Original Paper

An Assessment of Final Year Pre-Service Teachers' Readiness to Use ICT to Teach: Implication for COVID-19 Education Response

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Abstract

Readiness of teachers to use Information and Communication Technology (ICT) to teach is currently a significant issue due to its relationship to online teaching/learning which is a global COVID-19 education response. Preparing future teachers to ICT effectively to facilitate variety of online learning modes is a huge challenge for teacher training institutions, especially in developing nations like Nigeria. In this study, the ICT readiness of final year pre-service teachers in the degree programme of College of Education, Agbor, Delta State, Nigeria was assessed. The data gathered using a Likert questionnaire was computer-analyzed. The findings suggest that the pre-service teachers were ready with respect to the following indicators.

• Awareness and motivation to use ICT to teach.

• Confidence to use ICT to teach.

• Availability of internet/mobile network facilities in their environments.

• They were very ready with respect to perception on the benefits of ICT in teaching and learning.

They did not express readiness in terms of the following indicators.

*Acquisition of adequate knowledge and skills on the use of ICT devices during training.

*Personal ownership of ICT devices (e.g., computers/laptops).

It is therefore recommended that compulsory personal ownership of laptops and relevant ICT devices by pre-service teachers could help them practice and acquire necessary ICT skills more adequately during their training.

Keywords

assessment, pre-service teachers, ICT readiness, COVID-19 education response, ICT trained teachers, online teaching

1. Introduction

The recognition of the prominent role of Information and Communication Technology (ICT) in advancing knowledge and skills necessary for effective functioning in a knowledge-driven world is well embraced in Nigeria as in other nations of the world. Consequently, the reviews of the policies on education and teacher education in the past two decades, have specified the integration of ICT into all levels of the educational system. The national policy on education states that:

> *"in order to fully realize the goals of education in Nigeria …*
> *Government shall take necessary measures to ensure that*
> *teaching shall be practical, activity-based, experimental and*
> *IT supported" p-2. Federal Republic of Nigeria, FRN (2013).*

At the basic education level, Information Technology (IT) is a major theme in the core subject, "Basic Science and Technology" while IT—training is incorporated into all teacher-training programmes (FRN, 2013). In addition, the National Teacher Education policy emphasized the inclusion of compulsory courses in computer literacy and application of ICT and other media in the curriculum of all teacher-training programmes (Federal Ministry of Education, FME (2009). The teacher training institutions comprised of Colleges of Education (COE) which offer the Nigeria Certificate in Education (NCE) and faculties of education in the Universities which offer first degree in education, to graduands. In implementing the policies stated earlier, the curricula of all Universities and Colleges of Education are respectively harmonized to include courses in computer literacy such as "Introduction to Computer Studies I & II", and the use of ICT and media to teach (e.g., "Educational Technology: Theory and Practice" FRN (2012). In the same vein, the mission statements of teacher-training institutions portray the emphasis on the production of IT-trained teachers. The mission statement of the institution used in this study is as follows.

> *"To produce well-motivated teachers—that are capable of*
> *adoption of appreciable expertise in pedagogy and ICT to*
> *develop the intellectual capacity of students at the basic*
> *education, level" [COE, Agbor, 2005].*

Hence, it is expected that the learners who have gone through the basic education to the tertiary level in Nigeria should constitute a generation of individuals who shall function successfully in a dynamic economy and adapt to the technological changes of the 21st century. In addition, the use of ICT to support the teaching of various subjects and courses in the classrooms should be very obvious if the policy goals are achieved.

However, research results suggest that the implementation of ICT teaching/learning is not satisfactory at the basic education because only very few teachers and students can operate computer (Arop. Owan & Akan, 2018; Jimoh, Osunkunle, & Musbahu, 2017; Abubakar, 2016). There exists the prevalence of low adoption and use of ICT in the schools as found in various studies (Nwosu, Daud, & Kamaruddin, 2018; Adomi & Emperor, 2010; Obakhume, 2012; Hosanna, 2015).

Furthermore, results of studies have consistently shown that teachers are positively disposed to the use of ICT to teach but they face a lot of hindrances in the school setting (Tella, Tella, Toyebo, Adika, & Adeyinka, 2007; Mndzebelle, 2013; Mohammed, 2017). Major hindrances observed included the lack of expertise in using ICT facilities during lessons, lack of technical support and lack of ICT facilities in schools.

Researchers and stakeholders have recommended among others the ICT-training (and re-training of serving teachers) in teacher training institutions (Bakare, 2017; Fatimayin, 2014; Okebukola, 2013). Prior to the COVID-19 pandemic experience, Okebukola (2013) had recommended the mounting of variety of online courses for re-training serving teachers on the use of ICT to teach. The COVID-19 experience has projected the potential of online teaching/learning and more especially its necessity in a successful education response. Consequently, this study focuses on the perceptions of the pre-service teachers who are currently undergoing the ICT-training, on their preparedness to use ICT to teach. This study is expected to provide insight into the readiness of the new entrants into the teaching profession to use ICT to teach. Specifically, this study aims at assessing the readiness of final year pre-service, (first degree graduate teachers to use ICT to teach, as they join the profession. It is expected that the pre-service teachers who are on the verge of completing their training will possess (and express) vivid and reliable perceptions of their ICT-training.

1.1 Statement of the Problem

Through appropriate policies, teacher-training institutions have been set up to produce teachers who are adequately skilled to use ICT to teach in Nigeria. The current COVID-19 pandemic which has resulted in the official closure of schools in Nigeria for about six months, indicates the necessity of using the option of ICT to sustain schooling in the global COVID-19 education response. It is therefore considered pertinent in this study to assess the level of readiness of would-be entrants into teaching profession, to use ICT to teach.

1.2 The Background of the Study

1.2.1 The Concept of ICT and ICT Training in Tertiary Institution

ICT consists of technologies used to manipulate, convey and store data. ICT gadgets range from simple modern ones (e.g., mobile phones, computer, digital camera, flash drive, etc.) to older ones (e.g., landline phones, radios, broadcast TV) and more complex ones (e.g., ATM—Automated Teller Machine; Fax machines, Biometric scanners, etc.) Aibara (2017). A gadget is a device that is designed for specific function. ICT gadgets are mainly electronic and help in the performance of functions which include SMS, email, audio or video calls and chats, typing, photocopying, scanning and using the internet among many others (Aibara, 2017).

In this 21st century, the use of ICT in education has grown at an exponential rate globally and its advantages have been widely acknowledged This paper focuses on the use of the gadgets which are pertinent to the level of education considered. At the tertiary education level in Nigeria, the following ICT gadgets should be available in the educational technology laboratory of teacher-training

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institutions (FRN, 2012). The hard wares include Closed Circuit Television (CCTV), CCTV monitors, with remote control, video camera with accessories, video player/recorder, editing/dubbing machines, slide projectors, opaque projectors, overhead projectors, audio projectors, amplifiers, microphones, speakers, digital camera, projection screens, photocopying/duplicating machines, printers and computers and interactive white boards. The soft wares include word processors, (MS Word, MS Excel, Corel draw, Word Perfect), multi-media soft wares, (windows media players) and web browsers (e.g., Google, Chrome, Mozilla Firefox, Internet Explorer, Opera, Safari, etc.): free ware (e.g., Adobe Reader, Yahoo Messenger, Skype), various utility soft wares (Norton antivirus and McAffee antivirus). In addition, there should be available active network and other enabling infrastructure in the tertiary institutions.

The pre-service teachers are also required to learn the following basic ICT skills.

* Using computer for Word processing;

* Accessing the internet for instructional purposes

* Computer-based teaching and learning

* Use of multimedia and design of educational medias

* Educational broadcasting, etc.

It is expected that the student-teachers who have been exposed to these gadgets and have acquired these basic ICT skills shall be able to use ICT to teach at the basic education level. The assessment of the pre-service teachers' readiness to use ICT to teach, done in this study was based on these levels of gadgets and skills described herein.

1.2.2 Readiness to Use ICT to teach

As important as the concept of ICT is to humanity in the modern society, its usage and acceptance by everybody is not guaranteed. Hence technology acceptance and usage are issues which have attracted the formulation of variety of theories. Alaa, Mamoun and Shadi (2017). Teachers must accept and be ready to use ICT to teach, and their training programme must be geared toward achieving this. Generally E-readiness—measuring tool is used to evaluate the ability of consumers in any organization to utilize ICT for their own benefit. When it is applied to education, teachers' readiness can be seen as their perceptions of their capabilities to integrate ICT into their classroom instruction (Inan & Lowther, 2010). A teacher should be mentally and physically prepared to use ICT to teach in the real classroom because it is a paradigm shift from the traditional method which has been in use in teaching. The teacher should be prepared for the following orientations.

• Replacing chalkboards with interactive digital white boards.

• Using students' own smartphones or similar devices for learning during lessons.

• Using the flipped classroom model where students can watch lessons.

• Providing a purely learner—centered environment.

• Connecting learners to variety of information sources.

• Performing the role of a facilitator, able to use basic ICT devices to facilitate learning.

Preparing future teachers to use ICT to teach is a huge challenge for teacher-training institutions because many environmental factors influence its success. Researchers have identified these factors and used them to construct various models for measuring readiness to use ICT in organizations. The factors and models used by Mohammed (2017), Hossain, Salam, Shilpi and Officer (2016) and Francisca and Samsudin (2018) are adapted in this study.

Readiness of teachers to use ICT was considered at two levels. The internal level consists of the teachers' skills and attitudes while the external level is made up of available ICT resources and administrative support (Mohammed, 2017). Four main factors which influence teachers' readiness to use ICT to teach are derived from these levels.

1). Beliefs: These are personal ideas/perceptions about the contribution of ICT to teaching and learning and classroom management.

2). Experiences: These consist of personal training on ICT, ability to control ICT use in the classroom and cope with associated technical failures.

3). Resources: These involve the availability of relevant ICT devices in schools, at homes, ownership of computers at home, etc.

4). Community/Environment: These include support from colleagues, encouragement from e-learning community, appropriate infrastructure (e.g., electricity and network) in the environment. Hussain et al. (2016).

Furthermore, the teacher needs sufficient awareness of the necessity of using ICT in the classroom and be motivated to use it. These factors are also explored in terms of psychological constructs and behaviour patterns involved in the teachers' readiness to use ICT to teach. These constructs; awareness and motivation, perceptions on their confidence, training, knowledge (and skills) and equipment emerged from the considerations (Francisca & Samsudin, 2018).

1.2.3 Teachers' Readiness to Integrate ICT into Teaching: Theoretical Model

Considering a teacher training institution (like College of Education, Agbor, used in this study), with a mission to produce highly motivated teachers capable of adopting ICT to teach their students, the following model was adapted to assess the readiness of the final year pre-service teachers to use ICT.
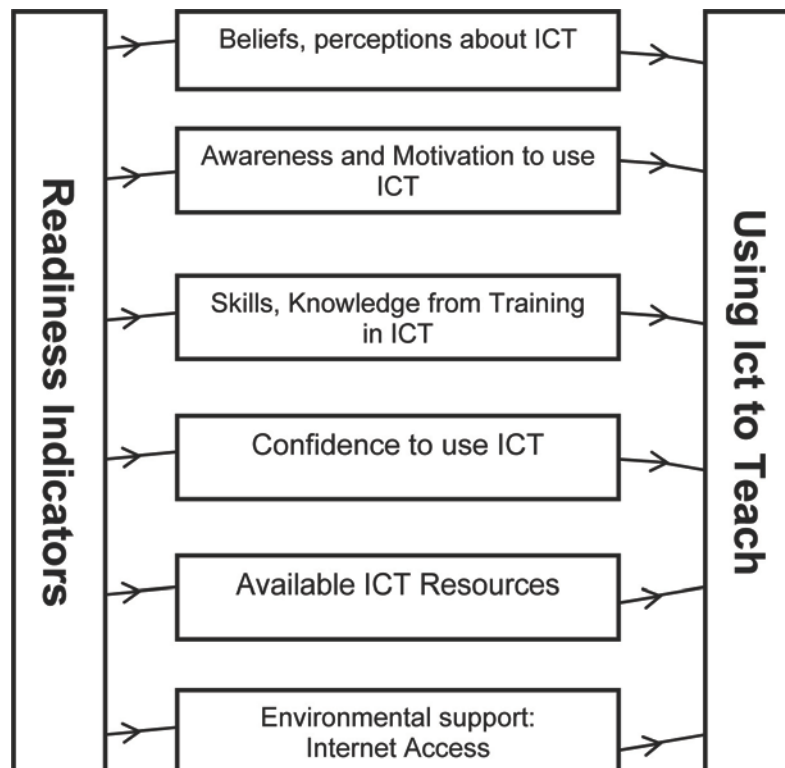
Figure 1. Adapted ICT Readiness Model

The variables for the research question and the consequent questionnaire statements were drawn from this model (see figure 1).

1.3 Empirical Background

E-readiness measures the extent to which consumers utilize ICT to their benefit. Teachers could use ICT for various purposes such as personal online activities (e.g., sending and receiving mails), but educational researchers are interested in the extent to which teachers are willing to use ICT for teaching and learning purposes. Research has proved that teachers' belief in the usefulness of computer in teaching/learning and the ease of use of computer, training in the use of computer and possession of laptops were significant factors influencing them to use computer to teach (Naresh, Raduan, & Jeffery, 2008). Hence this study focused on indicators such as teachers' awareness and motivation to use ICT to teach, perception of acquisition of ICT skills during their training and personal ownership of computers.

In a recent study, Rea, Dewi and Diah (2019), found that the most influencing factors in the teachers' readiness to use ICT in the classroom were skill in using ICT, their belief, trainings in ICT skills and availability of ICT (Soft wares and hard wares) equipment to them. These factors are considered as indicators in the construction of the instrument for data collection in this study. Palmavathi (2015) studied student-teachers' readiness to use technology to teach and found that they had positive attitude towards the use of ICT to teach. Using a Likert-type questionnaire, he also surveyed the influence of subject area of the student teachers. A Likert questionnaire is used in this study.

Norizan, Hussein and Yasmin (2018) found that English Language Teachers were not ready to use ICT to teach. The qualitative study was carried out on a sample of Arab teachers using a structured and semi-structured interview. This study is strictly quantitative and teachers in training formed the sample. In Abu Dhabi, in the United Arab Emirate (UAE), Badri, Al Rashedi, Yang, Mohaidata and Hammadi (2014) used a Technology Readiness Index (TRI) to determine the ICT readiness of public-school teachers. They found no difference in the readiness of the teachers across subject areas but found a difference across gender.

In Israel, Baya 'a and Daher (2013) studied Mathematics Teachers' readiness to integrate ICT into the classroom, in elementary and middle schools. Their findings suggested that, in terms of positive attitude, competence in ICT skills and comportment in teaching with ICT, they were ready. Data was collected by questionnaires filled by the teachers as done in this study. Surveying the challenges facing the integration of ICT in teaching and learning in South African Rural Secondary Schools, Mathevula and Uwizeyeman (2014) found that scarcity of ICT resources, ineffective ICT training and a consequent lack of ICT usage in schools hindered the teachers' readiness to use ICT. Data was collected using a structured questionnaire as done in this study.

In Nigeria, Aremu and Adeniran (2011) studied the readiness of secondary school teachers to integrate Information Technology (IT) into teaching and learning process. They found that the teachers had positive attitude towards the use of ICT, although they did not have adequate IT skills. Similarly, Enemali, Aliyu and Bulama (2016) studied the readiness of pre-service Business Education teachers for Web-based-e-learning in Colleges of Education in the North-East of Nigeria. They obtained results which indicated that the final year pre-service teachers' perceived level of readiness for the use of web-based-e-learning was low. They concluded that adequate attention was not given to the use of web-based-e-learning in the preparation of the pre-service teachers. In this study, the ICT readiness of final year pre-service teachers in the degree programme of a similar institution, to those used by Enemali et al. (2016), in the South-South Nigeria is surveyed. Guided by Technology Acceptance Model, Mohammed (2017) found that teachers' readiness to use ICT to teach was adversely affected by insufficient ICT resources in their schools, and lack of competence in using ICT, although their perception of ICT in teaching was positive. This study was carried out in Nigeria using serving Biology teachers but the target population of the present study is the pre-service teachers. More recently Francisca and Samsudin (2018) surveyed the readiness of Biology teachers to use ICT to teach in Kaduna State, Nigeria. Their findings showed that the pre-service teachers were ready in terms of confidence, awareness and motivation, perceptions, knowledge and training, but not ready in terms of equipment. The model for this study was adapted in the present study.

All the variables on the readiness to use ICT to teach surveyed in the past studies which are reviewed, revolved around the ones in the Readiness Model (See Figure 1) used in this study. Respondents in the reviewed studies were either serving or pre-service teachers who were interviewed or who completed questionnaires. However, the peculiarity of this study hinges on its timing which coincided with the

COVID-19 pandemic period, when the necessity to use ICT to teach as a means of overcoming its adverse effect on education became glaring, especially in developing nations like Nigeria.

1.4 Research Questions

1).   What is the level of readiness of the pre-service teachers to use ICT to teach in terms of their:

      (i) awareness and motivation;

      (ii) perceptions about ICT in teaching/learning;

      (iii) confidence to use ICT;

      (iv) acquisition of ICT skills during training;

      (v) access to ICT enabling environment and infrastructure?

2. Method

2.1 Research Design

A descriptive survey design is used for this study because the researcher had no control of the variables on the pre-service teachers' readiness to use ICT to teach. Their attitudes, beliefs, motivation, awareness, ICT skills, etc., which they had as a result of their training programme and experience had already occurred before the study period.

2.2 Population and Sampling Procedure

The population of this study is made up of all final year pre-service teachers in the Degree programme of the College of Education, Agbor, in the 2019/2020 session. This comprises of (350) students from nine different departments. Cluster sampling procedure was used to include the pre-service teachers from all the nine departments. A representative sample of three hundred and fifteen (315) of the pre-service teachers who were present in their lecture theatres at the time of data collection, and completed the questionnaires reasonably formed the final participants in this study.

2.3 Research Instrument

The instrument for data collection is the Pre-service Teachers' Questionnaire on the Use of Information and Communication Technology to Teach (PTQUICTT), which was constructed by the researcher based on the model described in Figure 1. PTQUICTT is structured along a four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) and used to obtain the ratings of the respondents on their readiness to use ICT to teach. It is a 14-item questionnaire with statements adapted from the instrument used by Francisca and Samsudin (op cit). The pre-service teachers were required to rate their level of agreement to each questionnaire statement. PTQUICTT was trial-tested using 197 similar pre-service teachers and their responses were analyzed using Cronbach alpha and a reliability coefficient of 0.74 was obtained. This is judged as high enough for the instrument to be used for this study (Field, 2013). The range of the total reliabilities of the scale if any of the 14 items was removed ranged from 0.71 to 0.74, hence all the items were retained after the trial-testing.

2.4 Data Collection

The questionnaires were administered to the students in their lecture theatres by the researcher and collected back from the students after they have completed it, within the same period.

2.5 Statistical Analysis

The four-point scale was chosen in this study to exclude the "undecided" or "not sure" option, so as to avoid central tendency bias. The following weights were assigned to the scale options. S.A-4; A-3; D-2; S.D-1. In the case where the readiness indicator is represented by only one item, the mean value of the ratings for the item was computed, while a weighted mean is computed in the case where more than one item represents a readiness indicator. The criterion value of 2.50 was set using the Likert scaling usage provided by Jonald (2019), in order to answer the research questions. Table 1(a) shows the adaptation of the Likert scale for the analysis in this study.

Table 1a. Description of the Likert Scale for Readiness to use ICT to Teach

Scale	Mean Range (Interval)	Difference	Description	Interpretation
4	3.26-4.0	0.74	S. A	Very Ready
3	2.52-3.27	0.75	A	Ready
2	1.76-2.51	0.75	D	Not Ready
1	1.00-1.75	0.75	S. D	Not Ready at all

Table 1(b) showed the scaling down of the options to two intervals for Agree-Disagree options, and the interpretation in terms of readiness.

Table 1b. Scale for Agree and Disagree Options

Scale	Mean Range (Interval)	Difference	Description	Interpretation
2	2.51 – 4.00	1.49	Agree	Ready
1	1.00 – 2.50	1.49	Disagree	Not Ready

A mean value lower or equal to 2.50 is considered to be in the "disagree range" (i.e., not ready) while mean values higher than 2.50 is in the agree range (i.e., ready) according to the scaling provided by Jonald (op cit.). Additionally, the Likert scale is considered as purely ordinal and frequencies of students for the "Disagree" and "Agree" options are used to compute Chi-square statistics to answer the questions. The bar charts are used to support the statistics pictorially. Statistical Package for Social Sciences (SPSS), 23 was used to perform the analysis. The statistical tools employed to answer the research question are frequencies, percentages, means and standard deviation.

3. Results

Research question 1: What is the level of readiness of the pre-service teachers to use ICT to teach with respect to the following indicator (i) Being aware and motivated to use ICT to teach.

Table 2. Awareness and Motivation of Pre-Service Teachers to Use ICT to Teach

Statements	Number	Mean	S. D	Sig.
1. I am aware of the current emphasis on the use of ICT to teach	313	3.50	.557	*
2. I am willing to use ICT to teach my subject.	314	3.29	.701	*
Average	315	3.40	.457	*

The mean values and the weighted mean of the responses of the pre-service teachers are greater than the criterion value of the 2.50. In line with the interpretation in Table 1a, the results indicate they are very ready to use ICT to teach in terms of awareness and motivation.

Table 3. Perception about the Use of ICT in Teaching and Learning

Statements	Number	Mean	S. D	Sig.
1. The use of ICT makes teaching and learning more effective	310	3.64	.612	*
2. Using ICT improves interactions among students and between students and teachers	308	3.40	.786	*
3. Using ICT makes teaching and learning easier	303	3.54	.660	*
Average	315	3.55	.522	*

All the mean values and the weighted mean are greater than the criterion value 2.50 and are therefore significant. The result indicate that the pre-service teachers perceive that ICT is useful in improving teaching and learning. They are very ready in terms of positive perception of ICT in teaching and learning.

Table 4. Confidence to Use ICT to Teach

Statements	Number	Mean	S. D	Sig.
1. I have sufficient skills to use ICT gadgets to teach	312	3.01	.790	*
2. Generally I can use computer, phones or other ICT gadgets to teach	313	3.54	.688	*
Average	315	3.17	.549	*

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The mean values and the weighted mean in Table 4 above are all significant indicating that the pre-service expressed confidence to use ICT to teach.

Table 5. Training on ICT Skills

Statements	Number	Mean	S. D	Sig.
1. The courses I offered helped me develop ICT skills	308	2.49	.987	•
2. I am trained to use ICT to teach	308	2.41	.935	•
Average	315	2.45	.800	•

• Not Significant

From Table 5, it is seen that the mean values and the weighted mean are less than 2.50 and are therefore not significant. The results indicate that the pre-service teachers did not perceive that their training helped them to acquire ICT skills required in teaching.

Table 6. Personal Ownership of ICT Equipment

Statements	Number	Mean	S. D	Sig.
1. I own a personal computer, laptop or i-pad	299	2.51	1.112	*
2. I have access to a printer at home	311	1.96	.948	•
3. I have access to photocopier or scanner at home	296	1.79	.826	•
Average	315	2.08	.725	•

Apart from personal ownership of computer, laptop or i-pad, the mean values for other items and the average are not significant (see Table 6). This implies that on the average many of the pre-service teachers lack personal ICT equipment which help in teaching and learning.

Table 7. Environmental Support/Internet Access and Overall Mean

Statements	Number	Mean	S.D	Sig.
1. I have access to internet/network at home	306	3.14	.956	*
Overall mean for all items	315	2.97		*

The mean value for internet access shown in Table 7 is significant, indicating that majority of the respondents can access the internet in their homes. Table 7 also shows that the overall mean for the scale is significant implying that, taking all the indicators together, the pre-service teachers are just ready to use ICT to teach. These results are also strengthened by using frequencies/percentages to compute the chi-square (χ^2), goodness of fit to ascertain the significance of the differences in the frequencies for the agree and disagree options (see Table 1b), for each indicator.

Table 8. Chi-Square Test for Goodness of Fit

Indicator	Frequency	Percentage (%)	x^2	Sig.
Awareness & motivation				
1.00-2.50	33	10.5	.	*
2.51-4 .00	282	89.5	62.4	*
Perception about ICT				
1.00-2.50	.11	3.6		
2.51.4.00	304	96.4	86.1	*
Confidence to use ICT				
1.00-2.50	.38	12.0		
2.51-4.00	277	88.0	57.8	*
Training in ICT skills				
1.00-2.50	.195	66.0		
2.51-4.00	120	34.0	10.2	*
Ownership of ICT Equipment				
1.00-2.50	.232	73.6		
2.51-4.00	.83	26.4	22.3	*
Internet Access				
1.00-2.50	73	23.9		
2.51-4.00	233	76.1	27.2	*

x_c = 3.84, df = 1 * Significant at 0.05 level.

The weighted means of each respondents on each of the indicators were used to obtain the frequencies in the agree and disagree ranges (see Table 1b). The chi-square values for all the indicators shown in Table 8 are significant, implying that they did not occur by chance. The results indicate that percentages of the pre-service teachers who are ready to use ICT in terms of the following indicators are significantly more than the percentage of those who are not ready.

(i) Awareness and motivation to use ICT

(ii) Perception about ICT

(iii) Confidence to use ICT

(iv) Internet Access

However, the percentage of those who are not ready to use ICT in terms of the following indicators are significantly higher than the percentages of those that are ready.

(i) ICT skills acquired during training

(ii) Personal ownership of ICT gadgets.

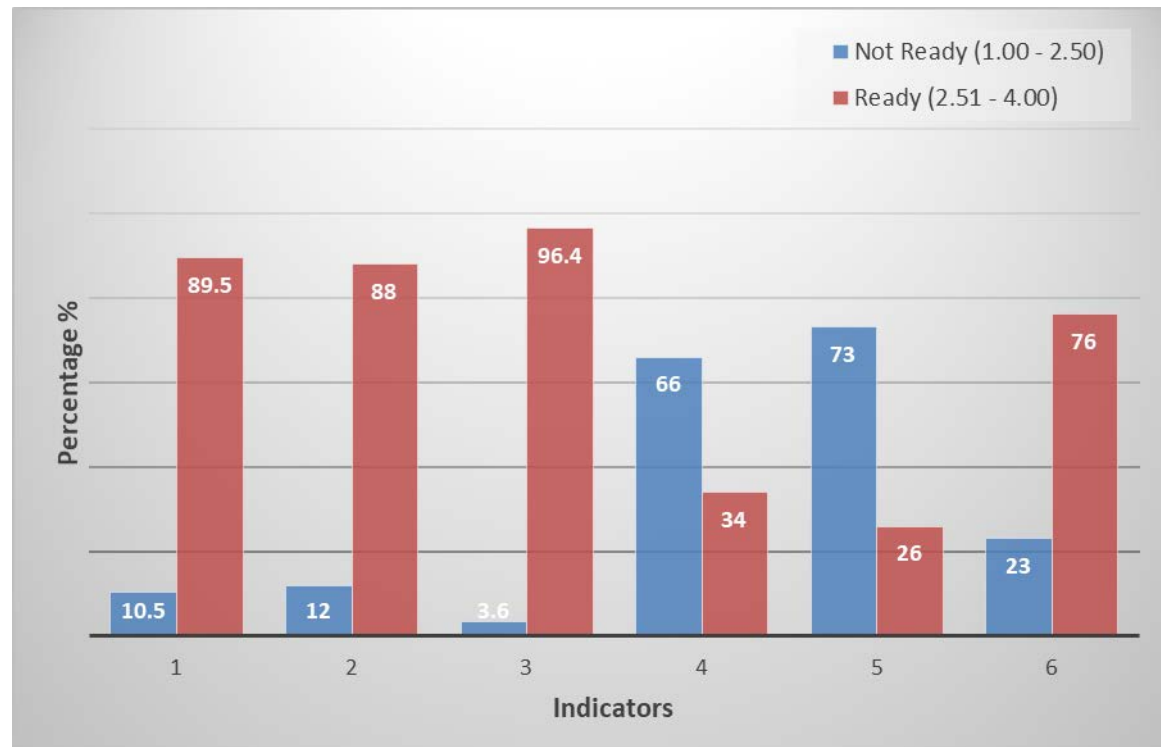The bar chart (Figure 2) gives a pictorial display of the numerical results.

Figure 2. Bar chart

Indicators:

1). Awareness and motivation to use ICT, 2). Perception about ICT, 3). Confidence to use ICT,

4). Training in ICT, 5). Ownership of ICT equipment, 6). Availability of internet access

4. Discussion of Results

Readiness to use ICT to teach: The results of this study suggest that the pre-service teachers used in this study are ready to use ICT to teach in terms of their awareness and motivation, positive perception about ICT, and confidence to use ICT to teach. The results further suggest that they have internet access in the various residential locations. However, they did not possess personal computers and laptops/i-pad and did not perceive that their training offered them enough ICT skills to use it to teach. These results are similar to the ones of Padmavathi (2016), that student teachers possessed positive attitude towards the use of computers for classroom teaching. Similarly, Aremu and Adeniran (2011) found that although teachers have positive attitude towards the use of ICT to teach, majority of them possess very low ICT skills. These results demarcated clearly the factors of beliefs, awareness and motivation from the acquisition of ICT skills required to use it to teach. The results were also related to those of Francisca and Samsudin (2018), Mohammed (2017), Baya 'a and Daher (2013) and Mathevula and Uwizeyim (2014). The results of these studies showed that the teachers possessed positive attitude

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towards the use of ICT to teach but possessed inadequate ICT skills. The results contradics those of Enemali et al. (2016) who found that final year pre-service teachers of their study were not ready.

It is expected that the readiness of pre-service teachers should be related to their perceived ICT training they received from their institution contrary to the result obtained in this study.

4.1 Training and the Acquisition of ICT Skills

Unlike the case of the study by Francisca and Samsudin (2018), the pre-service teachers of this study did not perceive that they acquired enough ICT skills during their training. However, they have confidence to use ICT to teach. How did they acquire confidence to use ICT to teach? This question can be answered by considering the findings from earlier studies (Hosanna, 2015) which showed that the teachers had high interest to learn computer skills. They resorted to the acquisition of the skills from private settings since there were poor ICT facilities in their schools. Since there exist internet access in the environment, as found in this study, the pre-service teachers who could not acquire enough ICT skills from their formal training could do so from the private settings. Consequently, they will be confident to use ICT to teach.

Ownership of ICT tools: The results corroborate that of Francisca and Samsudin (2018), that the pre-service Biology teachers in a similar institution in Nigeria, are not ready in terms of ownership of ICT tools. This result is also related to that of acquisition of ICT skills during their training. Generally, acquisition of practical skills in a school system requires the possession of relevant tools for practice both at school and at home; for effectiveness. As an example, pre-service Home Economics teachers must possess, personal sewing machine, while medical students must have personal stethoscopes and law school students have personal laptops compulsorily for acquisition of relevant practical skills. These results indicate that there is the need for compulsory ownership of affordable ICT equipment by pre-service teachers to enable them acquire basic ICT skills adequately during their training. This will enhance their readiness to use ICT to teach.

5. Conclusion

It can be concluded that the degree students used in this study were ready to use technology to teach in terms of their awareness and motivation, perception about ICT, confidence to use ICT and access to the internet, in their environment. They were not ready in terms of their training in ICT skills and personal ownership/access to ICT equipment. These findings portray some hope that the expectation of getting teachers who could teach online from the training institution could be realized. However, it is recommended that there should be improvement in the institution by the provision of more ICT equipment to enable students acquire ICT skills at school. In addition, teacher trainees should have personal computers, printers and photocopiers to enable them gain more opportunity to acquire ICT skills by practicing both at school and at home.

6. Limitations of This Study and Future Research

The single institution used in this study limits the generalization of the results of this study. Future research on this issued could include more institutions and larger sample sizes. In addition, the influence of factors, like, age, teaching experience, gender and teaching subjects could be surveyed.

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