

Availability and Utilization of Ict Facilities for Teaching and Learning of Vocational and Technical Education in Yobe State Technical Colleges.

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ABSTRACT : *This study examines the availability and utilization, the benefits and challenges of ICT facilities in teaching and learning vocational and technical education in Yobe state technical college. Descriptive survey design was used for the study. The study revealed that ICT facilities were lacking in technical colleges. Teachers and Students exposure to ICT facilities was low. The study revealed that some of the benefits of using ICT in technical college include making teaching and learning interesting; helping teacher to be up to date in enhancing the quality of work of both teachers and students. Despite these benefits, the study revealed some of the challenges facing ICT as: irregular power supply; inadequate computer literate teachers; inadequate ICT facilities. It was therefore, recommended that Yobe state government should increase the funding of education sector to cater for ICT programme in technical colleges and there should be periodic training for teachers on ICT computer skills acquisition.*

I. INTRODUCTION

Information and Communication Technologies (ICT) have become key tools and had a revolutionary impact on how we see the world and how we live. Today, the place of ICTs in education and the world in general cannot be undermined. Modern day businesses are conducted and facilitated through the use of telephones, fax machines and computer communication networks through the internet. The phenomenon has given birth to the contemporary e-commerce, e-government, e-machine, e-banking and e-education among others.

According to Bamidele (2006), ICT is a revolution that involves the use of computers, internet and other telecommunication technology in every aspect of human endeavour. Ozoji in Jimoh (2007) defined ICT as the handling and processing of information (text, images, graphs, instruction, etc) for use, by means of electronic and communication devices such as computers, cameras, telephone. Similarly, Ofodu (2007) also define ICT as electronic or computerized devices, assisted by human and interactive materials that can be used for a wide range of teaching and learning as well as for personal use. From these definitions, ICT could be defined as processing and sharing of information using all kinds of technologies for the manipulation and communication of information.

Aribasala (2006), posited that ICT are increasingly playing an important role in organizations and in society's ability to produce, access, adopt and apply information. They are however being heralded as the tools for the post-industrial age and the foundations for a knowledge economy due to their ability to facilitate the transfer and acquisition of knowledge. Stressing the importance of the use of ICT in schools, Olorunsola (2007), posited that through ICT, some educational needs have been met; it changes the needs of education as well as the potential processes.

Looking at the role of education in the national building and the population explosion in technical colleges these days, the use ICT in the teaching and learning process becomes imperative. This is because its adoption by teachers will enhance effective teaching. Issues like good course organization, effective classroom management, self-study collaborative learning, tax oriented activities, and effective communication between the

actors of teaching-learning process and research activities will be enhanced by the use of ICT based technology. Teaching and learning has gone beyond the teacher standing in front of a group of pupils and disseminating information to them without the students' adequate participation (Ajayi, 2008).

The various ICT facilities used in the teaching and learning process in technical colleges according to Babajide and Bolaji (2003), Bryers (2004), Bamidele (2006) and Ofodu (2007) include; radio, television, computers, overhead projectors, optical fibres, fax machines, CD-Rom, internet, electronic notice board, slides, digital multimedia, video/VCD machine and so on. It appears some of these facilities are not sufficiently provided for teaching and learning process in the technical colleges. This might account for why teachers are not making use of them in their teaching. According to Ajayi (2008) the use of these facilities involves various methods which include systematized feedback system, computer-based operation/network, video conferencing and audio conferencing; internet/worldwide websites and computer assisted instruction. It should be stressed that the effective use of the various methods of ICT in teaching and learning depends on the availability of these facilities and teachers competences in using them.

There are developments in the Nigerian education sector which indicate some level of ICT application in technical colleges teaching and learning processes. The Federal Government of Nigeria, in the National Policy on Education (Federal Republic of Nigeria, 2004), recognizes the prominent role of ICTs in the modern world, and has integrated ICTs in to education in Nigeria. To actualize the goal, the National Policy on Education (2004) states that, government will provide basic infrastructure and training at the primary level, at the junior secondary level, computer education has been made a pre-vocational elective and is a vocational elective at the senior secondary level.

Vocational and technical education as a discipline requires adequate instructional facilities such as the ICT so as to make teaching and learning more effective. Use of ICT will also simplify abstract concepts through relevant examples by using internet facilities. It is evident that we live in a time of rapid technological change which modernized every aspect of our lives; be it social, physical and intellectual. These technological changes also affected the way we teach and learn.

To improve technical education is essential to the creation of effective human capital in any country (Evoh, 2007). The need for ICT in technical colleges cannot be overemphasized in this technology-driven age, every one requires ICT competence in order to gain and share information. Organizations are finding it's very necessary to train and retrain their employees to establish or increase their knowledge of computer and other ICT facilities (Adomi and Anie, 2006; Tyler, 1998). This calls for early acquisition of ICT skills by the technical colleges students.

The ability to use computers effectively has become an essential part of every one's education. Skills such as book keeping, clerical and administrative work, and science/technological disciplines now constitute a separate sets of computerized practices that form the core IT skills package; spreadsheets, word processors, database, CorelDraw, etc. (Raffel and Whitworth) (2002). The demand for computer/ICT literacy is increasing because employees realize that computer can be a threat to their jobs, and the only way to enhance job security is to become computer literate with the high demand for computer literacy, the teaching and learning of these skills is a concern among professionals (Ochroye, n.d.). ICT application will prove beneficial in improving educational system and giving students a better education. A technologically advanced workforce will lead to ICT growth in Yobe State technical colleges, with the potential to improve educational performance, telecommunication, media communication and skilled ICT professionals who will be well-equipped to solve ICT problems in the state and the country at large. The government said it will provide necessary infrastructure and training for the integration of ICTs in technical colleges system.

Okebukola, (1997), cited by Aduwa-Ogiegbaen and Myamu, (2005), concludes that computer is not part of classroom technology in more than ninety (90) percent of Nigerian public schools. This implies that the chalkboard and textbook continues to dominate classroom activities in most Nigerian secondary schools.

The Federal Ministry of Education has launched an ICT-driven project known as school net www.snnng.org (Federal Republic of Nigeria, 2006; Adomi 2005; Okebukola, 2004), which was intended to equip all schools in Nigeria with computers and communication technologies. In June 2003, at the African summit of the world economic forum held in Durban, South Africa, the New Partnership for African Development (NEPAD) launched the e-schools, initiative, intended to equip all African high schools with ICT equipment including computers, radio and television sets, phones and fax machines, communication equipment, scanners, digital cameras and copiers among other things. It is meant to connect African students to the internet and to impart ICT skills to young Africans in the primary, secondary and technical colleges, to harness ICT to improve, enrich, and expand education in African countries (Aginam, 2006).

Various ICT tools are used in teaching and learning process in technical colleges. For this research, as an example, Computer Aided Instruction (CAI) was used as an example of ICT tools used in teaching.

Computer Aided Instruction (CAI) is a self-learning technique, usually offline/online, involving integration of the student with programmed instructional materials. It's an interactive instruction technique where a computer is used to present the instructional material and monitor the learning that takes place. Opportunities provided by CAI in the classroom are in the area of drill and practice, tutorials, simulations, demonstrations, designing, data collection and retrieval, analysis of games, which are essential competences for technical teachers.

As technology improves, educational capability increases correspondingly. The emergence of inexpensive computer technology and mass storage media, including optical video disc, compact disc, has given instructional technologist (teachers) better tool with which to work. Computer compact disc and flash memory are used to store large amount of information (data), such as encyclopedias or motion pictures. A teacher who is interested in a particular topic-say semi-conductor devices, can first scan an electronic encyclopedia, and then view at the touch of a button. All these can be achieved through the use of Computer Aided Instruction.

According to Ajayi (2008), the effective utilization of ICT in teaching and learning depends on the availability of these facilities and teachers competence in using them. Observation has shown that there are no functional ICT facilities in most technical colleges in Yobe state and this hampers the teacher ability to use them for teaching and learning. Also lack of adequate computer literate teachers, irregular power supply and inadequate funding are another set of obstacle militating against effective utilization of ICT facilities in teaching and learning of vocational and technical education in Yobe state technical colleges. Therefore there is need to address such problems by providing adequate ICT facilities and training needs of the teachers to effectively utilize it in teaching and learning process.

Research Question

The study answered the following questions:

- i. To what level are the ICT facilities available for teaching and learning of Vocational and technical education in Yobe state technical colleges?
- ii. To what level are the teachers and students in technical colleges use ICT facilities in teaching-learning of vocational and technical education?
- iii. What are the perceived benefits of ICT in teaching and learning in technical colleges?
- iv. What are the challenges facing ICT facilities in technical colleges in Yobe state?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

- HO₁:** There is no significant difference in ICT facilities available for teaching and learning of Vocational and technical education in Yobe state technical colleges.
- HO₂:** There is no significant difference in the teachers and students in technical colleges use ICT facilities in teaching-learning of vocational and technical education.
- HO₃:** There is no significant difference in the perceived benefits of ICT in teaching and learning in technical colleges.
- HO₄:** There is no significant difference in the challenges facing ICT facilities in technical colleges in Yobe state.

Research Design

The study employed descriptive survey design. According to Sambo (2005), a survey research design is one in which group of people or items are studied by collecting and analyzing data from only a few people or items considered being representative of the entire group.

The instrument for data collection is a self-designed questionnaire tagged "ICT in technical colleges, (ICTTC)". The instrument was validated by research experts in both Technical Education Department of Federal College of Education (Technical) Potiskum and It has four items rated scale i.e. Strongly Agreed = (SA), Agreed = (A), Strongly Disagreed (SD), Disagreed (D)

The questionnaire was administered to the respondents through personal contact which allow for explanation if the need arises. The completed instrument was collected back by the researcher. Data collected was analyzed using mean and standard deviation.

II. RESULT AND DISCUSSION

Research Question 1:

To what level are ICT facilities available for teaching and learning of vocational and technical education in Yobe state technical colleges?

Table 1: mean response of technical teachers/students on availability of ICT facilities.

S/N	Item Statement	Mean	Remarks
1.	There are enough computers to teach students.	2.35	Disagreed
2.	Television sets are available for teaching students.	2.36	Disagreed
3.	There are projectors for teaching students.	2.98	Agreed
4.	The school is connected to the internet.	2.82	Agreed
5.	Disc player is available for teaching students.	2.72	Agreed
6.	There are film strips for teaching students.	2.15	Disagreed
7.	CCTV are available for teaching students.	2.21	Disagreed
Grand Mean		2.51	

Table one showed the response obtained from teachers/students on availability of ICT facilities in technical colleges. The respondents agreed that facilities like projectors, disc player and internet connectivity were made available. While facilities like computers, film strips, and CCTV are not adequately available because their mean response is less than 2.50 which is the cutoff point. Based on the calculated grand mean of 2.51 obtained, it showed that the respondents agreed that ICT facilities are to some extent available.

Research Question 2:

To what level are teachers and students in technical colleges exposed to the use of ICT facilities?

Table 2: Mean responses of teachers /students on their exposure to ICT

S/N	Item Statement	Mean	Remarks
1.	There are functional ICT facilities owned by the school Cafe.	3.13	Agreed
2.	Teachers are exposed to the use of ICT facilities in teaching students.	2.41	Disagreed
3.	Teachers use computer to teach technical education to students.	2.41	Disagreed
4.	Students are given opportunities to use ICT facilities in the class/laboratories.	1.96	Disagreed
5.	Training is organized for teachers on the use of ICT facilities.	2.21	Disagreed
6.	Training is organized for student on the use of ICT facilities.	2.09	Disagreed
Grand Mean		2.30	

Table 2 showed that the mean response obtained from teacher/students on exposure to ICT facilities in vocational technical colleges in Yobe state. The respondents agreed with item 1 because the mean response 3.13 which signifies that there are functional ICT facilities, but disagreed with item 2- 6 because the mean responses are less than 2.5. The grand mean signifies that teachers/students were not exposed to ICT facilities.

Research Question 3:

What are the perceived benefits of ICT facilities in technical colleges?

Table 3: Mean response of student/teachers on benefits of ICT facilities in technical colleges.

S/N	Item statement	Mean	Remarks
1.	ICT helps in making teaching-learning more effective.	2.89	Agreed
2.	ICT enhances quality of work of both teacher/students	2.86	Agreed
3.	ICT makes teachers to be up to date in their various disciplines.	3.01	Agreed
4.	ICT enhances efficiency of workers.	2.91	Agreed
5.	ICT helps teachers to share information with colleagues in other parts of the country.	2.81	Agreed
6.	ICT helps student to share information with colleagues in other parts of the country.	2.78	Agreed
Grand Mean		2.88	

Table 3 showed the mean responses of students/teachers on the perceived benefits of ICT facilities in secondary schools of Potiskum local government. The respondents agreed with all the items because none of the mean response is below the cutoff point of 2.50 and the grand mean is 2.88.

Research Question 4:

What are the challenges facing ICT facilities in technical colleges in Yobe?

Table 4: Mean response of students/teachers on the challenges facing ICT facilities in technical colleges.

S/N	Item statement	Mean	Remarks
1.	Moat secondary schools lack computer literate teachers.	3.24	Agreed
2.	There is lack of ICT laboratories in the schools.	2.99	Agreed
3.	Irregular power supply hinders the use of ICT facilities where they available.	3.53	Agreed
4.	The cost of purchasing computers is high for schools.	3.52	Agreed

5.	There are inadequate facilities like computer to support the full application of ICT.	3.53	Agreed
6.	Lack of adequate funds hinders school from embracing ICT.	3.44	Disagreed
	Grand Mean	3.38	

Table 4 showed the mean response of students/teachers on the challenges facing ICT facilities in secondary schools of Potiskum local government. The respondents agreed with all the items 1-6 of table 4 because the mean responses of each item is great than the cutoff point of 2.50, which showed the grand mean of 3.88 to indicates that the respondents agreed with the listed items as the major challenges facing ICT facilities.

Major Findings of the study.

Findings of the study are presented according to the purpose of the study and research questions. From the results obtained, respondents agreed that;

- (1) ICT facilities such as computer, television sets, CCTV, etc. are not adequately available in secondary schools.
- (2) Teachers and students level of exposure to the use of ICT in secondary schools is inadequate.
- (3) The perceived benefits of using ICT in schools include making teaching and learning more effective, enhancing the quality of work of both teacher and students; help teachers to be up-to-date, etc.
- (4) Irregular power supply is a challenge facing the application of ICT in secondary schools, all the schools in the sampled area lacks adequate number of computer literate teachers.

III. CONCLUSION

It is clear that the education sector of Yobe state and the country at large has no smooth running of education system. In fact, all levels of education are plagued with catalogue of problems ranging from underfunding to mismanagement. If the educational sector of our schools throughout the state is to maintain maximum standards, it should be provided with adequate funds, infrastructural facilities in term of modern classrooms equipped with electronic computer system which are connected to the internet and highly qualified personnel that can effectively, utilize these resources.

Finally, our secondary school students should be given the best in education with modern facilities which will in turn draw out the best in every student and ensure the utility of these students to the development of Potiskum, Yobe state, and the country at large.

5.5 Limitation of the Study

Limitations of the study were:

- (1) Language barrier i.e. inability of the students to comprehend the concepts in some of the items in the questionnaire. This calls for translation into understandable languages.
- (2) The researcher faces some setbacks in distribution and retrieval of the questionnaires due to security situations characterized by security barricades all over the township due frequent attack by the sect called Boko Haram.

5.6 Recommendation

Based on the investigations carried out on topic, the following recommendations are made:

- (1) ICT equipment and facilities should be made available to all technical colleges.
- (2) Government should encourage and put in place policies to attract international codes and nongovernmental organizations (NGOs) to invest on ICT related projects in secondary schools.
- (3) Teachers that are not ICT compliance should be encouraged by the secondary school administrators to study further in order to meet up with new demand of ICT literate teacher.
- (4) Attention should be paid to the deforming state of facilities in our secondary school. Also ICT system and facilities like laboratory should be provided in secondary school in Yobe state.

REFERENCES

- [1]. Adinam, E. (2006). Nepad scores students' ICT education Africa low. Vanguard. Available: <http://www.Vanguardngr.com/articles/2002/features/technology/tec527092006.html>.
- [2]. Adonni, EE., & Anie, S.O. (2006). An assesment of computer literarcy skills of professionals in Nigerian university libraries library H.Tech News 23(2):10-14.
- [3]. Adowa-Ogiegabab, S.E; & Iyamu, E.O.S. (2005). Using information and communication technology in secondary schools in Nigeria. Educational technology & society 8 (1), 104-112

- [4]. AICTA (2001), Development of Information and Communication technology (ICT) in Education Retrieved in 21st August 2004 from <http://www/CCTD/6/R/index.Htm>.
- [5]. Ajayi, I.A. (2008). Towards effective use of information and communication technology for teaching in Nigeria colleges of education. *Asian J. mf.techno* 7(5): 210-214.
- [6]. Aribasala, J.O. (2006). Role of information and communication technology in globalization in Agagu A.A. (ed). *Information and community technology and computer applications*. Abuja: Panof press pp. 68-76.
- [7]. Babajide, VFT and Bolaji, O.A. (2003). Perception of lectures and service teachers towards the use of communication media in teaching pore and applied science related disciple 44th Annual STAN conference proceedings PP. 33-36.
- [8]. Bamidele, S.O. (2006). Development of modern ICT and internet system. In Agagu A.A. (ed). *Information and communication technology and computer applications*. Abuja; pamof pree pp. 1-3.
- [9]. Evoh, C.J. (2007). Policy networks and the transformation of secondary education through ICTs in Africa: the prospects and challenges of the NEPAD E-Schools initiative. *International journal of Education and Development using information and communication technology (IJEDICT)* 3 (1), 64-84. Available: <http://ijedict.dec.uwi.edu/include/getdoc.php?id=2198> & article =272 & mode =pdf
- [10]. Federal Republic of Nigeria (2006). *National Policy on Education*. 4th ed. Lagos: Nigerian educational research and development council.
- [11]. Olorunsola, E.O. (2007). *Information communication technology. A tool for effective management in Nigerian Universities*. *Educ. Focosi* (1): 80-87.
- [12]. Raffael, P. & Whitworth, A. (2002). *Information fluency: critically examining ICT education now library world* 103 (1182/1183): 427-35.
- [13]. World Bank (2002). *Information & Communication Technologies. A world Bank group strategy*; Washington, D.C. The world Bank Group.