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Education and the Role of ICT in Distance Learning Programme

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Abstract

The introduction of information and communication technology [ICT] usage, integration and diffusion has initiated a new age in educational methodologies, thus, it has radically changed the traditional methods of teaching and learning patterns in the domain as well as offering comtemporary learning experience to both instructors and students. Distance learning is getting more dependent, on information and communication technology [ICT]and has been playing important role in the delivering-strategies of distance learning. With the advancement in technology in the field, education has introduced variety of new techniques for education and learners to enhance knowledge. This paper focuses on education and the role of information and communication technology[ICT] in distance learning programme in Nigeria. It also explores technology based media which is very important for distance learning.

Keywords: Education, Information Communication Technology, distance learning.

Introduction

In recent times, the world has witnessed a rapid increase in technology innovations. This era ushered in the advent of the electric computer system among other modern technologies. At present the computer technology has permeated nearly all aspects of human organizational roles and education. Computer encompasses almost all facets of human endeavors. So much has been written on it and its relatedness to all areas of human disciplines, which include computer/ information technology, engineering agriculture etc. Today, computer technology in schools is one of the most far-reaching and

fast growing developments in education. Like maize in plantations during a storm, countries all over the world are bending towards the facts of computer education (Joseph, 1990, Madu, 1990, Macauley, 1993).

Development in science and technology has brought into lime light the indispensable roles of computer in the area of information technology.It is a new instructional system. The incursion of the electronic computer system into the educational parlance, according to Sherman (2005) provides the where withal to solve teaching and learning problems even more rapidly and accurately than hitherto conceived. This has eventually made the computer system the doyen of humanity as it continues to exert greater acceptance, Computer, according to Layesimi (1985), has become the "nowology" in our society and possibly futunstic years ahead.In schools,computers are widely used, and the need for computer technology and literacy in the educational system has become more relevant-computer has been found to be an affective device for presenting an instructional programme. According to McCormick (1993), computers can be used to diversity, develop and improve the pedagogical relation of teaching and learning. Also, technological development can only be enhanced through proper acquisition of scientific knowledge, which can only be realized through relevant training in science, mathematics and computer education. It was in this light that the Federal Government of Nigeria launched the National Policy on Computer literacy at primary, secondary and tertiary levels of education in 1987.

The world is a global village. The present age of technological advancement has brought changes into virtually all human endeavor including the teaching and learning processes. Acquisition of computer literacy skills as well as good face-value certificate in computer education is a sin-qua-non for all and sundry. This is also the case for the Nigerians. Promotion in places of works and securing as well paid job are all attacked to computer-literacy, hence the society should get more enlightened through Computer Education.

ICT and Education Information and Communication Technologies (ICT) are advances in technologies that provide a rich global resource and collaborative environment for dissemination of ICT literacy materials, interactive discussions, research information, and international exchange of ideas, which are critical for advancing meaningful educational initiatives, training high skilled labor force, and understanding issues related to economic development. ICTs highlight innovative efforts and partnerships and promote ICTs literacy, and facilitate interaction between all sectors of a national economy including external spheres. Higher education institutions across the world have been adopting ICT teaching and learning technologies in an effort to create an environment for both students and their instructors to engage in collaborative learning environment and gain access to information (Ifinedo, 2006). Access to information through ICT is the amount of information accessible to individuals to support them in trying new strategies, thinking and creativity that are reflective in practice aimed at engaging them to new innovations through the use of ICTs (Ololube, In press). Information and communication technologies (ICTs) are indispensable and have been accepted as part of the contemporary world especially in the industrialized societies. In fact,

cultures and societies are adjusted to meet the challenges of the knowledge age. The pervasiveness of ICT has brought about rapid changes in technology, social, political, and global economic transformation (Nwachukwu, 1994; Yusuf, 2005). As such, every nation invests heavily in higher education because it can produce unquantifiable benefits for individuals, organizations and the society as a whole. Education is provided through formal and informal means. In formal settings the conventional (face-to-face instruction) and distance education (offered with separation in terms of physical location of instructors and students) have been used to provide educational opportunities to recipients. Open and distance education though not new in Nigeria has been given much prominence of recent. Many Nigerians benefited through the open education (correspondence) of Rapid Result College, and Exam Success Correspondence College, among others. It is also a means of providing access to basic information and tertiary education for Nigerians (Yusuf, 2006, pp. 22-29). Notwithstanding the keenness by the federal and state governments to guarantee open and distance education in Nigeria, the use and penetration of ICTs in distance education teaching and learning has been a major obstacle that may have impeded proper implementation of the program by institutions of higher learning. The evidence seem glaring that Nigeria is not yet ready in her preparedness to integrate ICTs in all spheres of her national economy (Ololube, 2006, pp. 101-118). For example, a recent study conducted by the Global Information Technology (2005), the report used the Networked Readiness Index (NRI), covering a total of 115 economies in 2005-2006, to measure the degree of preparation of a nation or community to participate in and benefit from ICT developments. Nigeria was ranked 90th out of the 115 countries surveyed. United States of America topped the list, followed by Singapore, Denmark, Iceland, Finland, Canada, Taiwan, Sweden, Switzerland and the United Kingdom etc. Likewise, Nigeria was ranked 86th out of 104 countries surveyed in 2004 which still shows a decline in Nigeria's preparedness to participate in and from ICT developments. Similarly, a study by Nigerian Information Technology Professionals in America in 2002 indicated that given ICT penetration it may take Nigeria 50 years to catch up with America on the aspect of Pc count per households (Iromanto in Yusuf, 2006, pp. 22-29). The domain of distance education has not been unaffected by the penetrating influence of information and communication technology. Unquestionably, ICTs has impacted on the quality and quantity of teaching, learning, and research in distance education. Therefore, ICT provides opportunities for distance education students, academic and non-academic staff to communicate with one another more effectively during formal and informal teaching and learning (Yusuf, 2005). For this reason, distance education programs in Nigeria need to integrate ICTs into their agendas, because the quality of teaching using ICTs to gain access to information is known in virtually all countries to be a key predictor of quality student learning. Therefore, effective manpower training is crucial using ICTs, because ICTs are tools that on the one hand can facilitates human resources development, and on the other hand, helps us to take full advantage of the potential of technology to enhance quality student learning via distance education (UNESCO, 2003).

THE MEANING OF EDUCATION

Education is “the process of cultural transmission and renewal,” the process whereby the adult members of a society carefully guide the development of infants and young children, initiating them into the culture of the society. For infants and young children, education often takes the form of indoctrination, that is, the process of compelling the child to ‘eat’ or ‘play’ or do his/ her homework at particular times of the day. In the training or upbringing of children, a measure of freedom is allowed so that they can have the opportunity of learning at their own rate and behaving in their own particular ways, provided their learning processes and general behaviour do not present a wide departure from the accepted social standards and convenlions of their society. Freedom is therefore a relative term and the extent of freedom a person enjoys depends largely on the culture of the society to which he or she belongs and the values which that society upholds. Hence, what society “A” values as freedom may be condemned as an act of indiscipline by society “B”. For example, the kind of freedom which some parents in the Western world allow their children and wards,’ such as calling elders by their names, is seriously condemned in African traditional society.

ICT IN EDUCATION

Formal education, training and lifelong learning providers face nowadays a rapidly changing societal and economic environment. There is an increasing demand to find new ways to equip teachers, students and workers with the competences and skills they need for the knowledge-based society and economy. Large parts of the existing workforce need re-skilling to employability due to rapid-technological change and an increasingly service-oriented economy. In this context, education implied today not only a singular, computational use of new technologies, but the promotion of engaged peer interactions with shared computer activity.This interdependence of communicative interaction, new technologies, the development of computer applications, the design of computer-based tasks and focused activity for learners of knowledge is a reality of the new educational model.

Universities and other higher education institutions are highly involved into knowledge creation, diffusion and depends on institution opportunity to share, spread and adapt knowledge as well as it is created. Modern students will require regular updating of their knowledge, skills and competences. Therefore, teachers should conscientiously redesign their courses and adopt new instructional methods and appropriate technologies to fully exploit the benefits of web-based learning environments and computer applications in education. Flexible and innovative teaching and learning based on computer applications will expand and will change the educational process. Within a knowledge-based society the educators and their organizations have a changing role, but in the same time, they need to manage the processes associated with the creation of their knowledge assets are to benefit from the use of computer applications. In the respect, the skills and competences needed for the knowledge-based society and the impact of using computer applications the teaching and learning processes are becoming important issues to discuss.

ONLINE EDUCATION

Online education can be seen as an approach to teaching and learning that utilizes internet technologies to community and collaborate in an educational context. This includes technology that supplements traditional classroom training with web-based components and learning environments where the educational process is experienced online. In another development, online education is a type of educational instruction. That is delivered via the internet to students using their homes computers. During the last decade, online degrees and courses have become popular alternative for a wide range of non traditional students, include those who want to continue working full-time or raising families. Most of the time online degree programmes and courses are offered via the host school's online learning alternative technologies. Although there are sub-dissimilarities, the main difference between online and traditional learning is the fact that online education liberates the student from the usual trappings of on-campus degree programmes.

Online education could be refer to an individual's attained knowledge that is self taught from their own online endeavours. It goes without explanations that use of the internet can be advantageous for anyone to access desired information using the endless World Wide Web. Many people today choose that route and one more educated due to their knowledge attainment from virtue sources and websites. According to (Allen & Seaman, 2003), higher education that is offered online certainly has its advantages and disadvantages, and influence different people in different ways.

DISTANCE EDUCATION

Distance education or learning, online education, web-based education, mobile learning, there are many different terms that refer to the education that is available in today's globalizing information-based world often referred to as the "knowledge society" other widely used interchangeable terms that often reference, this new era include the "information society"(Feather 2008) the "information revolution" (Hanson, E.C., 2008) or the "Digital Age" (Beethan & Sharpe, 2007). The knowledge society, although still in its budding stages of existence and reign, offers seemingly change; Advancements in technology, most importantly the internet, here change the way we live in every aspect of life.

Education is one of the areas in society that has been significantly transformed, thanks to computers, internet and other enabling media gadgets the possibilities that distance education offers to students, faculty,and institutions here created a mounting number of online enrollments over the past decade distance education flourished for three reasons

i. The great distance of citizens from educational institutions, both geographically and socio-economically.
ii. The thirst for education.
iii. The rapid advancement of technology". (Casey, 2008).

Distance education or online learning occurs through continuing education. This is important to mention because in a knowledge society, this is a fundamental aspects of reputable 'knowledge workers' (Drucker,1993). Most career areas today to gain by its workforce, no

matter how insignificant or essential a job might seem. A suitable amount of continuing education topics for any given occupation seems to be available online.This type of distance learning certainly deserves its place in the onlin3e education category. Understanding this fairly new trend of distance education involves looking at recent studies, statistics, and perspectives,current practices in distance education involves a completely different outlook on learning and teaching from past generations. The neww idea behind education today is that students learn best through "student-centered learning". This concept involves each student taking responsibility for his or her own path of learning. The online teachers acts more as a facilitator of knowledlge attainment and collaborates with the class to engage in the learning experience. There is valuable information to be gained from the student, instructor, and institutions perspectives regarding education's shift towards technology and online learning.

ROLE OF ICT IN DISTANCE LEARNING PROGRAMMES

By the development of the technology, every styles of life and human being action face with changes. Fast, global and remarkable time come to be considerable. People can reach fast, use fuel information though the computer based system. Social, global, cultural, educational competitiveness have been changed by the implication of the technology.

Therefore, these changes also affect the learning styles, duration and method of individuals. People start to search for fast, accountable, home atmosphere knowledge learning instead of the classical learning on classrooms (Clark, 2001). Distance education refers the interactive, educational process between two people, student and teacher, separated by the physical distance (Harry et al, 1993). Distance education requires to be interest in learner's individual differences and in the way students reacts to the media. Therefore, in learning process also personality features, intellectual abilities, cognitive and learning styles are important concern in distance education (Harry et al, 1993).

The role of ICT in distance education is re-enforcing another significant trend in education. Information communication technologies (ICT) have become common place entitles in all aspects of life. Across the past twenty years the use of ICT has fundamental change the practices and procedures of nearly all forms of endeavor within distance education. Education is a very socially oriented activity and qualify education has traditionally been associated with strong teachers having high degrees of personal contact with learners. The role of ICT in distance education lends itself to more student-centered learning settings. But with the world moving rapidly into digital media and information, the role of ICT in distance education is becoming more and more important and this importance will continue to grow and develop in the 21st Century. The last two decades have witnessed the inclusion of developments in ICT in distance education systems around the world.

The field of distance education has been affected by ICT's, which have undoubtedly affected teaching, learning and research (Yusuf, 2005).ICT's have the potential to accelerate, enrich, and deepen sills 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, 1999; Lemke and Coughlin, 1998, cited by Yusuf, 2005). Contemporary ICT's are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of the affordances of these technologies (Oliver, 2000). The use of ICT's in distance education will not only enhance learning environments but also prepare next generation for future lives and careers (Wheeler, 2001). Changed pool of teachers will changed responsibilities and skill sets for future teaching involving high levels of ICT and the need for more facilitative than distance teaching roles (Little John et al, 2002). Distance learning students using ICT's for learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools (Reeves & Jonasen, 1996), the influences of the technology on supporting how distance education students learn will continue to increase.

OTHER INNOVATIONS OF EDUCATION IN COMPUTRE & ICT IN THE AREA OF EDUCATION

New technologies and digital media have made significant progress and generated impact and improvement on the conditions for learning and education, training and lifelong learning. Information and Communication Technology (ICT) is more wide spread than ever before. All EU member states have developed programmes and specific actions for the interrelation of ICT in education and learning.

In most EU member states, a first intensive effort and infrastructure, equipment and teaching training has evolved into a more mature and also more pervasive use of ICT for learning. All European countries have had to address similar challenges in similar ways and with similar degrees of urgency. The current global economic crisis is simultaneously affecting the education sector as well as other sectors in society across Europe. Knowledge, innovation and technology remain key elements in the future strategies.

CHALLENGES OF DISTANCE EDUCATION IN NIGERIA

Despite the keenness by institutions of higher learning to establish distance education programs, they are confronted with enormous problems that may have impeded its proper implementation. Some of these problems are: Poor ICTs penetration and usage among Nigerian distance education practitioners. Approximately almost all African countries basic ICTs infrastructures are inadequate; this is as a result of problem of electricity to power the ICTs materials, poor telecommunication facilities, and poor postal system. Above all the lacks of access to the needed infrastructures is made awkward because of insufficient funds. According to Yusuf (2006), successful distance education cannot be assured without the use of effective communication and technological tools (e-mail, fax, Internet, television, radio, etc.). Several cities and rural areas in Nigeria are yet to have or have fluctuation in electricity supply. Just like electricity, most Nigerians do not have access to telephone and other telecommunication facilities. Even, telephone lines in the urban centres are not adequate to

serve the teeming population. Services for those who have access are in most cases epileptic. These may make the integration of telecommunication in the delivery of distance education difficult. In addition, poor state of telephone has led to increase in dialup cost for most Nigerians. Even with the recent introduction of GSM in August, 2001, access is still limited and services are yet to be perfect and service charge may make GSM unattractive for distant learners. Poor economic situations and its effects on middle level manpower, stands as the major obstacle towards the implementation of ICTs in distance education. Even an average middle income earner cannot afford basic technological and communication gadgets. Thus, computer related telecommunication facilities might not be useful for most Nigerians, as computer is still a luxury in institutions, offices and homes. This has made the integration of necessary on-line resources (e-mail, newsgroups, worldwide-web, etc.) into distance education in Nigeria most difficult.

Similarly, according to UNESCO (1998), Igwe (2005) and Nwagwu and Ahanihe (2006), efforts to improve ICT access in Africa have been hampered by a number of factors, these are summarized as follows:

- prospective ICT users that have expertise, competencies and equipment to benefit from access to electronic information networks are minute in number;
- there is shortage and high costs of equipment, software and information compared to situations in the industrialized nations;
- there is lack of reliable and accessible physical telecommunications infrastructure; telecommunications monopoly, associated with overly restrictive regulations and high costs, and
- lack of interregional networking and cooperation amongst national universities and international institutions. In the same vein, Commonwealth of Learning International (2001), made it clear also that the inadequacy of essential services and infrastructure like electricity, telecommunications and postal services must be developed to levels that could support the declared scale of open and distance education in order to increase administrative network and develop a proper link between faculty and students learning. Perhaps, another most serious challenge facing distance education at this level in Nigeria is the need for the integration of new ICT literacy knowledge into academic courses and programs. This state of affairs grew mainly from the political isolation that Nigeria experienced during the military eras. Nigeria's professionals were not able to benefit from international assistance and lack of international networking and cooperation or from courses, conferences and seminars abroad. This denial of assistance and interaction has adverse consequences, both on the psyche of faculty and on the development of infrastructure necessary for professional development (COL International, 2001).

CONCLUSION

Education is the elementary right of human being for the development of a person both professionally and personally. With the emergence of technology especially in the field of distance education have open new ground for distance learners. Application of technology in education is not the ultimate goal; instead, we should use it to pursure quality. Information and

communication technology [ICT] are potentially powerful enabling tools for educational change and reforms.

Rapid advances in information and communication technology [ICT] pose new opportunities as well as challenges for every society. In the education sector, ICT has enormous potential to help countries address issues of access to learning, quality of the teaching learning process and management of educational system. In order to ensure the quality of education, the distance learning institutions must be careful about the use of proper technologies and media. We have to think the uses of media and technology in regard to appropriateness and acceptability in the society as well as on the ability of the institutions offering the programme. The socio-economic and cultural background of a person influences their ability to learn from different media technology. Effective combination of media and technology is necessary for assuring effectiveness of the distance learning programme.

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