

# Possession of E-Learning Abilities for Enhancing Technical and Vocational Education Training (TVET) among Lecturers of Tertiary Institutions in Enugu State

Onaga, Paul Okwudilichukwu, Nebo, Anne Nkemdilim, Oputa Nkechi Patience and Ene Ujunwa Elizabeth

**Abstract** - The research tends to determine the extent of e-learning abilities that could be found among lecturers in Tertiary Institutions to enhance teaching of Technical and Vocational Education. Two specific purposes of the study and two corresponding research questions in addition to one null hypothesis were formulated for the study. Survey Research Design was adopted for the study and a total population of 98 lecturers was used. The study was done with the entire population because the population was manageable. Two research instruments were used for quantitative and qualitative data collections. The first was a structured questionnaire validated by three experts. Split half method was used to ascertain the reliability of the instrument yielding 0.71 index using Pearson Product Moment Correlation Coefficient. The second instrument was a Focus Group Discussion Guide (FGDG) this instrument was used to consolidate the data collected from the structured questionnaire. SPSS statistical package was used to determine the mean and standard deviation which was used for analyses. T-test was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed that the extent of possession of e-learning facility among lecturers in the tertiary institutions understudy is low. It was also discovered that the possession of the computer competences is high but needed more improvement. The researchers recommended that there is need for stakeholders to improve on the provision of facilities and lecturers should endeavour to attend conferences, seminars and workshops to improve.

**Index Terms** - E-learning, Education, Facilities, Operating competencies, Technical, Tertiary Institution, and Vocational.

## Introduction

The model of teaching and learning in recent times is changing from face-to-face interaction to electronic and distance learning models. Learning by this method in no doubt is faced with great challenges that bring to suspicion the success and sustainability of this form of

transfer of knowledge. There has been an increasing interest and premium placed on education since the colonial dispensation. Since then education has been labeled an instrument of socialization and national development. Education therefore to this effect has been accorded its rightful place as central to economic and national development by the Nigeria Government having placed education as one of the most important factors in the quest to become one of the largest economies by the year 2020 [5]. Still in the above document it is stated that the development of Nigeria's human capital is the most important key to rapid economic development and the strongest weapon against poverty. The realization of this policy statement will no doubt be based on the type of education offered to the general public and exposure of the learners to the international knowledge through e-learning exercise.

However, the current state of education in Nigeria, calls for drastic measures to be taken to overhaul the system if really it will serve as a reliable and efficient vehicle for the attainment of vision 2020. The conservative type of education inherited from the colonial masters has overstayed its usefulness and now left nothing to be desired or envied. Though, since attainment of political independence in Nigeria, the government and other agencies in education sector have been working assiduously towards a functional and goal-oriented educational system. Several workshops, seminars and conferences were held; all geared toward fashioning out ideal policies bearing in mind peculiarities of Africa values, norms and cultures leading to the development of a curriculum conference of 1969. It is after the conference that the policy which spelt out the following five national ideologies that exist in the national policy on education: a free and democratic society; a just and egalitarian society; a united strong and self-reliant nation; a great and dynamic economy; and a land of bright and full opportunities for all citizens [6].

To achieve the goal of making the land a better place for all the citizens, there is need to involve all and sundry in the development of a new phase of the education system. Education in Nigeria and other parts of the world today is changing from a classroom interactive session to the convenience of homes, offices; amusement parks learning and what have you. The problems of today's learning are no longer existence of illiterates who cannot read and write, but those who cannot learn, unlearn, and relearn. This language is so because of the type of value we have in today's society which is highly technology driven. Nigeria is a society with availability and provision of internet, where most of the youths spent greater percentage of their time on the web for unmerited activities.

Times spent on the web may be useful if tertiary institutions generally embraces and enhances the use of e-learning in their activities. Governments must endeavour to provide the enabling environment for this type of learning to be effective by ensuring the provision of functional Information and Communication Technology (ICT) centers in the institutions.

As a matter fact, the introduction of e-learning into the educational sector should be seen as a reform. Therefore, the policy makers should bear in mind the issue of ICT and e-learning whenever they move to the table in dialogue over the education system. In line with [11] the nation and its citizens must help in establishing the position of e-learning in the education sub-sector.

E-learning is a driving force to achieving better education in the recent times as a result of the value system within the society. E-learning which simply is electronic learning, according to [8]

*“Is a catch-all term that covers a wide range of instructional material that can be delivered on a CD-ROM or DVD, over a local area network (LAN), or on the internet. It includes Computer-Based Training (CBT), Web-Based Training (WBT), Electronic Performance Support Systems (EPSS), distance or online learning and online tutorials.”*

Electronic learning (e-learning) is the use of electronic machinery to convey education and training applications, observe or monitor learners' performance and report the progress made by the learners. Hedge and Hayward [7] maintained that e-learning is an innovative approach for delivering electronically mediated, well designed, learner-centered and interactive learning environments to anyone, anyplace, anytime by utilizing the internet and digital technologies in concern with instructional design principles. Therefore, it may be said that e-learning is a system of learning electronically between or among people, regardless of distance, time or place. It is not only restricted to the use of internet which can be referred to as an online process, but also involve the use of several electronic media outside the internet or web known as an offline process. Developments in internet and multimedia technologies are the basic enabler of e-learning, with consulting, content, technologies, services and support being identified as the five key sectors of the e-learning industry.

E-learning is very important in teaching and learning to improve learner-centered and technology within TVET students in tertiary institutions. This brings the interest driven value towards Technical and Vocation Education and Training (TVET).

Technical and Vocational Education which is a covering canopy refers to series of activities directed towards a person with skills and knowledge that will enable him work and become as self sufficient as possible [2]. From the above it shows that TVET programme have an extensive link with e-learning as skill is highly needed in assessing the programme. Kareen and Garba (2008) in Okpor and Hasan [9], stated that Vocational and Technical Education is rooted on preparation of students for acquisition of necessary skills, knowledge and attitude to earn employment as expert assistants to professionals in any field of Technology and Engineering. Therefore, if the standard of education and TVET in particular should be expected to move to the next level, tertiary institution must then embrace e-learning for the programme. The study by [12] indicated that the use of e-learning is a very efficient method for delivering TVET between countries and in promoting communities of practice. But the extent to the integration and adaptation of the programme in the tertiary institutions are questionable. This is based on the point that most of the teaching staff does not possess the adequate knowledge and skills for the proper use of e-learning facilities for effective teaching of TVET subjects. Therefore the researcher sort to determine extent of possession of e-learning abilities for enhancing Technical and Vocational Education Training (TVET) among lecturers of Tertiary Institutions in Enugu State. The study specifically sort to find out

1. The extent of the possession of e-learning facilities among TVET lecturers in tertiary institutions in Enugu State.
2. The extent of possession of e-learning operating competencies among TVET lecturers in tertiary institutions in Enugu State.

### **Research Questions**

1. What is the extent of the possession of e-learning facilities among TVET lecturers in tertiary institutions in Enugu State?
2. What is the extent of possession of e-learning operating competencies among TVET lecturers in tertiary institutions in Enugu State?

## **Hypothesis**

H<sub>01</sub> There is no significant differences between the mean scores of male and female lecturers in computer operating competency.

## **Method**

Multiple method of collection of data was involved in the process of data collection. Survey design was utilized for the study because the study tends to find out the opinion of the lecturers of universities over the impediments to assessing e-learning opportunities in teaching and learning TVET in Enugu state. The study is conducted at Nsukka and Enugu in Enugu state. A total population of 98 lecturers from the three government Tertiary Institutions in Enugu state. Due to the size of the population, no sample was made. Copies of the questionnaire were made available for the total population but all the lecturers were not seen. Only 81 copies of the questionnaire were distributed and collected back for the research. Out of the total collected, 3 of the copies were not valid, bringing the total copies used for analysis to 78. This number is 79.5% of the entire population and is taken to be suitable for the analysis. Three experts validated the instrument. Two were experts from Nnamdi Azikiwe University, Awka and one from Enugu State University of Science and Technology Enugu, the instrument was validated in terms of appropriateness of the questionnaire items in relation to the research questions. Split half method was used to ascertain the reliability of the instrument. A reliability coefficient of 0.71 was obtained using Pearson Product Moment Correlation Coefficient. This figure was determined high enough to be reliable for the study. The researchers collected data for the work by sharing the copies of the questionnaire to the respondents in their respective schools. SPSS statistical package was used to determine the mean and standard deviation which was used for analyses to answer the research questions while t-test was used to test the null hypotheses at 0.05 level of significance. When the mean value of an item was 2.50 and above it was regarded as agreed and showing possession to a high extent. On the other hand an item with mean value below 2.50 was regarded as disagreed and is taken as possession to a low extent. For the hypothesis, when the t-calculated value is less than the t-table value the hypothesis will be accepted but when the t-calculated is equal or greater than the t-table value the hypothesis will be rejected.

Also to complement the data collected through the questionnaire given to the respondents and analysis, the researcher engaged some of the lecturers in interactive sessions at different

occasions to discuss the research questions. At the end the interaction was also used in addition to the responses from the questionnaire shared among the respondents.

## Data Analysis

### Research Question

What is the extent of the possession of e-learning facilities among TVET lecturers in tertiary institutions in Enugu State?

**Table 1**

Mean ratings on the possession of e-learning facilities among TVET lecturers in tertiary Institutions.

S/N	Item	Mean	Standard Deviation	Decision
1.	TVET lecturers have Computer systems of high quality.	2.89	0.84653	High extent
2	TVET lecturers are found in the possession of high class Flash drives.	1.79	0.69055	Low extent
3.	TVET lecturers possess three-in-one printers for production of their works.	1.92	0.80210	Low extent
4.	Most of the TVET lecturers do not have scanners for use.	2.12	0.93084	Low extent
5.	The uses of scanning machines are common to TVET lecturers.	1.48	0.89361	Low extent
6.	Magic sticks are regularly used by the TVET lecturers.	1.61	0.64929	Low extent
7	Projectors are not readily possessed by TVET lecturers in their daily activities.	2.65	0.68047	High extent
8	Majority of the TVET lecturers have internet ready smart phones.	2.69	0.77807	High extent
9.	TVET lecturers are connected to the school server always for internet work.	1.87	0.81159	Low extent
10	There is sufficient power supply within the department.	1.66	0.73266	Low extent
11	TVET lecturers access ICT centers in the school regularly.	1.60	0.58863	Low extent
12.	TVET lecturers make use of the existing cyber cafés in the schools for internet connection.	2.67	0.76436	High extent
13.	My school makes E-books available to TVET lecturers.	2.14	0.87867	Low extent
	<b>Grand Mean</b>	<b>2.08</b>	<b>0.77287</b>	<b>Low Extent</b>

Result from the table above indicates that generally there is low extent of possession of e-learning facilities among TVET lecturers in tertiary Institutions. Though, some items are stating

otherwise. The results from items 1, 8 and 12 show extent of possession. Others explained that there is low possession of the facilities by these academic staff.

### Research Question 2

What is the extent of possession of e-learning operating competencies among TVET lecturers in tertiary institutions in Enugu State?

**Table 2**

Mean ratings on the possession of e-learning operating competencies among TVET lecturers in tertiary Institutions.

S/N	Item	Mean	Standard Deviation	Decision
14	Ability to boot or log off computers	2.58	0.90361	High extent
15	Ability to work with different programmes like Microsoft word, excel, Corel draw, power points etc	2.60	0.90223	High extent
16	Ability to create and save files	3.56	0.89137	High extent
17	Ability to call up documents and edit texts.	2.69	0.83912	High extent
18	Ability to secure information from one programme to the other.	2.48	0.78531	Low extent
19	Ability to save and call up documents in drives (flash, CDs etc.)	2.57	0.86067	High extent
20	TVET lecturers have the ability to logon and use internet effectively.	2.59	0.93057	High extent
21	TVET lecturers can create personal web site windows	1.41	0.85942	Low extent
22	TVET lecturers do not make effective use of the smart phones.	2.62	0.86953	High extent
23	TVET lecturers can create timer on the web.	2.34	0.77000	Low extent
24	TVET lecturers can copy documents from the web and save in created document.	2.78	0.84859	High extent
25	Sufficient ability to connect video output device into computers for larger image display.	2.30	0.72627	Low extent
26	TVET lecturers have the ability to operate video disc players	2.41	0.84417	Low extent
27	TVET lecturers can effectively manipulate Smart Boards & Projectors	2.23	0.87820	Low extent
28	TVET lecturers have the ability to send information through the net.	3.69	0.82713	High extent
29	TVET lecturers can comfortably open or logon in an e-mail address.	2.89	0.79133	High extent
30	TVET lecturers have the ability to create an e-mail account.	2.58	0.74260	High extent
31	TVET lecturers can successfully sign-out from the e-mail account.	2.56	0.83265	High extent
32	TVET lecturers can collaborate effectively with colleagues online.	2.20	0.87325	Low extent
33	TVET lecturers can manipulate the search engines effectively.	2.63	0.86290	High extent
34	TVET lecturers have abilities to logon to the internet through the mobile phone	2.27	0.71577	Low extent
	<b>Grand Mean</b>	<b>2.57</b>	<b>0.83593</b>	<b>High extent</b>

In Table 2 above, items 18, 21, 23, 25, 26, 27 32 and 34 indicated that the teaching staff possesses to a low extent the e-learning operating competencies registered among the items. The remaining 12 items show the academic the staff possesses high e-learning operating competencies. This has to

result in the point that the academic staff possesses to a high extent the e-learning operating competencies.

**Hypothesis**

H<sub>01</sub> There are no significant differences between the values of the mean scores of male and female lecturers in computer operating competency.

**Table 3**

Variables	Mean	SD	Number	Diff	t-cal	t-crti	Decision
Male	2.98	0.81141	36	76	2.685428	1.644854	
Female	2.43	0.82948	42				

There are no significant differences between the values of the mean scores of male and female lecturers in computer operating competency. This null hypothesis was rejected following the result on Table 3 above which shows that the t-calculated value is higher than the t- critical value. The result reveals that there is significant relationship between the male and female lecturers in computer operating competency.

**Discussion of findings**

Ezendu [4] maintained that the effort of the UBE in Nigeria is to provide adequate physical facilities in the class. She further states that Nigeria education system over the years have made dissatisfaction and quest for further improvement in the area of providing adequate and available infrastructures to push the country forward technologically. This is clearly established in the result of research question 1 which shows that the possession of e-learning facilities among TVET lecturers in tertiary institutions is to a low extent. The result in research question 1 is also in agreement with [10] and [1] who agreed that there is acute shortage of facilities for teaching and learning in Nigerian education sectors and are of the opinion that this issue must not be overlooked. Aka [1] also maintained in her major findings that deficiency in the provision and possession of the needed facility for teaching make learning a difficult thing and such is the relation to the scholars.

The result of research question 2 as shown in Table 2 above indicates extent of possession of e-learning operating competencies of the teachers is high. This indicates that the teachers have what it takes to operate the computers, work on the internet and inform the students adequately. This is in line with the result of [1] showing that there are adequate qualified teachers for the teaching duty. Though, item by item analysis of the study is stating otherwise. Looking at the result it is noticed that the teachers are deficient in some of the e-learning related competencies.



This situation is not surprising as the fact of the matter is that some of these facilities are not readily available for use in teaching by the teachers.

Following the result in Table 3, the null hypothesis was rejected. This shows that the responses of the male and female respondents do not differ significantly. There, it indicates that both genders are affected by the lack of the necessary e-learning facilities or by any other factor affecting the possession of computer operating competencies.

### **Conclusion and recommendations**

It is here to be noticed that the provision of the necessary e-learning facilities and other factors beyond the scope of this research, will create a conducive atmosphere for teaching/learning process. When such conducive atmosphere is provided; attention, interest, stimulation and motivation for proper teaching/learning processes will increase, which therefore, culminate into better academic performance of students. In this sense technology integration will improve thereby increasing cross pollination of knowledge and ideas as interactions between local and international experts becomes an easy event. There may be conflicts of interest between the same categories of stakeholders as well as across different categories. Having greater knowledge and idea on e-learning will be added advantage to the lecturers, because the 21 century students are becoming more technologically biased. It is therefore recommended that stakeholders should improve on the provision of the necessary facilities for enhancing e-learning opportunities among lecturers. It is also recommended that lecturers should attend conferences, seminars and workshops on e-learning to equip them face the challenges of the newly integrated technology and be on a vintage position to meet with the technology-hungry students.

### **Reference**

- [1] Aka, F. I. (2005). Availability and Utilization of School Facilities as Correlate of Students Academic performance in Secondary Schools in Enugu Education Zone; *Unpublished Master Degree Project; University of Nigeria Nsukka.*
- [2] Alasa M. C. (2010). Adequacy and Availability of Physical Facilities for Vocational Agricultural Education and Training - Implications for Sustainable Technological Advancement. *National Association of Teachers of Technology (NATT) 23<sup>rd</sup> Annual National Conference Uyo 2010*
- [3] Bolaji, S. (2007). Evolving Creativity in Nigeria Education: A Philosophy Paradigm Conference Presentation at 2007 Philosophy of Education Society of Australasia
- [4] Ezendu, F. O., (2000): Adequacy and Availability of Physical Facilities for the UBE –Implications for the Technology Advancement.
- [5] Federal Government of Nigeria (FGN) (2009). Report of the Vision 2020 National Technical Working Group on Education Sector. Nigerian educational Research and Development Council: Lagos Nigeria.
- [6] Federal Government of Nigeria (FGN) (2013); National Policy on Education. Nigerian educational Research and Development Council: Lagos Nigeria.
- [7] Hedge, N., & Hayward, L. (2004). Redefining roles: university e-learning contributing to lifelong learning in a networked world? *E-Learning and Digital Media*, 1(1), 128-145.
- [8] Kurtus, R. (Revised 4 April 2004) <http://www.school-for-champions.com/elearning/whatis.htm>
- [9] Okpor, Ikechukwu and Hassan Najimu (2012). Public-Private Partnership for Skill Acquisition and Vocational Technical Education Development in Nigeria; *Mediterranean Journal of Social Sciences* 3 (4).
- [10] Olaolesu, and Olanrewaju. I.. (2001). Education in Tears as Facilities Collapse. *Corrlet June* , . P. 23.
- [11] Yusuf, M. O. and Yusuf, H. T. (2009); Educational reforms in Nigeria: The potentials of information and communication technology (ICT): *Educational Research and Review* Vol. 4 (5), pp. 225-230, May, 2009.
- [12] Ueno, M (2004), 'E-learning in technical and vocational education and training', *Journal for Vocational and Technical Education and Training*, pp.53-65. "