
The Role of Information Communication Technology in Nigeria Educational System

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ABSTRACT:

The study investigates the role of ICT in educational system in Nigeria. ICT in Education is an instrument par excellence that a nation can rely upon to bring about self-reliance. The study observed that Nigeria still experience a lag in its implementation, and this continue to widen the digital and knowledge divides and the access to ICT facilities is a major challenge facing most African countries. The study concludes that despite the roles ICT can play in education, schools in Nigeria have yet to extensively adopt them for teaching and learning. Efforts geared towards integration of ICT into the school system have not had much impact. Problems such as poor policy, project implementation strategies and poor information infrastructure militate against these efforts. The study recommends that efforts should be made by government to post and provide teachers skilled in ICT to each school to impart ICT skills to the student and also should stabilize electricity supply in Nigeria.

Keywords: ICT, Education, Teaching, Learning, Instruments

INTRODUCTION

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.

The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning, and research. 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, 2010; Yusuf, 2011). In a rapidly changing world, computer education is essential for an individual to be able to access and apply information. 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 backward in ICT application and use (Aduwa-Ogiegbean and Iyamu, 2008). This paper focuses on ICT use in Nigerian schools, it particularly dwells on the importance of ICT and the causes of low levels of ICT use in Nigerian schools as well as provides recommendations.

THE NEED FOR ICT IN EDUCATION

ICT application and use will prove beneficial in improving Nigeria's educational system and gives student a better education. A technologically-advanced workforce will lead to ICT growth in Nigeria, with the potential to improve military technology and telecommunications, media communications, and skilled ICT professionals who will be well-equipped to solve IT problems in Nigeria and other parts of the world. New instructional techniques that use ICTs provide a different modality of instruments. For the student, ICT use allows for increased individualization of learning. 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.

The ability to use computers effectively has become an essential part of everyone's education. Skills

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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 database (Reffell and Whitworth, 2010). 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 of these skills is a concern among professionals. This is also true of other ICT components.

Improved education is essential to the creation of effective human capital in any country. The need for ICT in Nigerian schools cannot be overemphasized. 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. This calls for early acquisition of ICT skills by students.

ISSUES IN ICT APPLICATION IN NIGERIAN EDUCATIONAL SYSTEM

There are developments in the Nigerian education sector which indicate some level of ICT application in the Nigerian schools. The Federal Government of Nigeria, in the *National Policy on Education* (Federal Republic of Nigeria, 2010), recognizes the prominent role of ICTs in the modern world, and has integrated ICTs into education in Nigeria. To actualize this goal, the document states that government will provide basic infrastructure and training at the primary school. At the basic school, computer education has been made a pre-vocational elective, and is a vocational infrastructure and training for the integration of ICTs in the school system.

It should be noted that 2004 was not the first attempt the Nigerian government made to introduce computer education in schools. In 1988, the Nigerian government enacted a policy on computer education. The plan was to establish pilot schools and diffuse computer education innovation first to all secondary and tertiary schools, and then to primary schools. Unfortunately, the project did not really take off beyond the distribution and installation of personal computers (Okebukola, 2007; cited by Aduwa-Ogiegbaen and Iyamu, 2008).

Okebukola (2007), cited by Aduwa-Ogiegbaen and Iyamu (2008), concludes that the computer is not part of classroom technology in more than 90 percent of Nigerian public schools. This implies that the chalkboard and textbook continue to dominate classroom activities in most Nigerian schools. The Federal Ministry of Education has launched an ICT-driven project know as School Net (Federal Republic of Nigeria, 2010), which was intended to equip all schools in Nigeria with computers and communications 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 elective at the senior secondary school. It is also the intention of government to provide necessary

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 also meant to connect African students to the Internet. The NEPAD capacity-building initiative will be executed over a ten-year period, with the high school component being completed in the first five years. Three phases are envisaged, with fifteen to twenty countries in each phase. The phases are to be staggered, and an estimated 600,100 schools are expected to benefit. The aim of the initiative is to impart ICT skills to young Africans schools, and to harness ICT to improve, enrich, and expand education in African countries.

The Nigerian Federal Government has commissioned a mobile Internet unit (MIU) operated by the Nigerian National Information Technology Development Agency (NITDA). The MIU is a locally-made bus that has been converted into a mobile training and cyber centre. Its interior has ten workstations, all networked and connected to the Internet. The MIU is also equipped with printers, photocopiers, and a number of multimedia facilities. Internet is provided via VSAT with a 1.2m dish mounted on the roof of the bus. It is also equipped with a small electric generator to ensure regular power supply. The MIU takes the Internet to places areas and various primary and high schools. The number of buses is so small; however, that most rural areas and schools have not yet been covered. Although efforts have been made to ensure that ICTs are available and used in Nigerian schools, the

level of uptake is still low.

NEPAD has scored the level of African continent students' experience with ICTs and their proficiency in using them very low. Fifty-five percent of students within the continent, including Nigeria, Algeria, Burkina Faso, Cameroon, Republic of Congo, Egypt, Gabon, Lesotho, Mali, Mauritius, Mozambique, Rwanda, Senegal, South Africa, and Uganda (who are participating in the first phase of the NEPAD e-Schools initiative), stated they had no experience at all in using computers. Other findings included that the typical African school environment provides neither opportunity nor training in using ICTS, and that 75 percent of responding teachers have no or very limited experience and expertise regarding ICT educational applications.

Okwudishu (2005) discovered that the unavailability of some ICT components in schools hampers teachers' use of ICTs. Lack of adequate search skills and of access points in the schools were reported as factors inhibiting the use of the Internet by school teachers. The absence of ICT equipment in most Nigerian schools leads students to resort to cybercafés for Internet access. Most cybercafé clients in Nigeria are students.

The ICT revolution is yet to attain that critical mass required for it to register the necessary impact in the teaching, student, and civilian population nationwide. While some schools could be said to be in the vanguard, the majority of Nigeria's universities, polytechnics, nursing and midwifery schools, and colleges of education lack computers. Many of the lecturers in these public institutions have to go to commercial cyber cafés before they can have access to a computer. The private universities are better off since the majority of them, for example the ABTI-American University of Nigeria (AAUN), has 24-hour Internet connectivity on campus, and each student is provided a laptop with the cost factored into the fee structure. The AAUN fee is beyond the means of most Nigerians.

The activities of NITDA, ETF, School Net Nigeria, and other stakeholders, as well as the partnerships with CISCO and Microsoft, should gradually move the nation towards the realisation of its ICT vision as network operators and software developers take advantage of the opportunities offered to acquire essential expertise and technology in their areas of endeavour to help initiate generalised Internet usage. It is then that e-learning and ICT application to education in general may come of age in Nigerian schools.

ICT POLICIES

Nigeria started implementing its ICT policy in April 2001 after the Federal Executive Council approved it by establishing the National Information Technology Development Agency (NITDA), the implementing body. The policy empowers NITDA to enter into strategic alliances and joint ventures and to collaborate with the private sector to realise the specifics of the country's vision of, "making Nigeria an IT capable country in Africa and a key player in the information society by the year 2005 through using IT as an engine for sustainable development and global competitiveness." This vision is yet to be fulfilled. Outlined below are some of the objectives of Nigeria's ICT policy:

- To ensure that ICT resources are readily available to promote efficient national development
- To guarantee that the country benefits maximally, and contributes meaningfully, by providing the global solutions to the challenges of the Information Age.
- To empower Nigerians to participate in software and ICT development
- To encourage local production and manufacture of ICT components in a competitive manner
- To establish and develop ICT infrastructure and maximise its use nationwide
- To empower the youth with ICT skills and prepare them for global competitiveness
- To integrate ICT into the mainstream of education and training
- To create ICT awareness and ensure universal access in promoting ICT diffusion in all sectors of national life.
- To create an enabling environment and facilitate private sector (national and multinational) investment in the ICT sector.

- To encourage government and private sector joint venture collaboration
- To develop human capital with emphasis on creating and supporting a knowledge-base society.
- To build a mass pool of ICT literate manpower using the NYSC, NDE, and other platforms as a train-the-trainer scheme for capacity-building.

CHALLENGES FACING ICT EDUCATION IN NIGERIAN SCHOOLS

ICT help to advance western and Asian countries, while African countries still experience a lag in its implementation, and this continue to widen the digital and knowledge divides. The following are challenges facing implementation of computer education in Nigeria:

1. Lack of Qualified Teachers to Teach ICT in Schools

The demand for ICT learning has been tremendous and the number of teachers who are trained to teach ICT cannot meet the demand. There are more students willing to be taught computing skills than there are teachers to transfer the skills.

2. Lack of Computers

Computers are still very expensive and despite spirited efforts by the government agencies, NGO, corporate organizations and individuals to donate computers to as many schools as possible, there still remain a big percentage of the schools unable to purchase computers for use by their pupils.

3. Lack of Electricity

Many schools are still not yet connected to electricity; Nigeria being a developing country, the government has not been able to connect all parts of the country to the national electricity grid. Consequently those schools that fall under such areas are left handicapped and may not be able to offer computer studies.

4. Computers are still expensive in Nigeria

In a country with high rate of inflation, majority of the individuals and schools cannot afford to buy a computer and consider it as a luxury item, more expensive than a TV. While 2nd hand computers cost as N45,000 naira and branded new computers being sold at between N98,000 and above.

5. Broken Down Computers

while a good number of schools have benefited from donated used computers, they have not been adequately equipped with the same on maintenance and repair, hence its very common to see a schools computer lab full of broken down computers, some repairable and some not. This has actually been a major problem, and the government has now put strict measures on any person, NGO or corporate bodies willing to donate 2nd hand computers. (It is seen as a dumping ground); e-waste management.

6. Burglary

The fact that computers are still very expensive in Nigeria; this makes them a target for thieves who usually have ready markets to another party at a much less figure. This has made many schools to incur extra expenses trying to burglar proof the computer rooms. This extra expense makes some schools shy away from purchasing computers for their students.

7. Lack of Internet or Slow Connectivity

Most schools are not able to connect to the World Wide Web, due to the high costs involved in the connectivity. On average, it may cost approximately \$150 per month to connect to about 15 computers on a bandwidth of 128/64kbps. This is considered as very expensive for a very slow speed.

8. Increased Moral Degradation

Internet pornography, cyber bullying and other anti-social behaviors is a worrying emerging problem.

The dilemma which arises in providing educational technology stems from a lack of financial resources and a limited distributive capacity. In addition, many African countries have not been able to employ teachers, and provide resources to keep up with this demand. This brings about

compromised quality of education. Further, many African governments face the predicament of educational expansion that corresponds with economic development. Despite the setbacks, access to education is a strong focus of most governments.

CONCLUSION

The adoption and use of ICTs in schools have a positive impact on teaching, learning, and research. Despite the roles ICTs can play in education, schools in Nigeria have yet to extensively adopt them for teaching and learning. Efforts geared towards integration of ICTs into the school system, have not had much impact. Problems such as poor policy and project implementation strategies and poor information infrastructure militate against these efforts.

Recommendation

In order to ensure that ICTs are widely adopted and used in Nigeria's school system, the following efforts should be taken. Government should ensure that ICT policy statements are translated into reality. An ICT policy implementation commission should be created. This commission should be funded and given the power to provide ICT facilities in the schools and monitor their use. Computer/ICT education should be made compulsory for all secondary school students. At present, the *National Policy on Education*, 4th ed., has made computer education an elective course in high schools. This means only those who elect to take it will have computer education in high school. Efforts should be made by Ministry of Education (at Federal and State levels) to post teachers skilled in ICTs to each school to impart ICT skills to the students. Also, the Federal Ministry of Mines and Power should work towards stabilizing electricity supply in Nigeria, and all schools should be made beneficiaries of ICT projects.

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