Abstract

Information and Communication Technology, (ICT) has been identified as the fourth industrial revolution in the world. In education services delivery, ICT has automated methods of instruction, research, student's assessment, and increased efficiency and effectiveness of the school system but this cannot be possible without adequate cyber infrastructure. The advent of ICT has popularized most hitherto unknown concepts such as e-learning, Distance learning, informatics curriculum, learning societies and provided robust opportunity for innovation. ICT has revolutionized communication processes, evaluation of curricular activities and improved the role of teachers as facilitators in the teaching-learning process. However, in most Nigerian Secondary Schools there is dearth of ICT necessary for effective skills to use them. This paper examines the importance of ICT in secondary schools and visualizes the challenges facing Nigerian Schools in the emerging knowledge economy. The paper contends that the on-going reforms in the education sector can only yield the desired results if ICT is infused into the educational system. ICT access should be provided for all teachers and students and to emphasize its role as a tool for effective teaching and learning. ICT is vital to the realization of the Nigeria's national educational objectives and vision 2020. It is recommended that government the inclusion of ICT in School curriculum, provision of ICT infrastructure; increased funding and creating an enabling environment for ICT in schools. The implementation of the National Policy for Information Technology may also require public-private partnership.

Key words: Information and Commonwealth Technology, Reforms, Secondary Education

Introduction

Information and Communication Technology (ICT) is generally regarded as the fourth industrial revolution in the world. Indeed ICT has become the gateway to the modern Information, Skills and Orientation (ISO), which distinguishes the World Order. ICT in education can be understood as the application of digital
gadgets to all aspects of teaching and learning. Within the context of education, ICT is described as the combination of technologies for collecting, storing, processing, communicating and delivery of information related to teaching and learning processes. The spread and efficiency of ICT is critical to the achievement of educational goals (Obanya, 2002). ICT involves the applications of all aspects of the use of computers micro electronic devises, satellite and communication technology.

The National policy for Information Technology (2001), describes ICT as any equipment that is used in the acquisition, storage, manipulation, management, control, display, switching and transmission of information. In another dimension, ICT is conceptualized as communication in whatever forms are used, assessed relayed and transmitted to communication and send and receive information. Application and utilization of these devices converts information, lexic messages, sound and motion to digital form. In the classroom situation, communication process influence learner's behaviours through interaction. It is an integral component of school curriculum activities since teaching and learning involves the use of communication skill both oral and written formation.

The potentials of ICT as an effective tool to reduce wastage and meet present educational challenges in the higher education sector is not in doubt. The Federal Government of Nigeria approved a national IT Policy in March 2001 and implementation started in April the same year. With the establishment of the National Information Technology Development Agency (NITDA), charged with the implementation of the policy, the Federal Government recognized that private service providers have enormous capacity for ICT services. Accordingly, government set up the Nigerian National ICT for Development ICT4D Strategic Action Plan Committee to develop a new roadmap for the nation.

ICT has positively affected in teaching, learning and dissemination of knowledge such that no nation can escape this transforming movement driven forward by the engines of the internet and modern methods of instruction and research. This implies that teachers and learners now put together their sense of learning and their very destinies in ICT. The cyber revolution has started to re-define learning, creating new self-image, creativities, and an ever-expanding technological framework. However, the new changes in ICT and the excitement they are causing do not seem to permeate the entire society.

Kaplan and O wings (2001), define teacher quality within two broad areas: teacher preparation/qualifications and teaching practices. The term teacher quality concerns what the teachers bring to the learning environment, including their demographics, aptitude, professional preparation, subject majors, teacher examination scores and certification and prior professional work experiences. Teaching quality, on the other hand, refers to what the teachers do to promote student learning inside the classroom such as
selecting appropriate instructional goals and assessments, using the curriculum effectively, and employing varied instructional behaviours that held all students learn at higher levels.

The Secondary school system in Nigeria has expanded considerably in the past two decades. This can be attributed to two reasons namely: the educogenic trend in which graduates from the primary schools transit automatically to secondary schools and the exponential growth of population. There is also undue emphasis on paper qualification, and most school leavers seek to acquire higher degrees.

Table 1 below, shows the exponential expansion of secondary schools from 1999 to 2003.

<table>
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NOTE *Figure interpolated

Table 1 shows, the increase in the number of secondary schools in Nigeria from 1999 to 2003. During the period under consideration, Nigeria had a total of 12,572 secondary schools spread across the 36 States and the Federal Capital Territory, Abuja. The quantitative expansion of secondary education is in response to the increase in the production of primary school graduates and the demand for secondary education.

Statement of the Problem

Since the advent of the ICT revolution in Nigeria, many schools have had the problem of adapting it to fit with the dynamics of the educational system. In sub-Saharan Africa, most nations are yet to bridge the digital divide, as they are often impaired by lack of access, due to dearth of needed infrastructure, requisite skills on the part of teachers, pedagogy and assessment. According to a UNESCO
Report (1999), while over 26% of the United States population are internet users; only 0.8% of Latin Americans use the internet. It is 0.5% in Southeast Asia; 0.4% in Eastern Europe; 0.1 in sub-Saharan Africa and 0.4% in South Asia. While scholars are unanimous in agreement that ICT is critical to the achievement of Nigeria's national educational goals as well as the Millennium Development Goals (MDG'S), not much has been achieved in the sector. Most Nigerian Secondary Schools lack computers and other ICT equipment necessary for effective teaching and learning. This is most conspicuous in rural secondary schools where basic educational inputs are sorely lacking. But where these cyber infrastructures exist, most teachers do not have the requisite skills to use them. Across the educational system, methodologies of teaching and modes of students' assessment are still operated in handicraft technology.

Generally, the objectives of ICT in education are encapsulated in the long-term vision of ensuring equal access to quality basic education for all citizens and to integrate Nigerians into the knowledge-based economy. In particular, the objectives of ICT education include to:

- Provide access to ICT for all teachers and students
- Emphasize the role of ICT as a tool for teaching and learning
- Promote education for all through usage of all types of electronic media
- Use ICT to increase efficiency and effectiveness of the school system

The consummation of these objectives requires adequate financial and material resources, which unfortunately are in acute supply.

**Conceptual Framework**

The conceptual framework of this paper is based on the Human Capital Theory. Psacharopoulos (1985), states unequivocally that Less Developed Countries (LDCs) of sub-Saharan Africa should invest in human capital as a precondition for catalyzing development. Psacharopoulos (1985) one of the foremost exponents of the theory posits that:

Human capital is created and the quality of human input in production is significantly improved by spending on education. This is why countries particularly those with low per capital incomes invest such a large proportion of their budgets on education and why, when the state does not, individuals do (Psacharopoulos, 1985:67).
The theory is based on the following fundamental assumptions: 

i. The better the quality of human capital, the higher the productivity.

ii. The higher the productivity, the more the (economic) benefits for the individual and for the society. This is so because higher quality of human capital is associated with better understanding of ideas, better communication skills; better expression of ideas and higher adjustability to new working environments.

iii. Quality of human capital depends on the quality of education and training. The higher the penetration of ICT in education, the better the quality of education, hence the better the quality of human capital and the higher the productivity, in the same sense, according to the human capital theory, education, not only increase productivity of a person who possesses it but also creates better conditions for environment, family and other sub-structures.

Thus, with ICT, all the applications can be implemented using repeatedly very few basic techniques and devices, as well as a symbolism that becomes more and more standardized. It is noticeable that using only a PC, a lot of solutions are offered in various in issues and fields. This has the potential of facilitating the learning process. Since technology has helped many other branches of activity or areas of human life we expect that will help education.

**ICT in Classroom Setting**

The main business of the education system is teaching and learning. Pedagogy and its process are critical in that it is through teaching and learning process that students acquire knowledge and skills to enable them become useful members of the society. Teaching involves a set of deliberate activities geared towards the development of less matured and inexperience individual. With the introduction of ICT, some important changes are under way in education.

(a) The (caching and learning practice in institutions of any level (schools)

- **Mathematics** (Formulate calculation, trigonometry, algorithmic solutions, logarithms, square roots etc).
- **Language** (Spelling and syntax corrections of sentences, voice recognition)
- **All other subjects** (Multimedia)

(b) New teaching ideas, approaches and methodologies have being developed, relying on ICT and applied on different levels of education. All of them are used at an increasing rate; e.g.

- **Distance Education** (The traditional teacher, student scenario is eliminated)
- **Home Schooling** (Many American kids do not go to school but work at home.
- **Cross Curriculum Applications**: Part of school curriculum involves multidisciplinary activities involving extra-curricular activities. Weber and Duderstadt (2004), agreed with the above view when they stated that the
classroom teachers with adequate and professional skills in ICT utilization will definitely have this students perform better in the class learning. In implementing the school curriculum, ICT can help in several ways in the implementation of the school curriculum:

- Accelerate students basic skills in the school subject like reading science and mathematics
- Challenges students to learn independently
- Update students academic knowledge and instructional practices
- Provide teachers with efficient and detective tools to take care of students and individual differences.
- Provide opportunities for cooperation with colleagues through networking and internet services.
- Educators, learners are challenged to new method of acquiring knowledge through sharing and been connected to the global world.
- Unrestricted access of teacher and students to relevant information and development in various areas.

ICT is also used for the evaluation of learning outcomes and classroom management. It also facilitates ICT lesson plan, write students report, storage of data, collection and analysis of student's achievements. Curriculum content could be enriched through search in internet by teachers or curriculum experts. Information, message skills, strategies, and relevant school practices hitherto unknown to both students and teachers, which cannot be found in recommended school textbooks could be easily downloaded for information and academic development of students. Recent research findings in any particular subject areas could be easily obtained through internet and e-learning do not only bring about improvement in what is taught in the classroom but encourages personal and professional advancement. ICT encourages active participation in classroom interaction as well as facilitates the sharing of knowledge.

Under the ICT regime, the teacher is seen as a facilitator rather than dispenser of knowledge. Teachers serve as a guide in teaching and learning. Globally, ICT has indeed had a catalytic effect on educational methodology, applied research, management and institutional governance. Computer technology, internet, e-education and distance learning programmes are becoming entrenched in schools. Although most of them recognize the importance of ICT they do not have sufficient political and expertise to invest in a knowledge economy.

**Challenges and Prospects of ICT in the Nigerian School System**

There is no doubt that ICT holds great potentials in supporting and improving existing educational infrastructure as well as National development efforts in Nigeria, several challenges remain to be addressed. Some of them are discussed below.

**ICT Awareness:** In Nigeria ICT awareness is still very low. Nigerian Schools are yet to recognize online
publications during promotions. Similarly, schools have not fully recognized peer reviewed and refereed online publications. In Nigerian schools, ICT users are yet to fully adapt and internalize the new ICT technology so as to appreciate and make it one of their own day-today instruments of work. The lack of computer culture in public schools impedes rapid diffusion of new technologies.

**ICT Access:** Access in ICT is defined as the availability of equipment, machines and several appliances, besides online resources and associated infrastructure such as up-to-date computers, software and communication network that is efficient, effective and affordable. Within the context of educational institutions, access in ICT for learning purposes also implies that and students enjoy support services that make learning and studying effective. Access also means that students have adequate reach to faculty for professional guidance and advise that is effective resulting in interaction between teachers and students and among learners through the Internet. This interactive interchange and learning is what makes ICT exciting. The result is that ICT users suffer acute marginalization because of limited access.

**The Environment:** The internet learning environment is not oppressive, and distributes power between the learner and the instructor. But basically, the prevailing learning environment in Nigeria indicates that many teachers and instructors run the risk of becoming academically and scholarly outdated if government fails to provide ICT facilities in the schools.

**ICT Infrastructure and Funding:** First, there is inadequate ICT infrastructure including computer hardware and software, bandwidth and access. This is because the school system is under funded. The situation has been worsened by the fact that scarce resources are being competed for by the other sectors of the economy. The second and the most crucial challenges is the dearth of skilled manpower to manage available systems. In addition, training facilities for ICT education at the tertiary level are grossly inadequate. Thirdly, there is the problem of resistance to change from traditional pedagogical methods to more, innovative; technology based teaching and learning methods. A fourth problem is that of lack of academic capitalism and school autonomy. There is over-dependence of the Schools on government for funding, which inadvertently limits system is ability and capacity to collaborate with the private sector to explore alternative sources of funding for ICT educational initiatives. Official Nigerian policy shows that in spite of the potential of ICT in boosting Research and Development (R&D), funding for R&D) remains very low. This is demonstrated in table 1.

**Table U: Investment in Research and Development as a Proportion of GDP in Selected Countries in 2004**
Data in the table clearly show that Nigeria spends a paltry 0.1% in research and development, yet political power holders pay lip-service to development. Besides, the Federal Schools spend only 1.3% of their budgets on research. Adequate funding of ICT will encourage the participation of professionals in conducting research and development activities focused on high-value added ICT products and services such as product creation, design and improvement in software development.

**Poor Maintenance Culture:** Schools have serious problems in their use of ICT in Nigeria. The challenge of lack of trained and experienced technical personnel to manage control and maintain the increasingly large numbers of these resources means that their utility values, effectiveness and efficiency, cannot be ascertained. Some of the technicians are untrained or semi-trained in the real sense of ICT training.

**The Teacher Factor:** Over the years government’s intention is provide facilities and necessary infrastructure for the promotion of ICT at all levels of education (FRN; 2004). This goal has not been realized because of some inhibiting factors. Such factors include inadequate computer trained teachers in our school system. Absence of trained teachers in computer science to teach practical aspects of computer skills and non availability of computer and allied tools in schools’ is a great impediment. Some teachers in Nigerian Schools play avoidance techniques in the utilization approach. They avoid any computer related activities which in most cases result in fear, ignorance, negative perceptions or inferiority complex.

**Low Internet Connectivity and Tele-Density:** There is low level of internet connectivity in Nigeria. To achieve the aim of the national policy on education with regard to students becoming computer literate, ICT should be placed a priority project by the government with correspondence funds available to train and retrain teachers on computer usage. Access to telecommunication tools such as telephone, computer, Internet among others is still at low. With the infusion of Global System Mobile (GSM) telecommunication, utilization of ICT resources for educational purposes is till comparatively low. Finding show that Nigeria has the second largest
S/IN | Country | Expenditure on R&D (as % of GDP) \\
--- | --- | --- \\
1. | Togo | 8.4 \\
2. | Tanzania | 1.03-135 \\
3. | Uganda | 0.8 \\
4. | Nigeria | 0.1 \\
5. | India | 2.0 \\
6. | South Korea | 2.9 \\
7. | United Kingdom | 2.3 \\
8. | Germany | 2.8 \\
9. | Canada | 1.7 \\
10. | United States | 2.5 \\
11. | Japan | 2.8 \\
12. | Israel | 3.7 \\
13. | Sweden | 3.8 \\
14. | Russia | 5.0 \\

Source: Olatunji, 2004; cited in Asobie 2006: 17

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telecommunication sector in Africa (behind South Africa) with a subscriber base of 20 million, yet she has a tele-density of less than 15%. The findings further stated that Nigeria’s ICT rating is 90 out of 115 countries worldwide, ranking 13% in Africa behind Gambia, Namibia and Tunisia, (Mac. Ikemenjima, 2003).

**Poor Power Supply:** Power supply all over the country is epileptic and the situation is worsening by the day. All ICT tools depend heavily on steady supply of electricity if they are to function effectively. In urban areas power supply is irregular-making many private cybercafes to rely heavily on private generators. Poor power supply disrupts actual utilization ICT services. The negative effect of the epileptic power supply in Nigeria makes ICT impairs the development of ICT.

**Low Technical Expertise:** The use of ICT equipment requires people with expertise and technical know-how. In case where the high costs involved, the periods of contract periods are often reduced. This leaves the recipient institutions with uncontained and unresolved problems and instead the problems are capable of threatening the system. There is no sophisticated policy framework to guide the development, adoption and management of ICT. Various parts of a school develop their own information systems independent of others with no common standards. In most cases the technical personnel that manage the information systems lack the necessary skills, knowledge and experience.

**Attitude of Support Agencies:** The establishment, development, funding and staffing of public schools in Nigeria represents a huge investment. The economic downturn has forced government at all levels to reduce its spending on public schools and it now expects the schools to find alternative ways to supplement the reduced funding. This implies that many of the schools are compelled to search for alternative sources of funding including *income-generating activities*, and increased *support from external donors*.

**Recommendations:**
- The National "Schools Commission should develop an ICT Master Plan that will set specific targets to be pursued to achieve the Millennium Development Goals. In addition, a policy environment which encourages investment in ICT should be put in place including tariffs on import of ICT infrastructure, in order to promote affordability and wide range usage in Nigerian Schools.
- Access to individualized curriculum pathways, managed by technology; access to individualized diagnostic testing and assessment of progress, managed by technology.
- While it is necessary that ICT education should be included in the educational curriculum it is even imperative for stakeholders to provide infrastructural support and massively deploy skilled manpower in the sector.
• Public-Private Partnership should be encouraged in the provision of ICT infrastructure. For example, in Port-Harcourt, the Macarthur Foundation in collaboration with Shell Petroleum Development Company (SPDC) has sponsored the development and installation of an Information and Communication Technology Center (ICTC) in a school. Such pilot projects should be replicated in selected Secondary Schools and create Centres of Excellence.

• Government should aggressively pursue the implement of the National Policy for Information Technology policy, as Nigeria cannot afford to be marginalized in the emerging knowledge economy propelled by ICT. Indeed the future of Nigeria's socio-economic transformation depends on the development of the ICT industry and its nexus with the educational system against the background of the dynamic economy.

Conclusion

Much of what ICT has to offer and its potential has not yet been fully deployed and internalized in Nigeria's public schools. The familiar excuses are lack of funds in the process of technology acquisition, adoption, utilization and management. There is lack of technical know-how and poor maintenance culture hence it is difficult to phase out old analogue ICT resources and adopt the new sophisticated ICT infrastructure. Nigerian context have the potential to revolutionize the quality of training and status of lecture and students at public schools. The digital technologies and have a significant role to play in transforming the opportunities for teachers and students in Nigerian Schools. ICT offers the potential to redefine and enhance the status of students and teacher around the world and it is imperative for Nigerian schools take advantage of such opportunities.

References


millennium. Maiden, MA.: Black well publishers.


Weber, I.E. and J.J. Duderstadt, eds. (2004); *Reinventing the research school*. London: Economica: