



INFORMATION AND COMMUNICATION TECHNOLOGY IN RESEARCH AMONG TEACHERS IN NIGERIA SCHOOLS FOR NATIONAL DEVELOPMENT

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Abstract

Information Communication Technology (ICT) is a term that involves all types of technologies for manipulating and communicating information. The knowledge about what ICT entails will offer teachers the opportunity to put new passion and new approaches into data collection and researches in their discipline for National development. ICT has a lot of positive impact on the developed countries through series of researches that brought them to limelight. It has stimulated hope for improvement for research organizations, medical personnel's, higher institutions and business men. With ICT, it is possible to have a virtual centre which will still be within the reach of teachers wishing to conduct researches that will be globally acceptable. This paper therefore examines role of ICT in improving quality researchers, it also highlights amongst others, current trends in the use of ICT for researches, promoting better quality research through ICT based data processing, text or web searching for good literature and global linkage of researchers, since there growing interest in accountability of ICT among teachers. ICT is a driver to change in both lower and higher education, but if researchers lack careful planning it may have adverse consequences. Thus, this paper will definitely challenge teachers and support them in collecting more relevant data that will be of importance for National Development.

Introduction

The use of ICT in education lends itself to more student-centred learning settings and often this creates some tensions for some teachers and students. With the world moving rapidly, the combination of computer and

communication technologies bring about national development (Ruttel 2009). He went further to say that instructional technology (IT) is a general term that describes any technology that helps to produce, manipulate, stores, communicate and or disseminate information. In the world today, Information Technology covers a lot of fields and performs various duties and can be adequately integrated into the primary, secondary and university system which will be of benefit to the students and teachers alike and this will bring about national development.

According to Allens (2005) reiterated that there had been a number of factors impeding the wholesale uptake of ICT in education across all sectors. These have included such factors as lack of funding to support the purchase of the technology, lack of training among established teaching practitioner, lack of motivation and need among teachers;

ICT in institution of learning can be regarded as a catalyst for change.

Teachers role are now changing through ICT - they surf the internet for various data that can be used to conduct researches that will improve a lot in both primary, secondary and higher education and other relevant areas which then promote national development.

ICT can be used to conduct researches in the following areas as represented in the table below:

Table 1: The influence of ICT on researches relating to education and its stakeholders for improvement in sector education

	What is learned and how much	How it is learned	When it is learned	From whom it is learned	Who is learning	What it costs
Students	*	*	*	*	*	*
Employers	*		*	*		
Teachers/Teachers	*	*	*	*		
Institutions	*		*	*	*	*
Innovations in all specialties	*	*	*	*	*	*

Source: Adapted from Edward The role of ICT in Higher education for the 21st century; ICT as a change agent for education

There should be marked improvement in researches relating to the aforementioned areas. Edward hereby reiterated that;

to ensure that the opportunities and advantages are realized, it will be important, as it is in every other walk of life to ensure that the educational research and development is sustained so that education at large can learn from within." P.2

ICT can assist to a large extent, in achieving this, the fact remains that ICT is a powerful tool in researches in higher education.

According to experts in ICT, there are four important areas where ICT is particularly uncontroversial;

- a) Increase in computing power has made calculations on large data very easy and possible.
- b) Various links of communication are making teachers and other researchers to collaborate, even outside the country for researches, that will improve the school system. Instead of researchers being concentrated in an institution ICT has made a good link that brings about cooperative research that will eventually bring about generalizable results.
- c) Combination of digital communications bring about unending access to resources/materials that can be used to conduct various researches. Relevant document can even be downloaded from the internet which will serve as guide and enriching research possibilities for institutions located in semi-urban areas and urban or large cities.
- d) There should be acceptable national/international policies on ICT in higher education. Information system that will link all higher institutions together should be established for quality researches.

Promoting better quality research through ICT

In higher education, series of academic researches have grown, several teachers have won series of international grants for conducting researches through ICT. Many academic staff have equally won series of awards (national/international) for conducting researches that are of world standard. Funds, sponsorship can also be gotten through various international bodies via the internet. Some of these international grants can be used in various aspects of development in the country.

ICT for data processing

ICT can be adequately used to process data and hiring out worthwhile results. There are opportunities for analysis and processing of data and computing same reliably, accurately and as fast as possible beyond

expectation. In other words no matter how cumbersome a data is, data processing with the aid of ICT will facilitate quick and accurate analysis for teachers in meteorology, geography and other related areas to weather analysis. Data as regards climatic change could have been so difficult, if not for that has made things easy in this area. Some of this vital information will definitely aid development and growth of the country.

In the area of monitoring students achievement at intervals by federal and state ministries of education, NUC, NCCE and NBTE, conducting researches of ample sizes, are very easy. With thousands of these data, there could be quick and accurate processing via the computers which is one of the tools of ICT. Population data are also easily generated globally through ICT which can be used effectively to conduct various researches that will help in the development of the country.

ICT: Text Searching for Update of Researches

This is also important in researches in the sense that it makes available online, full text databases, virtual libraries, virtual laboratories and in fact virtual classrooms which signify growth in telecommunications networks and technology. The databases afford researchers in different areas the opportunity to access numerous books, research reports and online journals to assist them conduct such researches effectively. Examples are Google search, EBSCO host online research databases. Question online library Pennsylvania libraries, in charge of online books page which, allows thousand of researchers, have access to books indexes of book, archives and directories that can be used for researches.

Many academic staff in both primary, secondary schools and higher institutions have benefited and are still benefiting from these online databases and virtual libraries. For example, Nigeria National Universities Commission (NUC) has established its own National computer centre in order to facilitate access to recent publications in all areas of specialization in Universities. Electronic journals are also available so that researchers in these institutions will have opportunities to disseminate or distribute their researches for global awareness to boost growth and development in the country.

Global link of researchers through ICT

ICT is being used to transform research from something done by individuals or teams to an activity/activities involving the instantaneous sharing and the collaborative generation of new knowledge by networks of researchers located around the world. This is facilitated by speedy telecommunication and the emergence of social networking sites, and communication tools (<http://endwikipedia.org/wh>)

Through ICT, linkages are made between universities, colleges of education, polytechnics and communities. Action researches can therefore be conducted easily with these linkages. General public can equally be involved in researches by collecting data from various websites. Expanding centres for researches through multi-media, cyber cafes into semi urban and rural areas has made the work of conducting researches easier. There are so many emerging technologies that have created a deep relationship between lower and higher education and the communities as stakeholders. Examples are Hi5, face book, flickr blogger and a host of others - these seemed to be devices for entertainment but not relevant to bring about generalized researches. All the same, these devices have therefore facilitated new knowledge, new understanding, new data results and outcomes.

According to researches conducted by Ruttel (2008) discovered that the number of technology learners in the Open University system of South Africa is more than the number of students in all the universities in Nigeria. This is made possible through internet connectivity. He also asserted that Britain's open universities are a prime example of dedicated distance educational institutions that use the web to support its mission of providing accessible education. With ICT, internet or web appeals to research findings or data collection, collation and analysis. Internet accessibility is effective in helping researchers conduct laudable 'global researches without going to those areas of research physically.

In order words, quality of data collected on line is more superior than face -- to face one. Since internet enables new learning, e--mail, electronic conferencing can equally be employed to collect reasonable data in a situation where one does not have the fund.

A lot of researches can be conducted provided the internet connection are adequate for information download and request upload suggestions for better ICT assisted researches in higher education for the development of content- serving-course base site which can be used to conduct researches. Edward (2008) offered the following suggestions among others.

(a) ICT can facilitate research in any discipline as they provide quicker and easier access to more extensive and current information through digitalized full-text resources to learners and researchers. 'Others are the electronic list- a directory of scholarly and professional e-conferences containing relevant topics and articles.

(b) ICT can be used to do complex mathematics and statistical calculations which are important in research. It can be used for data manipulation and analysis. It will facilitate the completion of data on time, and performance of statistical analysis.

Challenges of ICT in Researches among Teachers and way Forward

In developing countries like Nigeria, installation of ICT for researches is costly. Computers will have to be made available and internet connectivity must be put in place.

Procuring hardware and software for the use of the institutions may pose another challenge. This is due to the fact that there are so many fake or pirated software that if one is not careful, one may fall into their trap of unlicensed software which may pose a lot of problem.. Policies guiding this must be put in place as a matter of urgency.

Readiness of researchers and all academic staff is also a challenge. Institutions should help to ensure that all teachers are ICT literates to make the work of researches or data easier and transform delivery of higher education. Through this, the higher education would be able to achieve the desired levels of sustainability that will promote growth and development in the country.

There should be a shift from stand-alone researches to interactive, collaborative and cooperative where every contributor will have his or her own input from the internet. Their Input will be based strictly on specializations and distribution of roles in the researches (Ebethel 2009)

There are so many researchers that use data or content directly as they download on the internet without taking into consideration their own region and environment. Thus information, data, figures, diagrams will have to be adapted as the case may be.

The skills of research must therefore be mastered before effective researches can be deducted. Experts in this area must be involved so that there will be proper training which will ensure that fraud free data are collected and researches are conducted without prejudice.

Conclusion

Researchers in educational level in Nigeria must take full advantage of the potentials of ICT in this direction. ICT will foster positive change in academics and country as because a lot of results in researches will be an eye-openers to the way forward in the future of young graduates and the country general because it creates avenue for cost effective and sustainable change. There will equally be better quality control and improved accountability plagiarism since every teacher is given the opportunity to the internet use and are aware of copy right law.

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