



## Competency Skills and Use of Ict by Teacher Educators in Imo State Tertiary Institutions

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### ABSTRACT

The study surveyed the competency skills and use of ICT by teacher educators in Imo State tertiary institutions. To elicit responses for the study, four research hypotheses were formulated. Two hundred and forty (240) lecturers, 48 lecturers, from Imo State University Owerri and 192 lecturers from Alvan Ikoku Federal College of education, Owerri participated in the study. Data were collected for the study through the administration of 27 item structured questionnaire was validated and was also subjected to reliability which has internal consistency of 0.78r was used for data collection. A test re-test method was used to determine the reliability of the instrument, the resulted was appropriately scored. The data obtained were analyzed using both descriptive and inferential statistics of t-test in testing the hypotheses. The findings showed that gender has no effects on the procession and use of ICT into teaching and learning by teacher educators in tertiary institution. Less experienced lecturers are more exposed in use of ICT than high experienced lecturers. Some lecturers lacked adequate training and competence in using computer as a tool for effective teaching and research work. The study was recommended that higher institutions should encourage their lecturers to be sensitized through conferences, seminars and workshops. The old lecturers should be encouraged to develop good attitudes toward the use of ICT for teaching and research purpose. Recommendations were made towards effective use of ICT skills in tertiary institutions by teacher educators in Nigeria.

**Keywords:** Competency skills, ICT, Teacher educators, Teaching, Training, Tertiary institutions.

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## 1. INTRODUCTION

### 1.1. Background to the Study

With the introduction of Western education in Nigeria, the teacher has function as the pivot around which most schools activities revolved, in the sense, that he takes crucial decisions as regards what to teach, how to

teach and with what. Considering the fact, this enormous responsibility placed on teachers makes teacher education a very important enterprise in every nation, as no nation will like to toy with the future of its youth.

Teacher education according to Izuagba and Obiefuna (2005) is a formal and systematic process of preparing would be teachers for the task ahead. Teacher education also include all programmes specifically designed to help teachers already in service to continuously update their knowledge, skills, and attitude in order to meet up with continuing changes in methods, course contents and resources used in teaching. This implied in Okafor (1988) definition of teacher education as a form of education which properly planned and systematically tailored and applied to the cultivation of those who teach or will teach, particularly but not exclusively in the primary and post primary levels of education. Information and communication technology (ICT) is the technology that deals with the study design, development, implementation support and management of computer based information system that is used to acquire, covert, store, protest process, distribute and retrieve information according to the users requests. The acceptability of Information and Communication Technology (ICT) in education sector, in recent times is the best thing that has happened to the education sector in Nigeria.

### **1.2. Statement of the Problem**

A visit to most teacher education institutions revealed that a great number of student teachers are not equipped with the basic computer operational skill; therefore, for teachers to be able to integrate ICT into the school curriculum, groundwork must be done at the pre-service teacher education level, This brings to the fore the following questions;

- i. Could it be that the teacher educators do not possess ICT competency skills?
- ii. If they are, how often do teacher educators apply ICT skills in their teaching and research?
- iii. Is there any difference in the possession of ICT competency skills among teacher educators based on their gender and experience?
- iv. What are the militating factors against the use of ICT by the teacher educators?

Based on the above stated problems there is need to investigate the competency skills and use of ICT by teacher educators in the tertiary institution of Imo State.

### **1.3. Objectives of the Study**

The main purpose of this study is to examine the ICT competency skills and its uses by teacher educators in Imo State tertiary institutions. Specifically, the researcher intends to find out;

- i) The level of ICT competency skills possessed by teacher educators in the education institutions in Imo State.
- ii) The difference between male and female teacher educators in their possession of ICT Competency skills.
- iii) The difference in the possession of ICT competency skills by less experienced and highly experienced teacher educators in Imo State tertiary institutions.
- iv) The regularity of usage of ICT by teacher educators in their teaching sessions.
- v) The militating factors against the use of ICT by teacher educators in Imo State tertiary institution.

#### **1.4. Research Questions**

- 1) What is the level of ICT competency skill possessed by teacher educators in Imo State tertiary institutions?
- 2) What differences exist between male and female teacher educators in their possession of ICT competency skills?
- 3) What differences exist in the possession of ICT competency skills by less experienced and highly experienced teacher educators?
- 4) How often do teacher educators use ICT skills in their teaching?
- 5) What factors militate against teacher educators use of ICT?

#### **1.5. Hypotheses**

- 1) There is no significant difference between the mean response scores of male and female teacher educators in their possession of ICT competency skills.
- 2) There is no significant difference between the mean response scores of less experience and highly experienced teacher educators in their possession of ICT competency skills.
- 3) There is no significant difference between the mean response scores of male and female teacher educators in their use of ICT skills.
- 4) There is no significant difference between the mean response scores of less experienced and highly experienced teacher educators in their use of ICT skills.

## **2. REVIEW OF RELATED LITERATURE**

### **2.1. Conceptual Framework**

#### **2.1.1. The Meaning of Competency Skills**

Enete, Amusu and Eze (2009) viewed competencies as essential knowledge and skills obtainable in a profession and those which the professionals in the field must possess and be able to demonstrate at optional level of acquisition and functioning quality service or job can only be rendered when one has the knowledge, competencies and attitude required in the professional. Achilike & Okwuahaso (2001) define competencies as those abilities of power and authority of knowledge, attitudes and facts necessary for accomplishing tasks. Azemikhah (2005) explain competency as a quality that needs to be developed by the learner both conceptually and physically. It needs to be developed in the minds of the learner based on the constituents of competence (underpinnings and attributes), and physically developed by performance (based on performance criteria) resulting a balanced hands and disequilibrium. Ojukwu and Ojukwu (2002) viewed competencies as the knowledge, skills and behaviours that enable an employee to meet established performance criteria.

#### **2.2. Concept of Information and Communication Technology (ICT)**

Information and Communication Technology (ICT) is defined by various authors in various ways according to their perceived impact and understanding of the phenomena. Ezekoka (2009) describes Information and Communication Technology (ICT) as a means of accessing or receiving, storing transferring, processing and sending ideas, perception or information through computers and other telecommunication facilities.

Information and Communication Technology enables large quantities information to be handled quickly and economically, Information Communication Technology (ICTs) encompass all that the output generated can reach the users at reasonable costs and in good time to the overall benefit of mankind Egbule (2008) as cited in Akude (2010) defined information and communication technology as “a systematic process of gathering, processing, storage, retrieval and spreading information through the print, broadcast, computing and telecommunication media”.

Presently, there is a global awareness of the centrality of the teachers role in the learning process, even in ICT –rich contexts. Teachers cannot be replaced by the best technology. Jones (2003) reiterates this fact and opines that “no matter what educational systems mandate and expect in the end effective learning is very dependent on the will and competence of the teacher”. According to Organization for economic co-operation and development (2005) and Gbenga (2006) ICT can work in a number of general way:

- It can be used to help in school administration
- It can be used to train students in skills which they will need in further education and as an ongoing learning process throughout the rest of their lives and for their future jobs, e.g. work processing email communication etc.
- It can provide access to information and communication outside the classroom e.g. via the internet.

### **2.3. Concept of Teacher Education**

Bulus (2005) emphasized that teacher education is a systematic process of training prospective teachers into the teaching profession. From this perspective, teacher education can be seen as the process of preparing those who guide the learning activities.

The Nigeria government believes the teacher is pivotal and vital to achieving educational goals and the provision of qualitative education to its citizenry. Teacher education refers to the policies and procedures designed to equip prospective teachers with the knowledge, attitudes, behaviours and skills they require to perform their tasks effectively in the classroom, school and wider community.

Teacher educators refer to the places and procedures designed to equip prospective teachers with the knowledge, tasks effectively in the classroom, school and wider community.

Although ideally it should be concerned of, and organized as, a seamless continuing teacher education is often divided into these stages which are below:

- Initial teacher training/education (a pre-service course before entering the classroom as a fully responsible teacher).
- Induction (the process of proving training and support during the first few years of teaching on the first year in a particular school).
- Teacher development or continuing professional development (an in-service process for practicing teachers (Wikipedia free encyclopedia 2014)).

## **2.4. Theoretical Framework**

### **2.4.1. Constructivist Theory**

The theoretical framework of this study is based on constructivist theory of learning. Jerome Brunner (1960) propounded the constructivist theory of learning. Brunner's theoretical framework is based on the theme that learners construct new ideas or concepts based upon existing knowledge. Learning is an active process. Facets of the process include selection and transformation of information, decision making, generating hypotheses, and making meaning from information and experiences. Brunner emphasized the role of structure in learning and how it may be made central in teaching. Brunner introduced the idea of readiness for learning and spiral curriculum organization. Brunner believed that any subject could be taught at any stage of development in a way that fit the child's cognitive abilities. Zemeiman, Daniel and Hyde (1993) emphasized that learning in all subject area involves inventing and constructing new ideas. They suggest that constructivist theory be incorporated into the curriculum, and advocates that teachers create environments in which children can construct their own understandings. Brunner believed that intuitive and analytical thinking should be encouraged and rewarded. He believed the intuitive skills were under emphasized and he reflected on the ability of experts in every field to make intuitive leaps. Brunner investigated motivation for learning. He felt that ideally, interest in the subject matter is the best stimulus for learning. Constructivist beliefs have recently been applied to teaching and learning in the classroom. Constructivist teaching fosters critical thinking and creates active, motivated and independent learners. In the constructivist classroom, the teachers role is to prompt and facilitate discussion. Thus, the teachers main focus should be on guiding students by asking questions that will lead them to develop their own conclusions on the subject. Parker (2007) suggest that "good teachers join self, subject, and students in the fabric of life because they teach from integral and undivided self, they manifest in their own lives, and evoke in the students a capacity for connectness". It is therefore important that teachers constantly assess the knowledge their students have gained to make sure that the students perceptions of the new knowledge are what the teacher has intend. Teachers will find that since the students build upon already existing knowledge, when they are called upon to retrieve the new information, they may make errors. It is known as reconstruction error when we fill in the gaps of our understanding with logical, though incorrect thoughts. Teachers need to catch and try to correct these errors, though it is inevitable that some reconstruction error will continue to occur because of our innate information. Research suggests that constructivist teaching is an effective way to teach because it motivates learners to learn. It encourages active and meaningful learning and promote responsibility and autonomy. Constructivist teaching is important for teachers to grow professionally towards a constructivist practice. Also educational curricular and teaching method are changing, one component of the current redevelopment of all subject area curricula is the change in focus of instruction from transmission curriculum to a transactional curriculum.

### **2.5. Factors Militating against the Use of ICT by Teacher Educators**

Akude (2010) asserted that Nigeria is faced with the problem of accessing and using some of the ways or styles of teaching and learning with computer due to the following highlighted obstacles;

- 1) Inadequate or lack of fund for the procurement of the computer system.
- 2) Lack of training workshops and seminars for teachers on the use of computer for instruction.

- 3) Instability of electricity power supply.
- 4) Poor attitude of teachers and learners to the learning of computer.
- 5) In compatibility of the use of computer for instruction to the Nigerian curriculum.
- 6) Low level of technology.
- 7) Poor attitude of parents, government and stakeholders toward the teaching and learning with compute in most especially tertiary institutions of the country.
- 8) Political and educational system instability of the country.
- 9) Inadequate or lack of computer specialists or personnel to train students on the uses of computer for learning.
- 10) Poor system or method of school management

## **2.6. Review of Previous Empirical Studies**

Okoh, Chinasa and Isaac (2012) carried a research on the competences needed by English language teachers for effective computer/ internet application for English language teaching in secondary schools in Ogba-Egbema Omoku, River State. The design applied for the study is a survey design which enable the researchers make generalization from a defined population to describe a given situation. The population comprises all the computer/internet experts and computer students in Federal Colleges of Education (T) Omoku. A sample of 22 experts of lecturers teaching computer education in Federal College of Education (T) Omoku and 50 final year computer education students in the College was used. Sample random sampling was used to select the students. Data collected were analyzed using mean and t-test. The study found that there are software/internet materials for teaching and learning English language and that English language teachers need competences in computer key boarding and internet operation in teaching and learning so as to improve the teaching of English language in secondary schools. The recommendations of the study are as follows;

- English language teachers in secondary schools should be trained to improve their competences in using computer and internet facilities.
- The governments should train the teachers in using computer softwares and in storing and retrieving information from the internet because they are directly involved in teaching and learning.
- The policy framework on the re-training and enhancement of the teaching profession should be vigorously pursued.

## **3. RESEARCH DESIGN AND METHODOLOGY**

### **3.1. Research Design**

The research design that will be adopted for this study is a descriptive survey design which aims at investigating the competency skills and use of ICT by teacher educators in Imo State tertiary institutions. This design is considered appropriate for this study because it will allow the researcher with use of questionnaire to get the required information on the topic. As stated by Nwankwo (2010) that descriptive survey design implies collection of data from a large sample drawn from a given population and describes certain features of the sample as they are at the time of the study and which are of interest to the researcher, however, without manipulating any independent variables of the study.

### **3.2. Area of the Study**

This study will be carry out in Imo State with particular reference to the two teacher education institutions in Imo State, which are Imo State University (IMSU) and Alvan Ikoku University of Education (AIUE), This two Institutions are located in Owerri Municipal Area, the capital of Imo state, which houses the seat of government.

The state (Imo State) is boarded in the East by Abia state, in the South by River State, in the West by Delta State and in the North by Anambra State. Imo State is located in the south East Geo-Political zone of Nigeria and is comprised of three political zones namely; Owerri, Orlu and Okigwe. The state has a population of 3,872,538 according to the (NPC/UME 2006) population census, with Igbo as the common language spoken.

### **3.3. Population of Study**

The total population of teacher educators in Imo State tertiary institutions is 240 which comprised all the teacher educators in the two (2) teacher education institutions in Imo State, which are Imo State University (IMSU) and Alvan Ikoku University of Education (AIUE) Owerri. There are 40 and 192 teacher educators in both Imo State University's faculty of education and Alvan Ikoku University of Education Owerri respectively.

### **3.4. Sample and Sampling Technique**

The sample of this study comprised al the two hundred and forty (240) teacher educators in both the faculty of education, Imo State University and Alvan Ikoku University of Education, Owerri. A census count was used for the sample since the population was small. Purposive sampling technique was used to select all the teacher educators in the two teacher education institutions since they possess the specific characteristics to be studied. The following table shows the distributions of the sampled respondents.

### **3.5. Instruments for Data Collection**

The instruments for data collection in this study is a researcher designed questionnaire tagged "Questionnaire on teacher Educators' competency skills and use of ICT (QTECSUICT)". This instrument comprised four (4) sections: sections A, B, C & D. Section A of the instrument will be used to collected the bio-graphical information of the respondents which includes; name of the institution, department, gender of the respondents and teacher educators' teaching experience. Section B of the instrument will be used to collect information on the teacher educators' competency skills in ICT. The section is structured in 4-points likert scale with the options of much competency (4 points), moderate competence (3 points), little competence (2 points) and No competence (1 point). Section C of the instrument will be used to collect information on teacher educators' use of ICT. The section is also structured in 4-point scale with the options of Always (4-ponts), Often (3 points), Rarely (2 points) and Never (1 point). Section D of the instrument also designed to collect information on the militating factors against the use of ICT by teacher educators. The section also structured in 4-points likert scale with the options of strongly agree (4-points), agree (3-points), Disagree (2-points) and strongly disagree (1 point).

### 3.6. Method and Technique of Data Analyses

The data collected in this study will be analyzed using both descriptive and inferential statistics. Descriptive statistics of frequency count and percentages will be used to analyze the biographical information of the respondents while mean rating will be used to answer the research questions. Inferential statistics of t-test will be used to test the four formulated hypotheses.

## 4. DATA PRESENTATION AND ANALYSIS

### 4.1. Demographic Characteristics of the Respondents

This section describes the personal characteristics of the respondents with the use of frequency and percentage distributions as shown below.

**Table-1.** Distribution of the respondents by institution

Institution	Frequency	Percentage (%)
IMSU	48	20
AIFCE	192	80
TOTAL	240	100

Source: SPSS output, 2015.

Table 4.1 Shows that out of 240 respondents 48(20%) were Imo State University teacher educators while 192 (80%) were AIUE teacher educators.

**Table-2.** Distribution of the respondents by Gender

Gender	Frequency	Percentage (%)
Male	97	40.42
Female	143	59.58
Total	240	100

Source: SPSS output, 2015.

Table 2 shows that out of 240 respondents, 97 (40.42%) were male while 143 (59.58) were female.

**Table-3.** Distribution of the respondents by teaching experience

Teaching experience	Frequency	Percentage (%)
Less experienced	138	57.5
Highly experienced	102	42.5
Total	240	100

Source: SPSS output, 2015.

Table 3 shows that of 240 respondents, 138 (57.5%) were teacher educators with less experienced while 102 (42.5%) were teacher educators that are highly experienced.

### 4.2. Hypothesis Testing

Four (4) null hypotheses were postulated and tested in this study. Hypotheses 1 to 4 were tested using t-test. All the analyses were carried out at 0.05 alpha level and the results are shown below in tables.

**Hypothesis One:** There is no significant difference between the mean response scores of male and female teacher educators in their possession of ICT competency skills.

In order to test this hypothesis, t-test was used to determine differences between male and female teacher educators in their possession of ICT competency skills.

**Table-4.**Result of t-test on differences between male and female teacher educators in their possession of ICT competency skills

Variables	N	Mean	S.D	t cal.	df	Sig.	Decision
Male	97	34.39	3.34	20.382	238	.000	Rejected
Female	143	22.83	4.86				

Source: SPSS output, (2015).

Table4 reveals that the calculated t-value is 20.382 with significant p-value 0.000 computed at level of significance 0.05. since the calculated p-value of 0.000 is less than 0.05 alpha levels, therefore, the null hypothesis is rejected. This implies that there is significant difference between the mean response scores of male and female teacher educators in their possession of ICT competency skills. It also revealed that the mean score 34.39 for male teacher educators is greater than the mean score of females teacher educators of 22.83, which indicated that male teacher educators possesses ICT competency skills than the female teacher educators.

**Hypothesis Two:** There is no significant difference between the mean response scores of less experienced and highly experienced teacher educators in their possession of ICT competency skills

In order to test this hypothesis, t-test was used to determine differences between less experienced and highly experienced teacher educators in their possession of ICT competency skills.

**Table-5.** Result of t-test on differences between less experienced and highly experienced teacher educators in their possession of ICT competency skills.

Variables	N	Mean	S.D	t cal.	df	Sig.	Decision
Less experienced	138	21.15	4.83	18.456	238	.000	Rejected
Highly experienced	102	32.20	4.40				

Source: SPSS output, (2015).

Table 5 reveals that the calculated t-value is 18.456 with significant p-value 0.000 computed at level of significance 0.05 since the calculated p-value of 0.000 is less than 0.05 alpha levels, therefore the null hypothesis is rejected. This implies that there is significant difference in the mean response scores of less experienced and highly experienced teacher educators in their possession of ICT competency skills. It also revealed that the mean score 32.20 for highly experienced teacher educators is greater than the mean score of less experienced teacher educators of 21.15, which indicated that highly experienced teacher educators possesses ICT competency skills than the less experienced teacher educators.

**Hypothesis Three:** There is no significant difference between the mean responses scores of male and female teacher educators in their use of ICT skills.

In order to test this hypothesis, t-test was used to determine differences between male and female teacher educators in their use of ICT skills.

**Table-6.** Result of t-test on differences between male and female teacher educators in their use of ICT skills.

Variables	N	Mean	S.D	t cal.	df	Sig.	Decision
Male	97	30.75	2.49				
Female	143	21.04	4.09	20.903	238	.000	Rejected

Source: SPSS output, (2015).

Table 6 reveals that the calculated t-value is 20.903 with significant p-value 0.000 computed at level of significance 0.05. Since the calculated p-value of 0.000 is less the 0.05 alpha levels, therefore the null hypothesis is rejected. This implies that there is significant difference in the mean response scores of male and female teacher educators in their use of ICT skills. It also revealed that the mean score 30.75 for male teacher educator is greater than the mean score of female teacher educators of 21.04, which indicated that male teacher educators use ICT skills than the female teacher educators.

**Hypothesis Four:** There is no significant difference between the mean responses scores of less experienced and highly experienced teacher educators in their use of ICT skills.

In order to test this hypothesis, t-test was used to determine differences by less experienced and highly experienced teacher educators in their use of ICT skills.

**Table-7.** Result of t-test on differences between less experienced and highly experienced teacher educators in their use of ICT skills.

Variables	N	Mean	S.D	t cal.	df	Sig.	Decision
Less experienced	138	19.34	3.66	21.708	238	.000	Rejected
Highly experienced	102	29.12	3.28				

Source: SPSS output, (2015).

Table 7 reveals that the calculated t-value is 21.708 with significant p-value 0.000 computed at level of significance 0.05. Since the calculated p-value of 0.000 is less the 0.05 alpha levels, therefore the null hypothesis is rejected. This implies that there is significant difference in the mean response score of less experienced and highly experienced teacher educators in their use of ICT skills. It also revealed that the mean score 29.12 for highly experienced teacher educators is greater than the mean score of less experienced teacher educators of 19.34, which indicated that highly experienced teacher educators use ICT skills than the less experienced teacher educators.

## 5. DISCUSSION OF FINDINGS

The findings of this study were discussed according to the research questions and the hypothesis.

### The level of ICT competency skills possessed by teacher educators in Imo State tertiary institutions:

The findings in this study revealed that teacher educators in Imo State Tertiary Institutions has a moderate competency skills in ICT. This findings corroborate the findings of [Onasanya, Shehu, Oduwaiye and Shehu \(2010\)](#) that reported that teacher educators most especially science subject lecturers have moderately competence skills in the use of ICT facilities / equipment for teaching and research work.

The findings also in line with the findings of [Esiobu \(2010\)](#) that find out that though the teacher educators in Nigeria are moderately competence but yet to achieve the real use of ICT for teaching and learning.

### **Differences between male and female teacher educators in their possession of ICT competency skills:**

The findings in this study also revealed that teacher educators in Imo State Tertiary Institution often use ICT skills in their teaching. This findings is inline with the finding of [Pudaruth and Bahadoor \(2011\)](#) that reported that tertiary institution lecturers exhibited great enthusiasm and positive attitude towards the use of ICT.

This findings also inconsonant with the assertion of [Barnes \(2007\)](#) stated that the use of ICT in the present day by tertiary educators is an instrumentation to successful teaching and learning process. This is negate earlier findings of [Onwuagboke and Ukegbu \(2010\)](#) who reported that none of the ICT facilities were been used by teacher educators.

### **5.1. Militating Factors against Teacher Educators use of ICT**

The findings in this study further revealed that lack of electricity, high cost of ICT device, lack of frequent training and retrieving programmes in ICT and lack of adequate budget for ICT are militating factors against the use of ICT by teacher educators.

This findings is inline with [Ojiaku \(2011\)](#) which stated that lack of finances, dearth of personnel, teachers resistance to change, and constant power failure. Other factors could be lack of interest and apathy on the part of the learners, inability to practice with their own computers after teaching and learning at home are the militating factors against the use of ICT by teacher educators.

### **There is no significant difference between the mean response scores of male and female teacher educators in their possession of ICT competency skills:**

[Ong and Lai \(2005\)](#) reported that males had more positive possession toward e-learning than females they found significant gender variations where males rating of possession towards computer self-efficacy possessed usefulness and ease of use and behavioural intention to use e-learning were all higher than those of females.

[Chen and Tsal \(2005\)](#) also reported that males exhibited more favourable possession toward web-based learning than females. Their results suggested that males possessed the proliferation and development of the internet to result in a better-tool in reducing the digital divide and establishing a society of equity and justice.

### **There is no significant difference between the mean response scores of less experience and highly experienced teacher educators in their possession of ICT competency skills:**

The [\(U.S National Centre for Education Statistics, 2000\)](#) reported that teachers with less experience in teaching were more likely to possess ICT in their teaching than teachers with more experience in teaching. According to the report, teachers with up to three years teaching experience reported spending 48% of their time utilizing computers, teachers with teaching experience between 4 and 9 years, spend 45% of their time utilizing computers, and finally teachers with more than 20years teaching experience utilize computers 33% of their times.

Their findings revealed that highly experienced teachers frequently possess computer technology in the classrooms more than the less experienced ones.

**There is no significant difference between the mean response scores of male and female teacher educators in their use of ICT skills:**

In a similar study [Vitanu, Olagunju and Adeyemi, \(2013\)](#) report that male academic staff members use the internet more than the female counterparts in private colleges of education in Lagos State of Nigeria. In a research conducted by [Kay \(2006\)](#) he found that male teachers had relatively higher levels of computer attitude and ability before computer implementation but there was no different between males and females regarding computer attitude and ability after the implementation of the technology. Studies have established that females tend to be less interested in computers than males and use them less often in their time ([Schaumburg, 2001](#)).

**There is no significant difference between the mean response scores of less experienced and highly experienced teacher educators in their use of ICT skills:**

The finding revealed that less experienced lecturers frequently use the internet more than their more experienced colleagues. This result is similar to findings of [Aduwa – Ogiegbaen and Uwameiye \(2006\)](#) which reported that less experienced teacher faculty members use internet more than their more experienced colleagues. In the same vein, statistically significant differences were found to exist in frequency of internet use as a result of teaching experience.

## **5.2. Factors Militating against the Use of ICT by Teacher Educators**

Based on the study the Government and the Ministry of Education have failed to give financial support on ICT facilities in the tertiary institutions in Imo State. The basic amenities such as ICT facilities, inadequate fund, lack of well trained computer operators, poor power supply, poor attitude of lecturers and poor maintenance culture are not in use and some are incomplete.

[Egede \(2003\)](#) noted the major problems of using computers in Nigeria schools revolves around the environmental and power supply as well as human resources. Also this is why [Ohanazoeze 2004](#) stated that irregular supply of power supply and lack of well trained computer handlers affect the use of ICT in school. [Nwachukwu \(2003\)](#) stated that learning experience should be achieved through empowerment programme in the use of ICT facilities for teaching and learning, other factors could be lack of interest and apathy on the part of the learners, inability to practice with their own computers after teaching and learning at home.

## **6. CONCLUSIONS**

In a modern society that is increasingly becoming knowledge-based, the need for ICT skills for teacher educators cannot be over emphasized. In a world that is becoming increasingly driven by technology, teacher educators of all ages and gender must key to the need to be ICT knowledgeable so that it can also impact in their student.

Based on the finding of this study, the following conclusions were drawn;

- 1) Educators have significant roles to play in ensuring that learners develop competence in employing ICT for educational purpose.
- 2) ICT knowledge of teacher educators is moderate, though some educators lack necessary skills for utilizing computer technology to enhance teaching-learning process.

## 7. RECOMMENDATIONS

Based on this research, the following recommendations have been made.

1. The study recommends the support of State Government in the provision of ICT facilities or centers in the various tertiary institutions in Imo State.
2. Computer literacy should be one of the pre-requisites for recruiting lecturers into the teaching profession.
3. New lecturers must be inducted to develop the needed skills in the use of ICTs and develop positive attitude towards their use for teaching and research while old lecturers should be encouraged to have basic knowledge of computer appreciation.
4. Teachers should have positive attitude towards instructing their learners through computer programmes that can solve their educational problems especially at the developmental levels of education.
5. The Imo State Government need to do more in the provision of power/electricity infrastructure in their tertiary institutions without which the ICT facilities cannot be even be used.
6. The tertiary institutions in Imo State should also help the teacher educators acquire laptops at subsidized rates, and to pay for the ICT devices installmentally.
7. Both the female teacher educators and the less experienced teacher educators need to be sponsored to attend regular conferences, seminars and workshops especially on areas of computer training so as to become ICT compliant, and possibly use the skill more regularly in the teaching sessions.

## REFERENCES

- Achilike, A.N & Okwuanaso, S.I (2009). Competencies Expected of National Diploma Accounting Graduates of Polytechnics as Perceived by Employers of Labour. *Journal of Business Education and Office Education*, 1(2): 43-49.
- Aduwa-Ogiegbaen, S.E, & Uwameiye, R. (2006). Internet Usage Among University Lecturer in Southern Nigeria. *International Journal of Information and Communication Technology Education (IJICTE)*, 2 (1), 28-36.
- Akude, I. (2010). *A handbook on New Technologies innovative Techniques in Education*, Owerri: Bomaway Publishers.
- Azemikhah, H. (2005). The design of competency based learning resources for VET training packages using learner centred, work centred and attribute focused simulation strategies. Paper presented at the Australian Vocational Education and Training Research Association Conference, 8th, Brisbane, 2005, Brisbane.
- Barnes, C.A (2007). *The Classroom Use of Technology*, Umuahia Harper and Row Publishers.
- Bruner, J. (1960). *The process of Education* Cambridge M.A. Harvard university press.
- Bulus, I. (2005) *A handbook on issues in Teacher professionalism. Teacher education, an instrument for grassroot mobilization*
- Chen, R. S & Tsai. C.C (2005). Gender Difference in Taiwan University Students toward the Web Based Learning. In C.K, Looi, D Jonassen & M. Ikeda (Eds.), *International Conference of Computers in Education*, 133.
- Egede, B.A.J. (2003), *Preparing of NCE Teachers for information and Communications Technology (ICT)*. STAN proceeding of the 44<sup>th</sup> Annual Conference Heinemann Education Books (Nigeria) Plc.
- Enete, F., Amusa, R.O., & Eze, B (2009). *Competences Expected of Agriculture Education Students*.
- Esiobu, G.O (2010). A Survey of Factors Affecting Access to and use of Information and Communication Technologies (ICTS) in Teaching and Learning in Nigerian Higher Education. *Journal of Curriculum Studies*, 17(3): 42-52.

- Ezekoka G.K. (2009). Foundations of Educational Technology Owerri Publisher: Lu House of Excellence Ventures.
- Gbenga A. (2006). Information and Communication Technology and web Mining techniques. A paper presented at Education Trust Fund Capacity Building Workshop for knowledge-Driven Growth for Nigerian Universities North-Central Zone Held at university of Ilorin.
- Izuagba, A.C. & Obiefina, C.A. (2005). Trends and issues in teacher education: The Nigeria perspectives: Owerri. Cel-Bez publishing Co. Ltd
- Jones, R. (2003). Local and National ICT Policies. In R. Kozma (Ed.) Technology, Innovation, and Educational change: A global perspective (pp. 163-194). Eugene, OR: International Society for Technology in Education.
- Kay, R (2006). Addressing gender differences in computer ability, attitudes and use. The laptop effect. Journal of Educational Computing Research, 34(2): 182-211.
- Nwachukwu, I. (2003). Agricultural Communication: Principles and Practice. Umuahia: Lamb House Publishers.
- Nwankwo, O.C. (2010). Practical Guide to Research writing (Revised 3<sup>rd</sup> ed) Port Harcourt, Golden publishers.
- Ohanazoeze, S. N (2004) problems of using Information and Communication Technology in the teaching and learning of Agricultural Science in Nigerian secondary schools. Conference paper presented at the 1<sup>st</sup> Annual Conference on ICT held at Federal College of Education (T). Umuze, July, 2004.
- Ojaku, C. (2011). Uses of Computer in Instruction. A Seminar Paper Presented to the Department of Educational Technology and Curriculum Studies Imo State University Owerri. PP: 1-10.
- Ojukwu, K & Ojukwu, F.K. (2002). Competencies Related to information and Communication Technologies. Business Education Journal, 3: 137-146.
- Okafor, F. C. (1988). Nigeria teacher education: A search for new direction. Enugu: Fourth Dimension Pub. Company.
- Okoh, Chinasa and Isaac (2012): The competences needed by English language teachers for effective computer/internet application for English language teaching in secondary schools in Ogba-Egbema Omoku, River State. *Proceedings of the International Conference on Teaching, Learning and Change 2011* ISSN: 2224-946X
- Onasanya, S.A., Shehu, R.A., Oduwaiye, R.O. and Shehu, L.A. (2010). Higher Institutions Lecturers' Attitude towards integration of ICT into Teaching and Research in Nigeria. Research Journal of Information Technology. 2(1), 1-10, ISSN 1815 7432. Available online at <http://scialert.net/qredirect.php?doi=rjit,0000.16957.16957&linkid=pdf>
- Ong & Lai (2005) Gender Differences in Perceptions and Relationship Among Dominants of e-Learning Acceptance.
- Onwuagboke, B.B.C and Ukegbu, M.N. (2010). Integrating ICT in the Teaching and Learning Process Teacher's Experience at Secondary School Level, Journal of Educational Media and Technology, 14(2), 2010.
- Organization for Economic Co-operation and Development, (2005). E-learning in Tertiary Education. Retrieved on 25<sup>th</sup> August, 2006.
- Parker, I. (2007) Revolution in Psychology: Alienation to Emancipation. London: Pluto Press.
- Pudaruth, S. and Bahadoor, B.R (2011) Integrating ICT in Pre-Primary Education: the Case of Mauritius. International Journal of Education, 3(2).
- Schaumburg, H. (2001). Fostering Girls Computer Literacy Level out the Gender Difference? Paper Presented at the NECC Conference, June 25-27, Chicago. IL.
- UNESCO (2004). Computer proficiency for Teacher. Ministerial Advisory council on the quality of Teaching. Retrieved April 8, 2006, from <http://www.det.nsw.edu.au/reviews/macgt.commpro.html>.
- U.S Department of Education. National Center for Education Statistics. (2000). Teachers' Tool for the 21<sup>st</sup> Century: A Report on Teachers Use of Technology.

NPC/UME 2006: 2006 National Population Commission/ University Matriculation Examination.

[http://en.wikipedia.org/wiki/List\\_of\\_Nigerian\\_states\\_by\\_population](http://en.wikipedia.org/wiki/List_of_Nigerian_states_by_population)

Viatanu, A. Olagunju, M.& Adeyemi, S. (2013). Comparative Study of the Use of Internet Resources Among Academic Staff and Students in Private Colleges of Education in Lagos State, Nigeria.

Wikipedia free encyclopedia (2014).

Zemelman, S., Daniels, H., & Hyde, A. (1993). Best practice: New standards for teaching and learning in America's schools.

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