

Information Communication Technology as a Tool for Improving Nigerian Education at all Levels: A Theoretical Perceptive

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ABSTRACT

This paper is a theoretical method that investigates information and communication technology as a tool for improving Nigerian education at all levels. The rise of information and communication technology (ICT) has become very paramount in our Nigerian education system at all levels. It touches every aspect of educational development in Nigeria. The importance and integration of ICT equipment and facilities in teaching and learning are indispensable in Nigeria schools. The results showed that Though, Nigeria experiences the problems of integration and application of ICT tools in instructions due to many factors such as; limited ICT facilities in Nigerian Schools, Lack of technically experienced tutors, Problem of Electricity, Environmental Factors, High Cost of ICT tools, and Lack of professional skills. The study concludes that, effort should be made by government to proffer solutions to the problems stated in this paper, so as to improve Nigerian education at all levels. The researcher called on stakeholders in educational field to encourage tutors, facilitators, and students, to develop positive attitude toward the use of ICT tools at all levels of education in Nigeria.

Keywords: *Information and Communication Technology, tool, Education,*

INTRODUCTION

The educational system in Nigeria has been sub-divided into different levels mainly pre-primary, primary and tertiary Levels (National) Policy on Education 2004). The increasing development of educational system at all levels in this current dispensation brings greater demands on educational practitioners such as curriculum planners, evaluators, and teachers in their bid to move along with the information and communication technology of this 21st century. The importance of information and communication technology (ICT) in this 21st century is indispensable in teaching and learning. It can improve education quality, expand learning opportunities and make education accessible at all levels if education in Nigeria (National Policy on Education 2004).

Information and communication technologies (ICT) are electronic technologies used for information storage and retrieval. Development is partly determined by the ability to establish a synergistic interaction between technological innovation and human values. The rapid rate at which ICTs have evolved since the mid-20th century, the convergence and

pervasiveness of ICTs, give them a strong role in development and globalization (Nwagwu, 2006). ICTs have a significant impact on all areas of human activity (Brakel and Chisenga, 2003).

The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning, and research (Yusuf, 2005). A great deal of research has proven the benefits to the quality of education (Al-Ansari, 2006). ICTs have the potential to accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change (Davis and Tearle, 1999; Lemke and Coughlin, 1998; cited by Yusuf, 2005).

In a rapidly changing world, basic education is essential for an individual to be able to access and apply information. Such ability must find include ICTs in the global village. The Economic Commission for Africa has indicated that the ability to access and use information is no longer a luxury, but a necessity for development. Unfortunately, many developing counties, especially in Africa, are still low in ICT application and use (Aduwa-Ogiegbean and Iyamu, 2005).

This paper is a theoretical perceptive that focuses on information and communication technology (ICT) as a tool for the improvement of education in Nigeria at all levels. i.e pre-primary, primary, secondary and tertiary levels. It particularly dwells on the meaning of ICT, importance of ICT in Nigeria education and the problems militating against the use of ICT in Nigeria Education at all levels. Recommendations on the improvement of ICT are offered.

MEANING / CONCEPT OF ICT

ICT stands for Information Communication Technology, ICT has been defined by scholars in various ways. Liverpool (2002) opined that, ICT is a generic term referring to technologies for collecting, storing, editing and passing on information in various forms. Information Communication Technologies are means of retrieving, processing, storing, retrieving and disseminating of information through the use of computer and other telecommunication facilities. More importantly, ICT deals with the ways these concepts work when put together.

Thus, Information Communication Technology (ICT) is a diverse set of technological tools and resources used to communicate, create, disseminate, store and manage information. These technologies include computers, the internet, broadcasting technologies (radio and television) and telephony. According to Liverpool (2002), the following characteristics were listed:

- It is a broad and fast changing subject
- Communication of data by electronic means
- Storing, retrieving, manipulating, processing and distributing of information
- Involves digital sharing of information through internal or external networks
- It is a technological tool for manipulating information or data.

THE NEED FOR ICT APPLICATION IN NIGERIAN EDUCATION

The use of ICT has become an integral part of our educational system in Nigeria from the early years to University level, and it has contributed greatly to the learning style of both the teachers and the learners within and outside the classroom settings. Researchers too have found out that over 80% of the teachers in Nigerian nursery and primary school find it difficult to effectively tally their ICT instructional materials such as PC, audio-visual aids, slide clip, electronic white interactive board, and electronic conferencing materials and so on to the goals of their instructional objectives (Gertrude 2009).

Improved secondary education is essential to the creation of effective human capital in any country (Evoh, 2007). The need for ICT in Nigerian education at all levels cannot be underestimated. In this technology-driven age, everyone requires ICT competence to survive. Organizations are finding it very necessary to train and re-train their employees to establish or increase their knowledge of computers and other ICT facilities (Adomi and Anie, 2006; Tyler, 1998). This calls for early acquisition of ICT skills by teachers and students in Nigerian education. The ability to use computers effectively has become an essential part of everyone's education. Skills such as bookkeeping, clerical and administrative work, stocktaking, and so forth, now constitute a set of computerized practices that form the core IT skills package: spreadsheets, word processors, and databases (Brakel and Chisenga, 2003).

The demand for computer/ICT literacy is increasing in Nigeria, because employees realize that computers and other ICT facilities can enhance efficiency. On the other hand, employees have also realized that computers 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 these skills is a concern among professionals (Brakel and Chisenga, 2003). This is also true of other ICT components.

New instructional techniques that use ICTs provide a different modality of instruments for students. ICT creates room for individualized instructions. In schools where new technologies are used, students have access to tools that adjust to their attention span and provide valuable and immediate feedback for literacy enhancement, which is currently not fully implemented in the Nigerian school system (Emuku and Emuku, 1999 & 2000). ICT application and use will prove beneficial in improving Nigeria's educational system and giving students a better education. Moreover, the use of ICT tools in Nigerian education at all levels in this present age has enhanced both the teaching and learning process and makes it easy for the achievement of the teachers' set objectives. According to Barker (2002), ICT has proved to be a very powerful tool in education reform. Based on this assertion, institutions in the last few years have been reviewing their mission, goals, strategies and operations in order to position themselves more effectively to meet the challenges of the 21st century. It is generally observed that ICT has replaced information technology (IT) because of its appropriateness and utilization in lending itself to principles, policies, administration and practices of globalization. Optimizing the use of ICT at all levels of education in Nigeria depends on understanding of how, what and when to use ICT tools.

PROBLEMS MILITATING AGAINST THE USE OF ICT TOOLS AT ALL LEVELS OF EDUCATION IN NIGERIA

There are several problems to the successful use of information communication technological tools at all levels of education in Nigeria, these are: limited ICT facilities in Nigerian Schools, Lack of technically experienced tutors, Problem of Electricity, Environmental Factors, High Cost of ICT tools, and Lack of professional skills.

Limited ICT facilities in Nigerian Schools: Limited fund available to all levels of education in Nigeria have hindered the provision of needed facilities and infrastructure to promote ICT the use of ICT in teaching and learning. Most schools in Nigeria do not have ICT laboratory for training. Classrooms are equally not equipped for ICT usage. Thus, teachers and students do not have access to ICT tools within their schools due to the limited ICT facilities. The few available ICT facilities are mostly used for administrative purposes.

Lack of technically experienced tutors: Most of the tutors / teachers in Nigerian schools do not have competence in the use or integration of ICT tools in their instruction. Majority of

teachers teaches their students without ICTs and they have not develop competence in the use of ICTs.

Problem of Electricity: ICT tools are electrical equipment that requires electricity for operation. Electricity failure has been a persistent problem militating against the use of ICT tools at all levels of education in Nigeria. This however, hinders the few schools with ICT tools to use them regularly.

Environmental Factors: Part of the problems militating against the use of ICT tools is the target population for whom the materials are to be used and the settings or vicinities where the learning should take place, the degree of satisfaction derived by learners in respect to comfortability of environment of that learning situation is of great importance.

High Cost of ICT tools: The price of computer hardware and software continues to drop in most developed countries, but in developing countries such as Nigeria, the cost of computer is several times more expensive. Why a personal computer may cost less than a month wages in the United States based on research, the average Nigeria worker may require more than two years income to buy one. For this reason, the cost of computer is too high for many Nigerians to afford especially those in rural areas.

Lack of professional skills: Nigeria does not only lack information infrastructure, it also lacked the human skills and knowledge to fully integrate ICT at all levels of education in Nigeria. To use Information and Communication Technology (ICT) in Nigerian schools, the need for locally trained workers to install, maintain and support these systems cannot be overemphasized. There is acute shortage of trained personnel in application software, operating system, network administration and local technicians to service and repair computer facilities. Those who are designated to use computers in Nigeria do not receive adequate training, at worst; do not receive any training at all levels of education in Nigeria Okebukola (1977). In Nigeria, Most secondary school teachers lack the professional skills to utilize ICTs in curriculum implementation, hence the traditional shock and duster approach still dominate at all levels of education in Nigeria.

CONCLUSION

The adoption and use of ICTs at all levels of education in Nigeria have a positive impact on teaching, learning, and research. Despite the roles of ICT tools, most Nigerian teachers are yet to extensively integrate them for teaching and learning. Efforts geared towards integration of ICTs at all levels of Education in Nigeria have not had much impact. Problems such as limited ICT facilities in Nigerian Schools, Lack of technically experienced tutors, Problem of Electricity, Environmental Factors, High Cost of ICT tools, and Lack of professional skills.

RECOMMENDATION

In order to ensure that ICTs are widely adopted and used at all levels of Education in Nigeria, the following recommendations should be taken into consideration:

- Government should ensure that ICT policy statements are translated into reality. An ICT policy implementation commission should be created at all levels of education in Nigeria. This commission should be funded and given the power to provide ICT facilities in the schools and monitor their use.
- Nigerian schools at all levels should be made beneficiaries of ICT projects.

- Computer/ICT education should be made compulsory at all levels of education. That is, pre-primary, primary, secondary, and tertiary education.
- Efforts should be made by Ministry of Education (at Federal and State levels) to post teachers skilled in ICTs to each school at all levels to impart ICT skills to the students.
- Institutions and government should organize training sections, conferences, and in-service training for teachers in the use of ICT tools.
- The Federal Ministry of Mines and Power should work towards stabilizing electricity supply in Nigeria.
- Government should provide institutions at all levels in the country with adequate information communication technological tools.

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