Information Communication and Technology (ICT) in Teacher Education: A veritable tool for sustainable development in Nigeria.

BY

UGWUANYA OLUCHI THERESA

DEPARTMENT OF COMPUTER SCIENCE
FCT COLLEGE OF EDUCATION, ZUBA, ABUJA, NIGERIA.
Tel: +234(0)8038253674, E-mail: theresaoluchi@yahoo.co.uk

Abstract

Recent development and trends in the world of Information Communication and Technology (ICT) have brought about tremendous changes in the world’s ways of operation; it has also made great impact in the world of education both in the content and delivery of educational services. Information Communication and Technology is a term referring to Technologies that are used for collecting, storing, editing and passing information in various forms. Its use has introduced originality in learning process thereby making it very necessary to change teaching from teacher centered to learner centered. This paper therefore, discusses the inclusion of ICT in Teacher Education as a veritable tool for sustainable development in Nigeria.

Introduction

The United National Educational Social and Cultural Organization (UNESCO) has shown its concern in ensuring that Information Communication and Technology (ICT) does not become a source of further inequality with the already disparity in the technology world. It should be noted that access to computers, internet and the capacity to make use of Information Communication and Technology (ICT) are related to factors such a socio-economic status, ethnic background, educational background etc. faced with this situation, policy makers in many countries have equipped their schools with personal computers (PCs) and trained teachers in their use to prepare students for future demands and challenges.

Information Communication and Technology (ICT) refers to technologies that are used for collecting, storing, editing and passing information in various forms. In other words, it is related to the processing and disseminating of information. The role of ICT in the development of a nation cannot be in dispute, since the recent development and changes have so far made great impact on people who have known and are using it. However, lack of qualified ICT compliant teachers has posed a great problem in the educational sector in Nigeria as far as ICT is concerned.

In spite of government’s commendable effort to put in place a National Policy on Education, providing science, computer and technology equipment in schools, it is sad to note that many Nigerian teachers and students are still ignorant of the use of ICT in teaching and learning process. The hopes and aspirations of Nigerians may remain dreams which may never come true if decisive and urgent steps are not taken in attacking this worrisome state of ICT development in Nigerian schools.

Teaching:

This is the activity in which the teacher is engaged in imparting knowledge to the learner. Effiong and Edo (2000), opines that teaching acts as national deed, performed in accordance with professional principles. Thompson (1972), sees teaching in terms of the intention of producing learning while Imogie (1999), sees teaching as an essential means of guiding students in securing the amount and quality experience which will promote the optimum development of their potentials as human beings. It could therefore, be said that teaching is an art that involves
supplying the learner with experiences such as skill, facts and knowledge needed for use in future through direction and guidance.

**Concept of Teacher Education.**

According to Afe (1999), Teacher Education is the component of any educational system charged with the education and training of teachers to acquire the competences and skill of teaching for the improvement in quality of teachers for the school system. Looking from the point of national development, Agogo (2004), looks at teacher education as a process of instilling professional competences relevant to the national development in our would-be teachers, our economic growth and nation building. It should be noted that teacher education extends to the preparation of administrators, guidance counselors, supervisors and personnel needed in achieving nation building.

Form the above definitions, Teacher Education could be seen as an activity which involves bringing in professionalism to teaching through knowledge impartation, skill acquisition, attitudes, aptitudes, adding desirable values in the teaching profession and as well molding destinies in society as a whole.

The Federal Government of Nigeria showed a great concern when it stated in the National Policy on Education (1998) that Teacher Education programme will continue to be given major emphasis in all educational planning because, no education system can rise above the quality of its teacher.

The National Policy on Education (1998:38) stated that the objectives of Teacher Education shall be:

- To produce highly motivated, conscientious and efficient classroom teacher for all level of our educational system.
- To encourage further, the spirit of equity and creativity in teachers.
- To help teachers to fit into the social life of the community and society at large and to enhance their commitment to national objectives.
- To provide teachers with the intellectual and professional background adequate for their assignment and to make them adoptable to any change situation not only in the life of their country, but, in the wider world.
- To enhance teachers commitment to teaching profession.

**INFORMATION COMMUNICATION AND TECHNOLOGY**

As the name implies, ICT is three-in-one word that has the gateway to the modern information skills.

Looking at the name ICT differently:

**Information:** According to Oxford Advanced Learner’s Dictionary of Current English, it is said to be news or knowledge given. Technically, information means data or facts that have been processed into a meaningful and useful form to the recipient. It constitutes real facts which can help individual or organization in making better, assertive and successful decision.

**Communication:** This is the source and way of expressing thoughts and imaginations in such a way that could be learned and understood by the learner. Communication is seen by Njoku (2006), referring to Ijefkins and Ugboaja (1986) as the process of sending and receiving information.

**Technology:** On its own, according to the National Policy for information technology (2001, P. IV) is computer, ancillary equipment, software and firmware (hardware) and smaller procedure services (including support services) and related resource of any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage manipulation, management, movement, transmission or reception of data or information.
In the context of education, ICT could be said to be technologies for collecting, storing, processing, communicating and delivering information. Mbakwem (2006), sees ICT as a process of creation, processing, storage, retrieval and dissemination of information and data using computer and telecommunication.

ICT involves the use of computer, internet electronic mail (e-mail), satellite, telecommunication, global system of mobile (GSM) and Global Packet Radio Services (GPRS), world wide website (www) etc.

ICT serves as a teaching tool for computer use itself. These include word processing analysis, database as well as graphics (audio and video) presentation and application.

The Federal Government in December, 1987, inaugurated the National Computer Policy Committee to plan Nigeria’s policy on computer education with the following reasons:-

- To catch up with the rest of the world.
- To be ready to enter into the 21st century of high technology where computer will undoubtedly be at the center of it all.
- To be able to land on jobs demanding computer knowledge.

**Importance of Information Communication and Technology (ICT) to the Teacher.**

Teacher and Information cannot be separated from one another. Hence, one can rightly say that the duty of a teacher is information tasking. Ukaeje (1995) notes that, “Education unlocks the door of modernization, but it is the teacher who holds the key to the door”. In the same vein, if we say the child is the center of the educational system, the teacher is the pivot of the education process. In the context of ICT, the teacher needs to be able to transform the classrooms from places of a static one-way flow of information from teacher to the student into a dynamic student-centered learning environment in which learners interact with peers in teaching, both in their own classroom as well as others through the internet and other ICTs.

ICT can be used for direct teaching. This happens by the use of computer in teaching by the teacher with the use of a computer programme called Computer Assisted Instruction (CAI) and Computer Aided Learning (CAL). These are modern methods of using computer as mediating factor in educational process and they are used synonymously. It is a direct two-way communication between the learner and the programmed instructional material stored in the computer. Here, the computer becomes a medium of instruction. CAL also is the use of computer to mediate in the flow of information in learning process. Recent trends have brought about new packages of CAI which has been designed to feature along with Classroom studies, Lectures, Tutorials, Library and Laboratory work as module of individualized curriculum. Internet connectivity is another aspect of ICT which the teacher can also use in carrying out his work. The World Wide Web that consist of large number of networked computers (called host) which serves as the server (a programme which distributes document) or a client (a programme retrieves documents and facilitates their reading) can also be used by the teacher as a source of information. The teacher can also send instruction to the student via Electronic mail (E-mail) and they can also answer and send back to the teacher.

It should therefore, be noted that the importance of ICT cannot be ignored in the sense that it does not only influence what the teacher teaches, but it gives a great deal as to how the teacher teaches. The introduction of the personal computers and lap tops as essential tools for the work place in the art of teaching and other administrative and research works done by the teacher offers the teacher a wide range of approaches and strategies to be applied in the course of teaching. It also offers a good aid in the development of application to enhancing curriculum. The teacher with the use of ICT, explores the use of new working tools, also has access to teaching and learning resources through the internet and Local Area Network (LAN).

**Impact of ICT on teaching Strategies**
Teaching strategies differs to meet the need and situation of individuals and classes. Thus, ICT with the help of the interactive package could help in:

- Holding a class/group discussion before engaging in a task.
- Fostering a high-order skill in communication as the students are made to be involved in discussion before engaging on the task.
- Review of task process or end of task, this will provide feedback to pupil on how they have performed.
- Feeding the teacher with every information needed, in case there is a failure of power, a well prepared teacher will be able to deal with basic problem

**Problems Facing Teachers in Regards to ICT**

Identification of a problem goes a long way in solving the problem. However, the importance of ICT will be determined by the ability of teachers to use it to achieve the purpose which it is meant for. The use of ICT for development of Teacher Education in Nigeria depends on the Socio- economic and technological factor which should be considered when providing opportunities for using ICT within institutions. Thus, Education is a veritable tool to knowledge economy and we need educated and skilled labour force to achieve it.

Lack of the Knowledge of ICT is a major problem facing the present day teacher due to the fact that there is no proper in-service training on ICT.

The few modern teachers who are willing to acquire ICT knowledge have no access to computers.

Lack of funding of teacher education is another major factor facing teachers as there might not be adequate equipment for learning.

**Recommendations**

Teacher Education Institution’s Curriculum should be developed and funded to ensure that teaching and learning process within teacher education / in-service training programs are well packaged to prepare future teachers for the use of ICT as this will bring a good end-product on the students.

Adequate number of computers should be made available to the teachers in school as well as instructors to guide them.

There is need for every teacher to own personal computer for easy accessibility to educational information on the internet.

Awareness should be created as well as motivation of teachers through workshops/seminars/conferences on a regular basis in order to develop their interest.

Fluctuations in the power sector is a serious problem, therefore there is need for constant power supply in all institutions as it is a condition for any form of computerization and accessibility of information as far as ICT is concerned.

It is time for teachers to rise up to the challenges of ICT and attack it with all courage and boldness in order to meet up with the latest Global Trend.

The knowledge and use of computer should be made compulsory and criteria for the recruitment of teachers.

**Conclusion**

It is obvious that the traditional method of Teaching has become inadequate and is becoming obsolete as the days go by; as the world is moving from black board or chalkboard to projector. It should be noted that for a teacher to make
great impact on the students, he/she should have the technical know-how of the equipment and the subject and a teacher who cannot operate computer cannot boast of teaching it well and when a student is well trained in the use of computer, it will

- Reduce the number of computer illiteracy in Nigeria.
- Encourage a secondary school leaver to be self employed or get a job that could sustain him or her after school thereby reducing on employment.
- Elevate the domestic workforce in Nigeria.
- Transform the Nation’s economy positively.

Teachers really have to rise up to the challenges of changes in technology. The world is coming to an era where every activity is going virtually electronic. Banking, trading, education, conferences etc. are now being heavily transacted trough ICT. Teacher and teacher education therefore, should not be left out, it is not a game of choice or top up, it is now a life style that promotes all aspect of education, socio-political, economic and cultural life of a nation. It is indeed great to say that the inclusion and funding of ICT in teacher education curriculum will serve as a veritable tool for sustainable development in Nigeria.

References