INFORMATION AND COMMUNICATION TECHNOLOGY IN NIGERIAN EDUCATION SYSTEM: POSSIBILITIES AND CHALLENGES

Augustine agbi
Department of office technology & management Edo state polytechnic, usen
P. M. B. 1104, Benin city

Brief academic background of Author
Augustine Agbi holds N.C.E. in Business Education, B. Sc. (Ed) Business Education and M. Sc. in Business Education. He is currently lecturing in Office Technology and Management Department in Edo State Polytechnic, Usen.

Abstract
This paper examines the possibilities and challenges of information and communication technology in Nigerian education system. A major tenet of the policies that support the introduction of information and communication technology (ICT) in education is that it can become catalysts for change. Despite the obvious benefits of ICT in education, observation reveals that the extent to which the educators and learners utilize ICT facilities in their classroom instruction in Nigeria is low. The paper examines the concept of information and communication technology, benefits of ICT integration in educational system and challenges of ICT integration in Nigerian educational system. Recommendations include In–service training programmes such as seminar, in–service course, conferences and workshops on the use and operation of new learning technologies should be made compulsory for all practicing educators and lecturers in tertiary institutions to enable them develop up-to-date ICT competences; educators should utilize ICT facilities in their teaching to teach students courses that require computer skills so that the students will have a complete mastery of ICT as well as acquire competences to utilize it, among others.

Introduction
For years now, fast changes have been taking place in all facets of human life both in public and private sectors. This is as result of technological advancement. Every organization in today's business world, be it government industry or other human endeavours, requires facts and accurate information for quick decision making. Information and Communication Technologies (ICTs) have impacted greatly on teaching, learning, research, and school management in a number of ways. When ICTs are employed in education given the right condition, they can accelerate, enrich, and deepen basic skills in reading, writing, mathematics and the sciences, and they can motivate and engage students to learn as they become more independent and responsible for their learning. Information and communication technologies, especially network technologies have been found to encourage active learning, support innovative teaching, reduce the isolation of teachers, and encourage teachers and students to become more active researchers and learners. They can
also strengthen teaching through the provision of powerful tools to teachers.

ICT has been embraced all over the world due to its importance. Governments all over the world are harnessing the rich potentials of ICT and are using it as a tool for educational developments, economic recovery and wealth creation. It is very useful in tackling the ills and problems facing the educational system. Today, no nation can attain its heights educationally, economically and socially without ICT. It has also increased the ability to perform ‘impossible’ experiments’ by using simulations, as well as the possibility for students to have individual learning experiences within a topic, rather than everybody having to do the same thing at the same time at the same pace. More able students can be given more challenging work while less able students can access remedial lessons.

Despite the obvious benefits of ICT in education, observation reveals that the extent to which the educators and learners utilize ICT facilities in their classroom instruction in Nigeria is low. Consequently this paper focuses on establishing the level of availability and utilization of ICT facilities in Nigerian schools.

The concept of Information and Communication Technology

Information and Communication Technology include any communication device or application encompassing radio, television, cellular phones, computer and its network, hardware and software, satellite system, etc., as well as the various services and application associated with each of these such as videoconferencing and distance learning. The Economic and social Commission for Asia and the Pacific (ESCAP) 2009) define ICT as referring to techniques people use to share, distribute, gather, information and communicate such information through computers and computer network. ICT is thus concerned with using technology to gather and distribute information. Such information can be accessed by the intended user from any part of the world. They are electronic technologies used for accessing, processing, gathering, manipulating and presenting or communicating information. It encompasses software, hardware, and even the connectivity (Anderson & Baskin, 2002).

Benefits of ICT integration in educational system

In Nigerian education system, relatively little of ICT potentials have been harnessed in spite of its significant impact on traditional school system. They have provided innovation for teaching and learning, and have engendered advances in research about how people learn, thereby bringing about rethinking the structure of education. It is also widely acknowledged that ICT can be used to improve the quality of teaching and learning in the school system (Yusuf 2000). The prevalence and rapid development of ICT have transformed human society from the information age to the knowledge age (Gailbreath, 2000). It is evident that ICT incorporates and extends some of the power of reading, writing and arithmetic. It facilitates the automation of many mental activities. ICT has proven to be a valuable aid to solve problems and accomplishing task in education, business, industry, science and many other human endeavours.

Today, ICT provides knowledge based system that includes knowledge acquisition, knowledge incubation, knowledge amplification and knowledge dissemination. It is evident that information is a key resource which permeates teaching, learning, research and publishing. To this end, Robinson (1991) in Okeh & Opone (2007) stated that the use of new information technology can serve three
main functions in the national educational growth. These are:

a. deliver all or part of the learning experiences to learners;
b. supplement and extend content provided in different forms other than printed (hard copy); and
c. provide a two-way channel of communication for exchange between tutors and students with their peers for feedback or for learning, problem-solving, advice, debate, and reports.

Other ways in which ICT can be used in education as stated by Ikelegbe (2006) in Okeh & Opone (2007) include:

i. Supporting conventional classroom work; the teacher could ask his/her students to use ICT approach;

ii. Helping in the design and development of learning materials. A lot of materials can be downloaded from the Internet. Such materials must however be adapted to suit the specific instructional objectives.

iii. Accessing electronic teaching materials such as books and journals. These can be accessed, stored and analyzed by the use of ICT.

iv. Accessing virtual library “stocks” electronic versions of books and journals.

v. Giving or providing access to the world of resources especially in electronic form.

vi. Playing a key role in educational administration. Students’ data, personnel administration, purchasing and supplies, advertisement, etc can be handled with ease using ICT.

vii. Facilitating independent study and individual instruction especially on the open distance-learning programme.

viii. Making learning more vivid and engaging.

ix. Assisting the teacher in assessment and testing.

x. Bringing a permanent solution to brain drain problems as we now live in a global village.

Challenges of ICT Integration in Nigerian educational system

The world, outside the school system has been able to achieve much in the area of ICT integration in their daily routine. The digital divide between Africa and the developed world is well established in literature. Nigeria ranks 15th, even in Africa in Internet host at 1998 (Hall, 1998), and deprivation in ICT use persists in Nigeria when compared with global standard. Most teachers, technologists and students who are supposed to use the ICT tools are ignorant of what they are and their uses. Previous researches on ICT have focused on the hardware, software, professional development and support services. Globally, ICTs implementation in schools has not been smooth sailing. Researchers have been concerned about the barriers that have militated against effective integration of ICTs in education.

Research findings on barriers to ICT application in other levels of education have provided similar results. Some of the findings of these studies are enumerated as follow. First, is the lack of teacher’s confidence and teacher’s computer anxiety (BECTA, 2004). Second, lack of teacher’s competency due to lack of time for training, lack of pedagogical training, lack of skills training, and lack of ICTs focus in initial teacher training (BECTA, 2004; Yusuf 2005). Third, there is lack of access to resources...
due to lack of hardware, poor organization of resources, poor quality hardware, inappropriate software, and lack of personal access for teachers. Fourth, is lack of time to use ICTs as a result of school time table (BECTA 2004). Fifth, there are technical problems which encompass lack of technical support, fear of things going wrong, lack of telecommunication and other infrastructure, and unreliability of electricity (BECTA, 2004). Others include lack of or ineffective technological leadership in schools, lack of clear vision, lack of incentives for teachers, lack of teachers’ participation in planning for ICT integration (Spodark, 2003). Since these barriers are known it is important to device strategies that will provide enabling environment for ICTs use in Nigerian Schools.

**CONCLUSION**

Education is the foundation stone of sustainable development. It contributes to building a modern and flourishing society and empowers communities and citizens to fully participate in development and prosperity. In the developing world, Nigeria inclusive, the essential building blocks for educational systems are suffering from deficiencies. ICT can help respond to these challenges and create the environment that is conducive for effective and quality educational systems. Consequently, ICT-supported education should be high on the agenda of the Nigerian government. ICTs should be integrated in our national educational systems at all levels and should serve as a major wake-up call to Nigerian government and stakeholders working on the educational challenges in the country to stop talking and start acting.

**Recommendations**

Adequate funding is necessary for education in general and development of ICT in particular. To this end, government should increase funding for the entire educational sector.

In addition to improved funding by the government, government needs to implement policies which will draw the private sector into ICT development in its education. Government should work with the private sector and civil society to ensure affordable and sustainable access to ICT infrastructure.

Teachers should realize that a lot of changes are going on in education and the world. They should make efforts to develop themselves towards the changes as far as information and communication technology is concerned. This will help them to develop professionally, keep abreast of modern technology, improve academic performance of students and bridge the gap that exists between what is taught in school and with what is obtainable in business world.

Every educator should arrange with business organizations where their students should go and see things as they are happening in the offices, business and labour market. This will enable the students to practice what they have been learning in the school environment.

Educators should utilize ICT facilities in their teaching to teach students courses that require computer skills so that the students will have a complete mastery of ICT as well as acquire competences to utilize it.

In–service training programmes such as seminar, in–service course, conferences and workshops on the use and operation of new learning technologies should be made compulsory for all practicing educators and lecturers in
tertiary institutions to enable them develop up-to-date ICT competences.

References


