

PROVISION, USAGE AND MANAGEMENT OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN HIGHER EDUCATION

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Abstract

Information and communication technology (ICT) has continued to dominate many sectors of global economy with the consequent multifactor improvement in productivity. Despite this improvement, especially in the educational sector, there are still some hitches facing unhindered ICT development in higher education. This paper identifies the goals and application of ICT in higher education and challenges facing the rapid development of ICT. Conclusion was drawn and the way forward suggestion.

The Nigerian educational system has grown from the first primary and secondary schools established by colonial masters to a flourishing complex educational system. As presently constituted, the Nigerian educational system comprises pre-nursery, Nursery, primary, secondary and tertiary institutions. Higher education refers to the system of institutions that provides post secondary school courses and also engages in research. In Nigeria, these are principally the education given after secondary education in universities, colleges of education, polytechnics and monotechnics, including those institutions offering correspondence course (FRN, 2004). The number of schools in each category has also gone Hi-tech.

Regarding the management of this phenomenal growth, government and other stakeholders have fashioned out order and are still daily involved in fashioning out various ways by which our educational system can

achieve or meet our aspirations as enshrined in the National Policy on education.

Current realities in the globalized world have made it necessary that we introduce certain new and world acclaimed reforms and innovation into our educational system. In the world of today, universities and schools across the globe may be accessed by mere tapping of the keys of the computer right in our living rooms and offices. This is made possible by the advance information and communication technology (ICT).

Information and communication technology (ICT) is simply the set of transmission and display of information using electronic devices principally computer, telephone, television and internet. It also includes the function of developing, acquiring, testing and database application and procedures, which are used in educational sectors and organizations to support their business needs. Information, which has become one of the most essential management tools in educational management is another essential element of ICT.

Adeyinka (1999) stated that information technology practically affects every function within the educational system as well as every industry and services. ICT has become so important in almost all aspect of economic development and growth that its usefulness cannot be overemphasized. This is so because, ICT advancement in economic and educational development has polarized the world into what is popularly referred to as the digital divide.

Impact of Information and Communication Technology (ICT) on Education Development

- i. **Improvement in quality of service delivery:** The introduction of Information and communication Technology (ICT) has been applauded in all respect as the business of education can be done with minimal stress. The era of the little or no ICT brought about difficulties in accessing information regarding an institution. Today, however, results and admission status may be given and checked on-line and feedback sent to the relevant authorities as against the previous old fashioned way of having to travel from your place of domicile to schools across the nation for or to seek admission. Today, admitted students into tertiary institutions need not queue up under the sun to sign their forms because in the present day of ICT, students are free to walk into any cyber café of their choice with internet faculties to register for courses or check admission status, after which they may now travel to such institutions and be comfortably placed in their hostels and classrooms for lectures. ICT has therefore reduced the stress encountered in doing or undertaking educational business. Students and would-be students can now access their status in the various institutions.
- ii. **Increased learning opportunities:** With the increasing capacity of information and communication technology, there is a rise in new learning opportunities. To this regards, we had an interactive workshop with the Dell Company staff on the importance of cleverboard for teaching in my school. Globally, the nature of learning and teaching is changing rapidly to the

increasing interaction from more accessible global telecommunication networks driven by the continent of the internet (Lishan, 2007)

One of the basic ingredients for the acquisition of knowledge is information and access of information. Since ICT provides almost unrestricted access to information across the globe with short notice, knowledge of recent developments in other parts of the world is a vital tool for educational development. Proper and timely access to information about recent development and new techniques if well harness definitely enhances learning.

- iii. **Reform and innovation in higher education:** The major reforms are the introduction of information and communication technology (ICT), the opening of the space/sector for private participation in the provision of higher education as well as the operation of the National Open University of Nigeria (NOUN) (Babalola, 2007). Government in a bid to be on top of the situation, decided to establish the National Open University of Nigeria (NOUN) with the hope that in this era of ICT, the university will afford millions of Nigerians the opportunity to acquire higher qualifications (Imogie, 2006). Hence, the emergence of ICT has helped to reposition the various higher educational institutions to meet up with global challenges.

Application of Information and Communication Technology in Education

There are many different applications of information and communication and technology in education and they include:

Computer Aided Instruction: Computer aided instruction is one of the most common types of

education software. Computer aided instruction (CAI) can be combined with more traditional educational techniques. CAI helps students to practice arithmetic, spelling, touch piano playing and so on. Example of CAI is the typing tutor 10, which is used to learn the basic skills in typing. The following are some of the advantages of CAI; individualized learning, motivation, confidence, inexpensive, clarity and easy to use.

Simulation and Games: Educational simulation allows students to explore artificial environments, be it imaginary or based on reality. They are designed to focus students' attention on the important concept and also help students to learn through exploration, experimentation and interaction with other students.

Distance Learning: The most important application of information and communication technology in higher education is in distance learning system. In the distance learning system, technology is used to extend education process beyond the walls of the school. Technological gadgets such as computers, modern fax machine, satellites, video transmission, the internet and so on offers this opportunity. Distant education is nothing new to Africa. Hence, A World Bank report indicates that there are over 140 public and private institutions offering distant education programmes in Africa (World Bank, 2012).

There are variety of media that can be used in distance learning to facilitate students learning and the management of instruction. They can be classified in different ways namely:

- iv. Hardware, software and hard–software
- v. Electronics and electronic media
- vi. Projected and non projected media
- vii. Phenomenal and manipulated
- viii. Print (which is the most commonly used media) and non print)

A teacher with the distance education institution should know when and how to select media because the selection and utilization skills are very important to be able to make effective use of any media. But whatever is selected and used should be based on a clear recognition of the strengths and limitations of media (Umar, 2004)

Information and technology is particularly important for students who are residing in remote or far locations. Distance education is also attractive to women with children and it offers opportunities for workers whose jobs are changed or eliminated by shifting economy since 1990, online degree programmes have been available to most universities and colleges. Students use personal computer and to do many things ranging from ordering of books to final examinations.

Factors Responsible For Low Level of ICT Development in Education

- ix. **Poor Finance:** There has been crises of lack of finance and dwindling of resources in the educational sector over the years. This has not in any way improved as can be seen in recent outburst, and industrial disputes by different unions in the institution of Higher Learning. The innovations in ICT are effected being that these innovations need to be founded for effectiveness of the educational system. In the same vein, Harbisan (1973) stated that a country which is unable to develop the skills and knowledge of its people and utilize them effectively in the national economy will be unable to develop anything else.
- x. **Lack of Power Supply:** Power supply as the engine/heart of ICT provision and application is the major problem in the use of ICT. There is a general shortage

of supply of power as power outage in Nigeria is less than 3,000 watts.

- xi. **Low Level of Government Patronage:** This is another factor inhibiting rapid ICT development in Nigeria. In most government ministries, (Federal, State and Local Government), agencies, parastatal and in delivering of lectures in higher education in particular, delivery of public sector services is still through the very old traditional methods. Recent stakeholders of Dell Samsung Company had an interactive workshop with the academic staff of federal polytechnic, Oko. There they introduced the cleverboard to the staff. The workshop was quite interesting, but the problem now is 'will the management of the institution be able to afford the cleverboard and projector for all the lecture halls in the institution.
- xii. **Low Level of Education:** Even if the sizeable proportion of staff, both academic and non-academic in higher institution can afford a personal computer, basic necessary skill and requisite knowledge of the potentials of ICT are still lacking.

Conclusion

The benefits to be derived from full scale development of information and communication technology in higher education include exposure to different technology for teachers and students, enhancement of teaching and learning effectiveness, flexibility and provision of self-directed learning, increased participation through on-line communication, access to information, increase in different learning centers across the country amongst

others. Therefore, educationist in general have to embrace the use of information and communication technology as mode of teaching and learning.

The Way Forward

Nigeria should base its review of policies, introduction of reforms and innovations in the principles as enumerated in the World Declaration of Higher Education for the twenty-first century as contained in the outcome of the 1998 World conference on higher education which amongst other things specified firstly quality access to education, students central curriculum, network with others, et cetera.

Secondly, the current reforms in ICT should be adequately funded by all stakeholders to allow us benefit from the numerous opportunities that abound in this saving grace of education.

Thirdly, the established private Higher Educational Institutions should be monitored to ensure quality output, supported both morally and financially, to enable them provide access to students of diverse background.

There is in addition the need to increase the power supply for the country through the power holding company of Nigeria. Government should therefore, provide alternative sources of power like solar to complement whatever that is sourced from power holding company of Nigeria.

Government as a matter of national urgency should formulate an all embracing national ICT policy, which will ensure that not only is information available and universally accessible, the policy should also ensure that information is appreciably made affordable. The policy should also ensure local content development in the area of sustainable ICT technology and human capacity. ICT training, retraining and usage should be encouraged at all levels of Nigeria's educational system.

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