

MANAGING EDUCATION IN NIGERIA THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY (ICT): GAINS, THREATS AND THE WAY FORWARD

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Man by nature is an adaptive animal. He makes and re-makes himself in line with the demands of his immediate and larger environments. He is naturally endowed to change when necessary in order to deal with different situations and circumstances. The existentialist philosophers believe that man is the architect of his destiny and that man chooses what he becomes in life. The drunkard, the drug addict, the poor, the rich, the educated, the ignorant, you and I, all of us have made ourselves what we are and can make ourselves again. Just as the sun rises in the east and sets in the west, man is constantly changing and seeking the best alternative ways of accomplishing certain tasks. Change is therefore the only permanent thing in human life. Okonkwo in *Things Fall Apart* was averse to change, but the wind of change dealt a heavy blow on him. Necessity is the mother of invention. This well known maxim aptly captures the dynamics of social change, social needs and innovation that have characterized human civilization. The abacus, for example, which was invented by the Chinese, is a computer in the original sense of the word, used in doing complex arithmetic calculation. The invention of writing was a distinctive revolution, not just an innovation. The earliest form of writing, the Sumerian cuneiform, was invented in Mesopotamia to facilitate agricultural and commercial book-keeping.

The twenty-first century environment is unique. It presents such challenges that only individuals with high level of problem-solving skills, thinking skills and interpersonal skills

would be able to harness and live effectively in it. The world is in an era of highly skilled generation, where emphasis is placed on accuracy, competence, efficiency and effectiveness. The individual in the world today is expected to cope with the complexities of modern living. Onifade (2002) identifies the following unique characteristics of present century.

1. A scientific and computer world
2. A technological or jet age demanding efficient use of computer in all sphere of life.
3. An age requiring sound scientific and technological skills for children to cope with its complexity
4. A world where emphasis will be more on accuracy, competence, efficiency and effectiveness which are derived from educational foundation,
5. An era of highly skilled practitioners and generalists.

In the same vein, Busari (2006) notes that the whole world is experiencing the advancement of science and technology. Each nation is either a powerful producer of technology or a consumer of other nation's technology efforts. In fact, technology has made the whole world a global village and information and communication technology (ICT) breakthrough has meant a new epoch in globalizing education. In order to fully prepare the citizenry for a meaningful and useful life of sound scientific and technological skills, modern societies are constantly showing greater concern for the education of their youths and adults.

In Nigeria, the reverse is the case. Nigerian educational system, from primary to tertiary, is in a serious crisis. The system can hardly produce quality and functional education that will serve as catalysts for technological advancement in the country. Our educational system is suffering from system paralysis. Nothing seems to be working. The input-process-output model of our educational system is faced with a lot of problems. Many of our primary school pupils are in this era of 21st century sitting and writing on bare floors with little or no teaching and learning facilities at their disposal. The none-year compulsory Universal basic Education (UBE) programme is a complete shambles since its philosophy and objectives have been defeated. Our secondary schools are not faring better. For many years now, authorities of various examination bodies, such as WAEC and NECO have severally raised alarm on the progressive decline in the performance of students. Our university system appears to be the worst-hit as some lectures are less intelligent, through more morally bankrupt than their students. The university which is established to produce critical and original thinkers has unfortunately been turned into a factory for manufacturing narrow-minded robots and academic imbeciles. Many of our university students graduate as scientists and engineers, without any elementary knowledge of ICT. To make matters worse, some lecturers cannot access their mails from the computer unassisted, let alone browsing the internet in order to generate new ideas. Such analogue lecturers have refused to change with the changing circumstances.

An average Nigerian university student graduates with only a small exercise book and perhaps, few copies of self-edited text books,

hurriedly imposed on him by his lecturers. The method of teaching in most universities in Nigeria is still the orthodox conventional lecture method that has since disappeared in most universities in the world. Agbese in Aguba and Nwangwu (2010) goes further to describe the state of a universities in the following words:

- i. No Nigerian university is among the top 2000 universities in the world.
- ii. No Nigerian university is in the top 50 African Universities.
- iii. No Nigerian university has classroom, library facilities and other facilities as well as enough qualified teaching staff to admit over 3000 students.
- iv. All the universities, private and public combined cannot absorb one third of those who qualify in any given year for university admission.
- v. The National universities Commission has to discredit some courses in even the old generation universities for lack of stipulated minimum facilities.
- vi. Desperate young Nigerians are now forced in droves to seek alternative educational opportunities in American, European, Asian and even other African countries that are comparatively poorer than Nigerian but which have managed, quite remarkably to run first class universities.

The above assertions clearly show the level of rot in our university system

What then is Education?

Although education is a catholic social service, its meaning varies from time to time, from people to people and from place to place. Societies all over the world are dynamic. Consequently, the socio-cultural and political changes sweeping across modern societies have made the universal conceptualization of education a diffused angle of vision. Thomas in Nwadiani (2010) asserts that, "If a nation expects its people to be ignorant and free in a state of

civilization, it expects what never was and what never will be". As people come and go, particularly gate-keepers of vested interest, education loses its meaning and original functions on one hand and on the other hand assumes other roles altogether. This is why it is misleading to subject education to one single definition at all times. Mills (1967) observes that "education embraces not only the deliberate processes of schooling but it includes even indirect and incidental influences. The core education is the culture which each generation purposely gives to those who are to be its successors in order to qualify them for at least keeping up and if possible for raising the level of improvement which has been attained." Mills combined formal and informal education in his definition. Education in the real sense of it is much more than mere schooling. Martin Luther King in Aguba (2006) observed that, "the prosperity of a country depends not on the abundance of its revenues, not on the beauty of its public buildings, but it consists in the number of its cultivated citizens, in its men of education, enlightenment and character." The implication of Luther's statement is that human development is far more important than infrastructural development. If you build the road and Airport without building the mind, the undeveloped mind will naturally destroy the road and the airport. No nation has ever and can ever rise above the quality of its educational system. A nation is the product of its educational system. Fafunwa (1974) sees education as "the aggregate of all the processes by which a child or young adult develops the abilities, attitudes and other forms of behavior which are positive value to the society in which the lives." Fafunwa's definition entails life-long experience which cut across infancy and adulthood. Jefferey in Nwadiani (2010) notes that, "education is the direct means by which a people seek to share its own destiny and to transform itself from what it knows itself to be

into what it would hope to become. The form of education will therefore be determined by the deepest feeling of a people about itself and about its future."

Aguba (2006) posits that "every society achieves what it wants to achieve through education." According to him, the Missionaries who brought western education to Nigeria in the 19th century, wanted to convert us to Christianity so that we could read and interpret the Holy Bible. They went ahead and introduced religious based education and it served their aims. The British who later joined the missionaries in the business of education wanted to train the natives who could serve as clerks and interpreters for better exploitation of our people, they designed the education and gave us an over-dose of literacy education and under dose of scientific and technological based education. In support of Aguba, Amadi (2011) postulates that the needs and aspirations of the people should always be considered each time a nations' philosophy of education is to be determine.

Since culture differs from one society to another, every society ultimately has its own system for training and educating the youth. According to her; the Greek idea of an educated man was one who was mentally and physically well balanced. The Romans, on the other hand, placed emphasis on training. During the middle ages in England, the Knight, the Lord and the Priest were considered classical examples of a well educated elite. In France, the scholar was the hallmark of excellence. In Germany, it was the Patriot. In Old Africa, the Warrior, the Hunter, the Noble Man, the Man of Character or anyone who combined the latter feature with a specific skill adjudged to be well educated and well integrated citizen of his community.

Ocho (2005) sees education as a process through which human beings become useful to themselves and the society. An educated person according to him recognizes that he cannot make

progress alone, his progress depends on the progress of society.

Ocho (2000) published in 2005 draws an analogy to drive his point that every purposeful education should be guided by four major variables such as time, place, needs and role expectations. His analogy is reproduced verbatim hereunder.

My father was born in 1883 and died in 1945. Although he did not go to school, and did not know how to read and write, he was a well-educated man of Aku society of his time. He was morally well brought up and obeyed the rules and regulations of his people. He participated in communal meetings, development programmes, festivities and in peace making and peace keeping assignments. He participated in wars against neighbouring communities and represented his village in settlement negotiations. He as a prosperous farmer and trader and performed his obligations to relations, friends and in-laws. He was well adapted to his society and age. My elder brother, who was born in 1936 but grew up without the ability to read and write because he did not go to school, was not an educated person. The ability to read, write and calculate has become basic tools of life of his time. For my grand children, computer literacy will be a basic tools of life but it was not for me.

The above illustrations clearly justify the import of this paper which is predicated on Information and Communication Technology (ICT). From Ocho's analogy, can one be proud to parade himself today as a properly educated person if he has little or nothing to do with ICT? Can such a person be adjudged an educated person? Can such a person be well adapted to his society and age? Is he or she not likely to be slave to others?

What is Information and Communication Technology (ICT)?

ICT is an acronym for information and communication technology. Anowor (2010) notes that it is basically concerned with the use of technological tools for managing the communication process. He further argues that ICT is very imperative for teachers since it is said to be a combination of technologies for collecting, storing, processing and delivering information. Salam and Saningbe (2008) see ICT as that which involves technologies that facilitate communications and the processing and transition of information by electronic means. Morale – Gomes (1998) conceives of ICT as a tool for the post industrial age and the foundation for a knowledge economy due to its ability to facilitate the transfer and acquisition of knowledge that give impetus to the wave of globalization. ICT is an innovation in technology.

French as cited in Nworgu (2000) defines ICT as a broad based technology, including its methods, management and application, that supports the creation, storage, manipulation and communication of information. Omeje (2006) sees ICT as a convergent application of computers and telecommunication in information creation, storage, management, retrieval and use. He goes further to state that ICT has revolutionized information access and use in virtually all sectors of human activity. The World Bank cited in Madiche (2006) posits that ICT consists of the hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information as well as related services. From the above definitions of ICT, it could be inferred that ICT is an indispensable tool in modern society. Various people in different organizations and professions require the knowledge and services of ICT in their daily assignments. However, the thrust of this paper is as it pertains education.

Of What Use is ICT to Education?

The use of ICT in education has moved beyond its application to the teaching and learning process. No professional should require the services of ICT more than the teacher because he is constantly engaged in research and publication. He equally serves as a moral agent whose primary duty is to transmit worthwhile values, knowledge and skills from generation to generation. Schools cannot ignore the impact of technology and the changing face of the curriculum. Anowor (2010) observes that “not only can the teacher easily source the content of lessons from the computer via the internet, but preparation and delivery of lesson can be made easier and more efficient through the use of a combination of computer, telecom facility, and multimedia projector.” Teaching skills can be more readily acquired and improved through the e-learning and e-teaching, virtual library, virtual laboratory and video conferencing. Akudolu (2000) emphasizes that learners are assisted to be computer literate when ICT curriculum is effectively implemented in schools. She maintains that,

The arrival of information and communication technology does not just allow children learn in new and exciting way. It provides opportunities for them to access more advanced and wider areas of learning and also to develop analytical skills at a much earlier age.

The above assertion is full of optimism that ICT has the potential to facilitate teaching and learning. Adeobye (2011) remarks that the world today is driven by information, communication and technology. He believes that if a country will be relevant in this new dispensation, there must be readiness to embrace the new world order of information technologies ICT has stretched educational boundaries and creates new one on a daily

basis. One of these new and rapidly expanding boundaries is e-learning. According to Akinbade (2006) e-learning has been found to have the following advantages:

1. Flexibility, accessibility and convenience
2. Learning at one's space and own place. The content can be accessed at any time
3. Cross platforms-sourcing from other platforms,
4. Web browsers software's and internet connections are widely available
5. Inexpensive global delivery and distribution of e-learning materials can be accessed from anywhere in the world.
6. Updating is easy, courses can be delivered worldwide – client saves travel cost and time.
7. Promotes ICTs in education and training

Babalola (2010) identifies six areas of education that can be effectively driven by ICT which include admission, instruction, examination and supervision, socialization, graduation, and absorption. Each of these practice is briefly discusses below:

1. Admission process

Quality of education depends on characteristics of candidates admitted into the institutions of learning. These include the entry behavior of candidates, their career interest, mental ability, living and health status and socio-economic background. Integration of on-line registration into the process by using a data base that is driven by website portal and using fingerprint scanning can all serve as devices for effective admission process.

2. Instructional process

There are many useful advances in technologies that could be used to improve the instructional process at the classroom

level. Some of them are electronic presentation equipment such as interactive whiteboard, projectors and so on, and audio, and television learning.

3. Examination and supervision process

This aspect of education could be divided into four major aspects, namely resourcing, moderation, invigilation and security. The following advances in technologies could be employed to facilitate examination and supervision: online testing and examination portal, mobile examination, security of the examination process through monitoring of activities of students and examiners by the use of audio-visual equipment and the use of biometric identification.

4. Socialization process

Institutions of learning can promote social skills through functional portal and building of website to encourage e-group, e-dub, and e-association among students.

5. Graduation process

The quality of the graduates is a good measure of excellence in education. Babalola (2010) posits that there are many steps in the graduation process starting with the conduct of examination, grading, recording and submission of marks. It equally involves moderation of questions and grades as well as computation of results and issuing of transcripts and certificates. He notes that advances in computer and information technologies can facilitate the graduation process. Some of the devices that can be employed by institutions include online transcripts, school management software and grading modules. Some institutions equally make use of web-based methods of releasing examination results to their

graduates who usually buy pin card to gain access to their results.

6. Absorption or transition process

Excellence in education can be determined by the nature of absorption of graduates into the labour market or the smoothness of transmission to the next level of education. Some institutions can adopt the online registration of graduates to serve as data bank and to enhance participation in Old Students' Association.

From the discussion so far, it can be argued that most institutions in Nigeria are still very behind as most of these electronic and technological devices are non-existent. The questions in the lips of many concerned scholars in Nigeria are what is wrong? Why are we not where we ought to be?

Why is the Journey So Slow?

Information and communication technology is yet to occupy its prominent position in the scheme of things in Nigeria. This is because Nigeria as a country is bedeviled by myriads of political, religious, economic, socio-cultural and ethnic problems. Obasi (1988) asserts that the school is a product of its society while the society in turn, is a reflection of its educational system. Plato posits that no society can be better than its political leaders where as the National Policy on Education (2004) stipulates that no nation can rise above the quality of its teachers in particular, and educational system in general. Below are some of the challenges associated with ICT and education in Nigeria.

1. Erratic power supply

In spite of huge amount of money allegedly spent on power sector by successive government in Nigeria, this all important sector is yet to be fixed. It is common

knowledge that no sector of the economy hardly achieves anything as far as electricity supply is epileptic and most irregular. ICT facilities require stable power supply for maximum operation and usage. Many schools are located in the rural villages, and even the ones located in urban areas are not better since there is always a case of power failure.

2. Poor funding of education

Education at all levels in Nigeria is grossly underfunded. Every report arising from various education summits and visitation panels, always identifies underfunding as the bane of Nigeria's educational system. Yet not much is done to salvage the sector from imminent collapse. Funds are needed to provide ICT facilities in schools. Teachers' morale is very low primarily because of their meager and irregular salaries and allowances. Funds that are meant for education in Nigeria are only earmarked but no "eye-marked"

3. High cost of ICT equipment

The poor economic situation in Nigeria poses a big threat to the purchasing power of an average Nigerian. It is a both paradox and an irony to say that Nigeria is rich but Nigerians are poor. More than half of the population of Nigeria live below poverty level. A man who is still battling to satisfy his basic needs such as food, water, shelter, clothing etc. can hardly procure any ICT facilities. The ageless postulations of Abraham Maslow's Hierarchy of Needs theory are instructive to that effect.

4. Teachers' resistance to change and innovation

This is another crucial factor that serves as a cog in the wheel of ICT progress in Nigerian educational system. Man by

nature seems to be resistant to change. Teachers and other educational practitioners are not different. Some teachers prefer to discharge their duties the way they were originally trained. They appear to be more comfortable with the old ways of doing things. Such leaders develop phobia for simple assignments once names like laptops, desktops, e-mail, e-learning, virtual library are mentioned.

5. Poor value orientation of teachers and students

Values are central to humanity. Man's values are determined by two major variables, namely; upbringing and experience. Some of our students and teachers are more interested in pornographic films and other unethical practices with the aid of the internet. We should always remember that the internet is like a double-edged sword that has the potentials to either tear and kill or heal and save humanity. The soul of humanity should always be regarded and guarded more jealously than the soul of the internet and computer for the man behind the machine is more important than the machine itself.

6. Lack of political patronage

It is doubtful whether Nigerian political leaders fully understand the purpose of education. It is equally doubtful whether they know that the future and destiny of any country lie squarely on the shoulders of its teachers in particular, and the entire educational system in general.

How Can We Fast Track the Journey?

Below, are some of the recommendations on how to fully integrate ICT in the provision and management of education in Nigeria.

1. Proper funding of education sector

There is the need for government to stop paying lip service to education. Government ought to understand that nothing is free except ignorance and hence it should properly fund education very well. The popular recommendation of 26% annual budget allocation to education by UNESCO should be implemented by the government. This will solve some of the problems in the educational sector such as teachers wage bill, infrastructure, ICT facilities and a host of others. ICT facilities are capital intensive in terms of procurement, usage and maintenance. Japan, where many Nigerian youths want to live and work has no single viable natural resource unlike Nigeria. Yet it is one of the most developed nations in the world because of her political leaders' interest in human capacity building. The name Japan, is synonymous with technology, which has been made possible through functional and quality education. Nigerian political leaders should learn a lesson from Japan and stop paying their political thugs and some dubious contractors before paying the teachers. Teachers are the light of the nation.

2. Private sector participation

Private sector participation in education should be encouraged for increased funding and better management of our schools. Alumni associations, communities, philanthropists and other donor agencies have vital roles to play in procuring some essential ICT facilities for our schools. Harvard University, which is one of the best in the world today relies heavily on private and donor agencies in the funding of the university.

3. Full implementation of ICT as a subject of study

ICT is already included in the 2004 edition of the *National Policy on Education*. However, it is not just enough to include it in the curriculum, concerted efforts should be made to see that it is fully operational.

4. Training and re-training of teachers

The success of any educational system is greatly anchored on the teacher. Teachers are the actual implementers of the curriculum. Ocho (1995) posits that "any improvement in education must start with the improvement of the teacher". ICT should be an integral component of the curriculum for all the teachers' training institutions in Nigeria including faculties of Education. This will fulfill the pre-service training needs of the teachers where as refresher courses, conferences and workshops on ICT should be regularly organized for the practicing teachers. By so doing, teachers will become more professionally effective and free from imaginary fears arising from ICT.

5. Provision of adequate power supply

Electricity is central to full utilization of information and communication technologies. There is the need for respective authorities to ensure adequate supply of electricity in schools. This can be achieved through alternative power supply like generating set.

Conclusion

This paper tries to look at the operational definitions of education and ICT. Some of the benefits of ICT in relation to the management and delivery of education are highlighted. The major challenges facing ICT and education in Nigeria are explored while some of the factors considered to be the panacea to the problems are posited,

However, it is strongly observed that the journey to the promise land is still very far because the infrastructure and resources are practically non-existent for meaningful operation of ICT in most Nigerian schools. The journey is slow and could be literally described as one step forward, two steps backward. It is a case of motion without movement. This paper concludes that no nation can afford not to be part of the on-going intellectual revolution and information superhighway that are fast spreading across the whole world. It is either a nation chooses to be informed or deformed. In the views of Socrates, there is only one good, knowledge and one evil, ignorance. The author cautions that care should be taken as not to replace moral goodness with ICT wizardry. America's greatness does not depend on her scientific breakthroughs and technological advancement. Rather her greatness lies in her citizen's unwavering determination for good democratic governance, obedience to the rule of law and respect for the sanctity of life. We should emphasize the inculcation of the right type of values in the youths just as we preach and canvass for ICT revolution in Nigeria. We should not forget that most of the money laundering and "419" cases involving the low and mighty in Nigeria have been proved to have been committed through computers and internet manipulations. The heart of men controls the computers. That is why the man behind the machine is more important than the machine itself.

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