Ict in education: a catalyst for effective use of information

Educational systems around the world are under increasing pressure to use the new information and communication technologies (ICTs) (UNESCO, 2002 as cited by Yuen, Lee, Law & Chan (2008). The premise that ICT is important for bringing changes to classroom teaching and learning is the basis for this pressure. These skills include the ability to become lifelong learners within a context of collaborative inquiry and the ability to work and learn from experts and peers in a connected global community (Law, Pelgrum & Plomp, 2008).

The information society demands a workforce that can use technology as a tool to increase productivity and creativity. This involves identifying reliable sources of information, effectively accessing these sources of information, synthesizing and communicating that information to colleagues and associates (Alibi, 2004). Information is a key resource for undergraduate teaching, learning, research, and publishing. This brings the need for effective methods of information processing and transmission (Hawkins, 1998).

ICT is includes communication devices or applications, encompassing: radio, television, cellular phones, networks, software, and satellite systems, as well as the various services and applications associated with video conferencing and distance learning. Tinio (2002) notes that ICTs are powerful enabling tools for educational change and reform. When used appropriately, different ICTs help expand access to education, strengthen the relevance of education to the workplace, and raise educational quality by creating an active process connected to real life.

Cuban (1986) noted that in recent years there has been a groundswell of interest in how computers and the Internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal settings. But ICTs are more than just these technologies; older technologies such as the telephone, radio and television, although now given less attention, have a longer and richer history as instructional tools.

For instance, radio and television have for over forty years been used for open and distance learning, although print remains the cheapest, most accessible and therefore most dominant delivery mechanism in both developed and developing countries. Potashnik and Capper (2002) also indicated that the use of computers and the Internet is still in its infancy in developing countries, if these are used at all, due to limited infrastructure and the attendant high costs of access. Moreover, different technologies are typically used in combination rather than as the sole delivery mechanism.

For instance, the Kothmale Community Radio Internet uses both radio broadcasts and computer and Internet technologies to facilitate the sharing of information and provide educational opportunities in a rural community in Sri Lanka (Taghioff, 2001). Also, Tinio (2002) observed that the Open University of the United Kingdom (UKOU), established in 1969 as the first educational institution in the world wholly dedicated to open and distance learning, still relies heavily on print-based materials supplemented by radio, television and, in recent years, online programming.

Additionally, Tinio further noted that the Indira Gandhi National Open University in India combines the use of print, recorded audio and video, broadcast radio and television, and audio conferencing technologies. Haddad and Draxier (2002) indicated that ICT contributed to effective learning through expanding access, promoting efficiency, improving the quality of learning and improving management systems.

According to Obeng (2004), ICT is now regarded as a utility such as water and electricity and hence has become a major role in education, learning and research in general, agriculture, health, commerce and even in poverty alleviation by generating or creating new jobs and investment opportunities. ICT is an indispensable part of the contemporary world. The field of education has certainly been affected by the penetrating influence of ICT worldwide and in particular developed countries.

ICT has made an impact on the quality and quantity of teaching, learning and research in the tradition and/or distance education institutions using it (Kwacha, 2007). According to Ololube, Ubogu and Ossai (2007), the introduction of ICT usage, integration and diffusion has initiated a new age in educational methodologies, thus it has radically changed traditional method of information delivery and usage patterns in the domain as well as offering contemporary learning experience for both instructors and students.

The evolution of ICT into universities clearly changes the way education is conducted. Not only is it possible to work with distance learning and achieve a closer collaboration between different universities, but also paving the way for a new pedagogical approach where there is unparalleled ability to spread

knowledge and disseminate information. The pace of change brought about by new technologies has had a significant effect on the way people live, work and play worldwide.

New and emerging technologies challenge traditional process of information use and dissemination and the ways information is managed. Easy worldwide communication provides instant access to a vast array of data, challenge assimilation and assessment skills, rapid communication plus increased access to ICT at home, work and in educational establishment. For developing countries, ICTs have the potential for increasing access to and improving the relevance and quality of education. It thus represents a potentially equalizing strategy for developing countries.

ICTs greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, improve policy formulation and execution, and widen the range of opportunities for business and the poor. One of the greatest hardships endured by the poor, and by many others who live in the poorest countries, is their sense of isolation. The new communications technologies promise to reduce that sense of isolation and to open access to knowledge in ways unimaginable not long ago (World Bank, 1998).

Tinio (2002) however, noted that the reality of the Digital Divide the gap between those who have access to and control of technology and those who do not means that the introduction and integration of ICTs at different levels and in various types of education will be a most challenging undertaking. Failure to meet the challenge would mean a further widening of the

knowledge gap and the deepening of existing economic and social inequalities.

ICTs are advances in technologies that provide a rich global resources 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 labour force, and understanding issues related to economic development. ICTs highlight innovative effort and partnerships and promote ICTs literacy and facilitate interaction between all sectors of a national economy including external spheres.

According to Nwachukwu (1994) as cited in Hawkins (1998) ICTs are indispensable and have been accepted as part of the contemporary world especially in the industrialized society. Also, Yusuf (2005) indicated that cultures and societies are adjusted to meet the challenge of the knowledge age. The pervasiveness of ICT has brought about rapid change in technology, social, political and global economic transformation. It is widely acknowledged that ICTs can be used to improve the quality of teaching and learning in any tertiary institution.

The prevalence and rapid development of ICTs has transformed human society from the information technology age to the age of knowledge. In fact ICTs are becoming natural part of man's daily life, thus the use in education by staff and students is becoming a necessity. Certainly, the present and future academic global community will utilize ICTs to a higher degree. This

has made it imperative that undergraduates not only need to use ICTs, but they need to become comfortable with using them.

This is to ensure that they participate fully in life of the contemporary information age and also to use it to accomplish their everyday task (Yusuf, 2005). David (2005) said that students become more aware about how to learn when using ICT because they must interact with computer. ICT has also changed the relationship between students and lecturers and has made it open and intimate. The idea of sharing knowledge and the capability of using new sources for learning are enhanced by using ICTs. ICTs have also helped undergraduates in better communication and access to information.

This is due to the fact that there is a national policy supporting ICTs in schools, lecturers and students will then fall closer to the rest of the world. ICT has enhanced students (undergraduates) curiosity and motivation that in turn has forced the lecturers to seek more knowledge. The competences learnt by using ICTs will prepare undergraduates better for further education and in future work. In spite of the benefits derived from the use of ICTs, Nigerians are at a pathetic disadvantage over their counterparts elsewhere.

The problem is inevitable but if academic institutions fully adopt the use of ICTs in higher institutions of learning, then goals will be achieved within a short period of time. For the goal of effective use of information by undergraduates to be achieved, the benefits that are derived from ICT usage must be made known so that undergraduates specifically and the society at large can be aware. In view of this study, the following research questions

have been formulated to ascertain how ICT could/have be a catalyst to

effective use of information by undergraduates.