and understandable.	3.372	.8989
4. I find online teaching apps flexible to interact with.	3.397	.9306
5. Online teaching apps motivate me to teach.	3.321	.9187
6. Training on the use online teaching apps can improve the quality of my online teaching skill.	4.167	.7964
7. Online teaching enables me to accomplish more than the traditional classroom-based approach.	3.321	.9044
8. I believe that online teaching is useful for my other functions as a researcher and as an extensionist.	3.628	.9818
Overall Mean	3.5595	

3.3.2. Management Report

Management support to online teaching (Table 6) shows that the head of ASCOT supports the use of line teaching (4.282) and that implies readiness and a go ahead signal for online teaching. In terms of organization's policies to explore online teaching (3.769), alignment of online teaching with CHED's Memo No. 6 for flexible learning (4.051), and willingness of the institution to invest in online teaching technology (3.962), management

support is ready but needs improvement. This indicates that the head of ASCOT is supporting the faculty for the possible implementation of online teaching but the said support is not enough since other factors still need to be considered e.g. training for faculty, internet connection within the campus, and availability of teaching materials (Table 8).

Table 6: Mean and standard deviation of management support to online teaching.

Items	Mean	Standard Deviation
1. The organization's policies have made it possible to explore online teaching.	3.769	.7883
2. The online teaching initiative is aligned with CHED's Memo No. 6 for Flexible Learning.	4.051	.8512
3. The head of the institution supports the use of online teaching.	4.282	.8202
4. The institution is willing to invest in online teaching technology.	3.962	.7968
Overall Mean	$\bar{x}=$ 4.016	

As summarized in Table 7, ASCOT Faculty are ready but needs improvement for online teaching based on technological readiness (3.871) and cultural readiness (3.788).

Table 7: Summary of ASCOT faculty's readiness for online teaching.

Readiness Component	Mean
Technological Readiness	3.871
Cultural Readiness	3.788
ASCOT Teaching Personnel Readiness	3.829

3.4. Online teaching Readiness among sociodemographic groups

Table 8: Faculty readiness grouped according to academic department.

Academic Department	Mean	Standard Deviation	Standard Error
Education	3.470 ^c	.731	.276
Agriculture and Aquatic Sciences	3.579 ^{bc}	.484	.134
Industrial Technology	3.790 ^{abc}	.560	.198
Arts and Sciences	3.798 ^{abc}	.441	.088
Engineering	3.861 ^{abc}	.371	.117
Forestry and Environmental Sciences	4.167 ^{ab}	.354	.118
Information Technology	4.414 ^a	.357	.146
F= 3.641, p= .003			
Note: Means having at least one common letter in superscript are not statistically different			

Using ANOVA at 5% level of significance and Independent sample t-test, it was found out that faculty readiness in online teaching is significantly different when grouped according to their academic department, age group and sex. On the other hand, the result revealed that there is no significant difference among faculty when

grouped according to place of residence and years of teaching (Table 8).

Post hoc comparisons using the Tukey HSD test showed that faculty from the Information Technology Department has higher level of readiness for online teaching with a mean score of 4.414 compared to 3.470 and 3.579 scores of Education Department and Agriculture and Aquatic Sciences respectively. This is expected since faculty in the Information Technology Department are more knowledgeable on the use of technology needed for online teaching. Furthermore, faculty from Forestry and Environmental Sciences is significantly different from that of the Education Department. Table 9 showed that there is a significant difference between faculty aged 37 to 50 years old and faculty with ages 51 to 64 years old. The latter has lower level of readiness with a mean difference of .505.

Table 9: Faculty readiness grouped according to age group.

Age Group	Mean	Standard Deviation	Standard Error
51 to 64 years old	3.502 ^b	.658	.182
22 to 36 years old	3.842 ^{ab}	.457	.069
37 to 50 years old	4.007 ^a	.467	.102
F= 4.167, p= .019			

Note: Means having at least one common letter in superscript are not statistically different

There is a significant difference in online teaching readiness of male and female. Male has higher level of readiness compared to female faculty (Table 10). This result is related with the result of Hung [12] on his study on teacher readiness for online learning where he found out that male teachers exhibited statistically significantly greater readiness in the dimension of learning-transfer self-efficacy than did female teachers.

Table 10: Faculty readiness grouped according to sex.

Sex	Mean	Standard Deviation	T	P Value
Female	3.701 ^b	.511	2.011*	.048
Male	3.934 ^{ab}	.504		

*Significant at the .05 significance level

Factors that Negatively Affect Faculty's Readiness in Online Teaching

Factors that negatively affect faculty's readiness in online teaching were also examined (Table 11). A total of 50 respondents mentioned internet connection as a negative factor affecting their readiness in online teaching, this is followed by technical readiness (12), and availability of teaching materials (10). This indicates that these factors must be addressed first so that faculty will be ready for online teaching.

Table 11: Factors that negatively affect faculty's readiness in online teaching.

Factors	Frequency
Internet Connection	50
Technical Readiness	12
Availability of Teaching Materials	10
Time Constraint	2
Availability of Resources	7
Power Interruption	2

4. Conclusions and recommendations

Based on the result of the study, the following conclusions are drawn: most ASCOT faculty are ready for online teaching having access to dependable computer at home and in the office, although this readiness still needs improvement because of access to slow internet connection; there is a need to upgrade faculty's knowledge on how to access an online library and other resource database including the use of video conferencing apps; most faculty are ready and can go ahead for online teaching in terms of knowledge on technology tools like functions of computer hardware and its peripherals, Microsoft office, web browser, internet as information source, and opening as well as sending file attachments; majority of the faculty are ready for online teaching but needs improvement through training on the use of online teaching apps; the management of ASCOT supports the possible implementation of online teaching but still has to consider other factors like training for faculty, improved internet connection within the campus, and availability of teaching materials; readiness for online teaching among faculty differ significantly when grouped according to academic department, age group, and sex but the difference is not significant when grouped according to place of residence and years of teaching; and faculty from the Information Technology Department has higher level of readiness for online teaching compared with faculty from Education Department and Agriculture and Aquatic Sciences, respectively. It is recommended that access to high speed internet connectivity be installed within the office; trainings be conducted to upgrade faculty's knowledge on how to access an online library, other resource database including the use of video conferencing apps and on the use of online teaching apps; before the implementation of online teaching, the support of ASCOT management has to consider other factors like training for faculty, improved internet connection within the campus, and availability of teaching materials; and similar studies may be conducted on assessing the faculty's readiness for online teaching that focus on online teaching competencies and faculty's perception on their readiness to teach online.

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