

# ENHANCING QUALITY IN HIGHER EDUCATION THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR SUSTAINABLE DEVELOPMENT IN ANAMBRA STATE, NIGERIA

*Rev. Sr.Dr. Ogochukwu Honorata Nwosu*  
*Department of Economics,*  
*Nwafor Orizu College of Education, Nsugbe,*  
*Anambra State.*

## **Abstract**

*The commitment to quality in higher education must be a continuous process overall. ICT has become a mechanism that can be used to achieve this continuous expansion and improvement of knowledge in ICT skills etc. the paper examines the concept of this paper focused on the following subheadings – Concepts of sustainable development, quality in higher education, higher institutions in Nigeria, impact of ICT in teaching and learning, challenges to ICT in sustaining quality in higher education suggestions for quality enhancement in higher education using ICT, then in conclusion, there should be adequate training and re-training of staff of the institutions on ICT, integrate it into the curriculum, regular power/electricity supply to be ensured by both government, private sectors, and school management all for sustainable development in Anambra State.*

Information and Communication Technology (ICT) is a force that has changed many facets of life. The way, certain fields operate today like the field of medicine, tourism, engineering, architecture, banking, etc is vastly different from the ways they operate in the past. Nevertheless, in Education, there seems not to be so much influence due to some factors impending it; such as insufficient fund, inadequate training among established teaching practitioners etc. But then, certain moves are made which needed to be strengthened any way to enhance quality in higher education using ICT for sustainable development.

Sustainable development here implies the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. ICT being now the mainstream issues in higher education, facilitates quality in education as evidence in continuity between purpose and practice, personal professional and academic growth for the learners etc.

The use of ICT as a mechanism to achieve the expansion and improvement

of skills, knowledge etc in the technological environment needed to be enhanced for sustainable development. Consequently, this paper focused on the following subheadings -

Concepts of sustainable development, quality in higher education,) higher institutions in Nigeria, impact of ICT on teaching and learning, challenges of ICT in sustaining quality in higher education suggestions for quality enhancement In higher education using ICT, then conclusion.

### **Concept of Sustainable Development**

Development refers to positive changes in the society and it embraces political, social, economic and psychological tenets of life. It can be viewed in terms of improvement of people's standard of living through education, skill development, income and employment. Development has to do with the transformation of a society from its traditional structure, thinking, ways of life and methods of doing things to modern ways. Development embodies improvement in all aspects of people's lives in a given nation or society and its therefore multidimensional, Serves (1999). Nevertheless, sustainable development means the capacity of a nation to maintain a balance between the human needs to improve lifestyles or standard of living and preserving the natural resources on which the present and the future generations depend. Sustainable development according to World Commission on Environment and Development (1987) means development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Development of any nation can be attributed to the skills, ability and competence acquired and utilized by the people for the growth of the nation, thus the acquisition of these skills and competences is virtually through education. The roles of higher education in Nigeria is well described in FRN, 2004.

### **Quality in Higher Education**

Quality in higher education cuts across policy formulation to implementation of educational processes and it embraces all functions and activities covering the scope of curriculum; teaching -learning process resources and facilities; students and teachers performance evaluation, and research and academic environment (Igwe, 2001). Hence, the quality of input resources will have implication on the process and the output. Quality in education has to do with standard, efficiency, excellence, relevance, worthiness, appropriateness and real value. That is the academic standard which enable worthwhile teaching and learning experiences and environment.

Quality education' can properly be judged from its practice. It's utility functions towards successful attainment of social, economic, political and oral objectives designed by a particular society. Quality education according to Pond

(2003) is a dynamic concept that is adaptable to a world whose society is undergoing profound social and economic transformations.

Hence, ICT can assist to enhance this quality in higher institutions UNESCO report (2005) observed that quality education has several major domains,

Reflecting diverse goals including

- Promotion and improvement of basic education
- Re-orientation existing education at all levels
- Developing public awareness and understanding of sustainability and
- Providing training involving higher education

However, quality education provides the necessary skills, value and virtues for learning to know, learning to live together, learning to do and learning to be. It also means quality education as reliability, responsiveness, competence, credibility, understanding etc. Quality education can upload and convey the ideas of sustainable society that is, society whose citizens have relevant knowledge, life skills, attitudes, and values as tools to transform current stage of a society to higher stage of development. Quality education according to Pond (2003) provides-

- Rich multidirectional interaction
- Personal professional and academic growth for the learners.
- Functional, user - friendly interface
- Continuity between purpose and practice.

The importance of quality in higher education cannot be over emphasized. It has helped to prevent wastages, involve students, teachers, parents, inspectors in the quality process, secure the right attitude and commitment.

Thus, making quality in education an all embracing concept that can be enhanced through ICT.

### **Concept of Higher Institution in Nigeria**

Contextually, higher institution in Nigeria is synonymous to tertiary education. It is defined as the education given after secondary level of education in universities, colleges of education, polytechnics, monotechnics, including those institutions that offer correspondent courses. The goals of higher institution as stated in the National Policy of Education (NPE) are to- contribute to national development through, higher level relevant manpower training, develop the intellectual capability of individuals to understand and appreciate their local and external, environments, acquire both physical and to be self- reliant and useful members of the society; forge and cement national unity: and promote national and international understanding (Federal Republic of Nigeria, 2004). According to the United National Educational Scientific and Cultural Organization (UNESCO) as its 27<sup>th</sup> Session in November 1993, it says - Higher Education includes all types of studies, training and training for research at the post secondary level provided by universities and other educational establishments that are approved as institutions

of higher education by the competent state authorities. (Dias, 1998). NPE provided that four main types of institutions are available. The universities, charges with the responsibilities of producing higher level manpower, of carrying out researches of benefit to the society, and of relating with communities with the aim of addressing their problems; polytechnics, originally intended for middle and high level technical and professional education, colleges of education intended for high level of non- graduate teacher education, but some of which have since become degree granting institutions with emphasis on bachelor's degree in education; monotronics, single subject technological institutions for specialized programmes such as agriculture, fisheries, forestry, accounting, nursing, petroleum etc.

The NPE however remarked that the structure and status of programme in the monotronics, should be equivalent to those of polytechnics.

The Education Sector Analysis of the Federal Ministry of Education gave this structural view of the programmes run by the four arms of higher institutions in Nigeria.

- **Colleges of Education:** Programmes in the colleges of education generally comprises of -

a. Academic disciplines in subject taking In primary secondary schools and technical schools

b. Professional course in education.

- **Polytechnics:** The programme in the polytechnics are also in two variants

a. General studies in the humanities, natural and social sciences,

b. Professional disciplines such as management accountancy engineering technology.

- **Universities:** The programmes in the categories in the universities are of two general categories -

a. General education and liberal arts and science programmes comprising languages, natural sciences, creative and performing arts, mathematics, humanities and social science.

b. Professional programmes consisting of medicine, law, education, agriculture, engineering, veterinary medicine, pharmacy, dentistry, information technology, management studies architecture and estate management.

Thus maintain quality in this level of education calls for the maximum utilization

of ICT, because the era of teaching without ICT skill is gone.

The role of information and communication technology (ICT) have become common place entities in all aspects of life. Across the past twenty years, the use of K'T has fundamentally changed the practices and procedures of nearly all forms of endeavours within business and governance. Within education, ICT has begun to have a presence but the impact has not been as extensive as in other fields. Education is a very socially oriented activity and quality Education has

traditionally been associated with strong teachers having high degrees of personal contact with learners, the use of ICT in education lends itself to more student centred learning settings and often this creates some tensions to some teachers and students. But with the world moving rapidly into digital media and information, the role of ICT in education is becoming more and more important and this importance will continue to grow.

ICT is a force that has changed many facets of life. The way certain fields operate today like the field of medicine, engineering, architecture, banking, tourism, business etc is vastly different from the ways they operate in the past. But then, in education, there seems to be so much influence due to some factors impeding it, such as inadequate fund, inadequate training among established teaching practitioners, lack of motivation on the teachers to adopt ICT as teaching tools (Stars, 2001). Though in recent times, factors have emerged that strengthened and encouraged moves to adopt ICT into classroom and learning settings, which includes, efficiencies in terms of program delivery, the opportunities for flexible delivery provided by ICTs (eg. Olive & short, 1997) the capacity of technology to provide support for customized educational programs to meet the needs of the learners (the way education is planned and delivered).

### **Impact of ICT on Teaching and Learning**

In the contemporary settings, curricula are starting to emphasize capabilities and to be concerned more with how the information will be used than with what the information is. Such as -

Student - centred teaching (learning, settings based on information access and inquiry Teaching environments centred on problem - centred and inquiry-based activities).

Teachers as coaches and mentos rather than context experts.

- Access to variety of information sources etc
- Increase use of the web as an information source, internet users are able to choose the experts from whom they will learn.
- The proliferation of capacity, competency and outcomes focused curricula.
- Moves towards problem-based learning.
- ICT encourages independent learning, students use computers as information sources and cognitive tools.
- ICT application provide many options and choices and many institutions and how creating competitive edges for themselves through the choices they are offering to students-flexibility of the choice of place for delivery of educational program. Like the distant learning programs, on line studies, off campus teaching and learning that is through technology - facilitated learning settings in work-based places and learning at any time and place.

- ICT also dominate nowadays on contemporary life and work. Consequently undergraduates are equipped with informational literacy, the capacity to identify and issue of then locate and evaluate relevant information literacy.

Information and communication technology (ICT) is applied in the higher institutions in different ways:- to basic and advance skills, use of professional or sub-professional data management, data interpretation, modeling programs in the intermediate or senior years. While data-manipulation and graph-plotting by students using programs such as EXCEL is so common that one is tempted to describe it as a mandatory skill, most students will also commonly use purpose specific macros or spreadsheet routines to analyze and interpret data collected or measured in the field or laboratory. Programs such as statistical packages, geographic information systems, forward and reverse modeling software, and discipline specific packages are a common requirement in senior units of study and students taking science courses will almost certainly be exposed to this use of ICT.

ICT has great effects on both teachers administrators and students in higher institutions.

Teachers and administrators use computers and information technologies to improve their roles in the educational process - thus

- They use computer tools to steam line record keeping and administrative tasks, thereby helping to free up.

Time for instruction or professional development.

- They use it to increase professional development activities by tabling distance education courses, accessing educational research, and accessing classroom materials such as lesson notes.

- To increase isolation by using e-mail and the internet to communicate with colleagues, parents, and the outside world.

Furthermore, information is important aspect of teaching and learning process as

database can be easily interrogated to encourage planned process, required data and information can be stored, retrieved and used to reach policy decisions in higher education (Olalusi, 2002). Higher education nowadays, ought to adopt many of its functions for the benefit of its future progress by making use of new information, technology, communication and networking facilities. The extent to which ICT is integrated in teachers' training has gone a long way to improve teacher' performances and students' learning. According to Njoku (2006), the school paradigm has shifted from school building, classroom teachers and text books to infrastructure, ICT tools (schools, laboratories, video, tv, internet resources, etc), e-teaching, individual, learners facilitators, and multimedia materials. (print, audio, video, etc). This new development is a strong indication that the era of teachers without ICT skills are gone. ICT skill acquisition by both teachers and students are basic prerequisite to enhancing quality in education.

Thus, computer aided instruction for instance, helps to increase learning speed, motivation for learning and understanding of concepts studied. This can aid development of a programme using any computer language to present the needed information, which could be in words or diagrams. It can be applied through thrills and practice, tutorials, simulation and games which enhances quality education in higher institutions. KT through e-library improves quality teaching and research in higher institutions, gives access to current books, journals and other information resources held by global network of this on-line library, scholarship, research and lifelong learning, video conferencing. Nwosu (2014) states that Management Information System (MIS) should be adopted in decision making process by the institutions' administrators and teachers, these include - word processing, electronic mails, voice mails, electronic calendaring, audio conferencing and video conferencing Video text, imaging, desktop publishing electronic bulletin, boards etc. all enhance quality in higher education. Through the use of some packages in Google, lectures/students interaction are maximized they can assign and assess home works, assignments through this research publications are enhanced through this too. One can upload and download information via Google, whatsapp, imo, twitter face book and other social networks.

#### **Challenges of ICT in Sustaining Quality in High Education**

- **Cost of education:** The cost associated with the development of high quality technology- facilities leading and learning materials are quite high, and in all areas of consideration, infrastructure, course development and course delivery.
- **Pool of teacher:** Sometimes none qualified teacher employed into the teaching field due to this technology-facilitated-learning increases unnecessarily, and there is difficulty in paying them. Traditionally in the education institutions, teaching was a role given to only highly qualified people. But with technology-facilitated-learning, there are now opportunities to extend the teaching learning activities beyond this specialist trainers, monitors in knowledge of ICT and skill are employed too.
- **Expansion of student who are physically unavailable:** The pool of students in need of training and who are opportune to study continues to increase due to the flexibility provided by technology to reach out to great number of student who study from their computers.
- **Atimes training and retraining of teachers** prove abortive because some teachers prefer traditional ways of teaching and learning.

#### **Suggestions: Quality Enhancement in Higher Institutions using ICT in Anambra State**

- There should be adequate training and re-training of staff of the institutions on ICT old and current programmes and how to integrate it into the curriculum.

- Technology plans in the school should be detailed, considering funding, installation and integration of equipment, ongoing management of the technology. The plan should also express a clear vision of the goals of the technology, and administrations of the schools to support either in form of funding, restructuring' schedules and physical space to reflect the new teaching learning environment.
- The community; parent, business man in the community can use the technology as a spring board to become more involved in the activities of neighborhood school. All can help with wiring or technical support. Parent can use e-mail to facilitate communication with teachers and administration.
- The lectures' and office computers should be adequately connected to the internet and functional tool in order to enhance staff access to ICT facilities.
- Information should be adequately computerized in the institution.
- Workshops, seminars and conferences on ICT should be regular for training and retaining of staffs and students on ICT.
- The government and management of higher institutions should ensure regular supply of electricity or improvement of the existing ones.

### **Conclusion**

The quest for maintenance of quality in higher education in Anambra State, has spurred the objective of-this paper as discussed above - how to enhance the quality in higher education through the use of Information and Communication Technology (ICT). Despite the challenges to this ICT, like insufficient fund, inadequate trained staff etc. it has actually impacted tremendously on the quality in higher education in Anambra State, such as in continuity, personal professional and academic growth for learners. However, maintenance of this quality for sustainable development calls for radical efforts such as that there should be adequate training and re-training of staff of the institutions on ICT, integrate it into the curriculum, regular power/electricity supply to be ensured by both government, private sectors, and school management all for sustainable development in Anambra State.

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