Factors Influencing Students' Utilization of Information Communication Technology in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria

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Abstract
The study investigated the factors influencing students' Utilization of Information Communication Technology in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. The researcher used survey design of the descriptive type of research for the study. The population for the study consists of all students (male and female) of Federal Polytechnic, Ado Ekiti, Ekiti State, Nigeria. The sample size of one hundred and fifty (150) students were used as respondents for the study. The respondents were selected across the strata of the institution. Different levels of students were purposively selected for the study: seventy five (75) each of OND and HND students of Federal Polytechnic respectively were selected for the study. Two research questions were raised and tested at 0.05 level of significance. The research instrument used for this study was questionnaire. The instrument was tagged as: "Students Questionnaire on Utilization of ICT". The instrument was a self- structured questionnaire. The instrument was subjected to validity and reliability mechanism. The face and content validation of the instruments was done by the researcher and two experts in the field of ICT usage. The reliability of the instrument was carried out using a split half method of reliability. The data collected was analysed using Pearson's Product Moment Correlation in order to determine the value of (r) at 0.05 level of significance. The reliability index of the instrument was found to be 0.86. The administration of the questionnaire was done by the researcher and two (2) trained research assistants. The researcher and the research assistants distributed the questionnaire to the respondents. The data collected were analysed using Chi-Square (X^2) statistical analysis package. Based on the findings of the study, conclusions and appropriate recommendations were made.
Keywords: utilization, information, communication, technology, Federal Polytechnic.

Introduction

University administration at many Nigerian universities sees information and communication technologies as necessary in the process of learning and teaching. Information and communication technologies have given rise to new modes of organizing the educational environment in schools and new concepts in the teaching process as well as the remodeling of the roles played by the participants in the educational process.

Dissemination of Information and communication technologies (ICTs) in overall society is yielding different kinds of transformations. The school environment, as a part of the social system is not beyond these transformations derived from the inclusion of the technologies. In fact, since few years back and from different institution setting, action plans are being set, as a last resort in order to establish the adequate use of these technologies as much in questions of didactic and practical application as in those referred to its deontology; and thus, to adapt to new social requirements. The change that brought about new technologies has a significant effect on the way people live, work, play and transacts business and diffusion of information. Hence, the new technologies challenge the old or traditional form of teaching which was chalk and talk method and the way education is managed.

According to Ojedokun & Owolabi (2003) teachers in the developing world will have to change their teaching styles and acquire information and communication technology skills as new technologies transform classrooms over the next 20 years. Teachers will need to learn new skills to teach students how to search for and use information from the Internet safety issues. Internet's seemingly infinite information offers access to up-to-date research reports and global knowledge (Nwokedi, 2007) so it has become an important component of electronic services in academic institutions. Therefore, the information and communication technology has become an invaluable tool for learning, teaching and research (including collaborative research) in Nigeria.

University education in Nigeria is aimed at producing high level of manpower to cater for the various sectors of the country's economy. It is expected to contribute to national development by intensifying and diversifying its programme for the development of high manpower needs of the nation and making professional course contents to reflect our national regiments (FRN, 2004). These objectives could be achieved through effective teaching, research and other allied academic activities. For university teachers to carry out their job efficiently and effectively especially in this age of knowledge-based technology and globalization, the use of information and communication technology (ICT) becomes imperative. Interestingly, universities all over the world are rapidly incorporating information and communication technology (ICT) into all facets of teaching, research and management. Lecturers who succeed in making use of ICT in their work processes do not only contribute to improved learning outcomes in their students, but also benefit personally from enhanced work productivity (Carlson & Gadio, 2002).

University lecturers have various tasks to accomplish and these range from teaching, research and publications, marking of tests and examinations, supervising students' research activities, supporting students through advisory roles, attending conferences, providing community services etc. In other for them to be effective and efficient, they need to acquire an appreciable level of ICT competence. This is necessary in order to meet up with the demands of their job. With the use of ICT, lecturers have also been able to communicate and collaborate with other teachers and this enhances their job performance. Information and communication technology involves a process of creating, processing, storage, retrieval and dissemination of information and data using computers and telecommunications (Akpan, 2008). Technology enhanced learning, includes distance and online instruction, which are recognized as a viable tool necessary for preparing citizens to participate in the technologically driven global environment. The concepts computer-aided teaching and

computer-aided learning have given birth to computer-aided instruction, which represents a combination of both teaching and learning. According to Gbenga (2006) most Nigeria tertiary institutions are already having computer study as part of their academic programmes, most of them are still theoretical in nature to impact meaningfully on the society.

The Nigerian universities commission recently established a virtual learning website but its impact is yet to be seen and it is too early to assess. Infact, information and communication technology has had more impact on administrative services such as admission, registration, fee payment and purchasing than on the fundamentals of classroom teaching and learning. But even if information and communication technology has not revolutionalized the classroom yet, it is changing the learning experience of students by relaxing time and space constraints as well as providing easier access to information online journals and e-books, students portals etc. an achievement that should not be downplayed (Gambari & Okoli, 2007). UNESCO (2002) stated that the use of instructional technology in the higher education teaching and learning process is still in its infancy in Nigeria. Information and communication technology instructional use is vital to the progress and development of faculty, lecturers and students alike. Development and application of ICT in African institutions of higher learning most especially in Nigeria is critically important if the continent is to reduce the knowledge, technological and economic gaps between itself and the rest of the world (Farrell & Shafika, 2007).

Adopting information and communication technology in Nigeria universities particularly its use among the lectures and students is less feasible. Although many Nigerian universities now have internet facilities and ICT based facilities like e-library, education portal, computer resource centre but many of them are less effective because of many factors that predispose the persistent and consistent utilization of the ICT facilities. Many of these factors are availability of ICT facilities, how accessible they are for the lectures and students, maintenance culture, students attitude to its use, nearness to the reach of students and lecturers (some students and lectures may feel that the ICT building is far from their department and they do not want to stress themselves), inconsistent internet facilities, low level of computer literacy and rigorous process of registration. The researcher believed that if all this are not dealt with the efficient and effective use of information and communication technology in Nigerian universities will not be achievable.

Research Questions

The following research questions guided the study:

1. Will availability of information communication technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti?
2. Will accessibility of information communication technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti?

Related Literature

Availability of information and communication technology as influencing factor to its utilization

Information and Communication Technology (ICT) is defined as computer based tools used by people to work with the information and communication processing needs of an organization. It encompasses the computer hardware and software, the network and several other devices (video, audio, photography camera, etc.) that convert information (text), images, sound, motion, and so on into common digital form (Milken Exchange on Education Technology, 1999). It is an eclectic application of computing, communication,

telecommunication and satellite technology (Yusuf & Onasanya, 2004). Information Technology (IT) which is a component of ICTs refers to the creation, storage and processing of data including hardware system software and software application (Gbenga, 2006). The need for the development of ICT is a global resolution and has been a subject of great significance to all mankind (Olaofe, 2005). These technologies have become central to contemporary societies. The prevalence and rapid development of ICTs has transformed human society from the information technology age to the knowledge age (Galbreath, 2000).

Okenwa (2008) observed that technologies have advanced into the development of communication and multimedia equipment that are capable of accepting data, processing data into information and storing both the data and information for future use and reference purposes. He noted that computer based technology include: teleconferencing machine, computer, electronic books (e-books) computer graphics technology; instructional satellite, video conferencing and web television. In Europe and America, a vast majority of students now study in schools and classrooms with computers and some form of Internet access (Yasamin, 2007). Biggs (2008) also observed that access to computers and the Internet has increased rapidly during the past decade.

On the part of Spencer (2000), E-learning covers a broad set of applications and processes; including web-based learning, computer based learning, virtual classrooms and digital collaboration. Onuoha (2008) noted that education in the beginning of this century faced important challenges. Such challenges include how to provide high quality education and training. But education systems all over the world have tried to over-come the challenges by developing new approaches.

In Nigeria, one of the greatest challenges universities have faced was the introduction of ICT into the Nigeria economy. It is widely spread that graduates, especially those recruited by local and multi-national private companies, could not make use of the computers which are the fundamental tools of operations in these companies (Awoke, 2008).

Literature review on successful ICT implementation in countries like Japan, Malaysia, Spain and Israel has shown great emphasis on ICT implementation at all school level with adequate facilities. The incorporation of ICT into the school has shown great impact on the students of these countries. They have incorporated ICT into curriculum at different levels in schools. The different studies on ICT implementation at school level has shown that the thinking process of these students has been improved considerably with the help of different tools used in the classroom.

Information communication technology has become the rave of the moment in global socio-economic affairs. It has become so important that every country, organization or institution no matter how highly or lowly placed want to identify and embrace it. The world presently is knowledge-driven and information age has taken the centre stage in virtually everything. Utilization of ICT facilities is therefore a sine qua non for qualitative instructional service delivery in universities.ICT encompasses the computer hardware and software, the network and several other devices (video, audio, photography camera, etc) that convert information (text), images, sound, motion and so on into common digital form. ICT has a wider spectrum of applications with enormous relevance to universities' teaching and learning activities. ICT utilization is, the presentation and distribution of instructional content through web environment (e-teaching) or systems offering an integrated range of tools (stand-alone computer instruction, CD ROM amongst others) to support learning and communication (Yusuf, 2005). Instructional service delivery has to do with teaching/learning activities that take place in the classrooms. Therefore, quality of instructional service delivery entails the extent of effectiveness to which lecturers carry their classroom teaching/learning process. According to Okebukola (2006), quality is judgment which determines the extent of preparation and efficiency of teachers, adequacy and accessibility of materials and facilities

needed for effective teaching and learning, and how the teachers can cope with the challenges ahead of their job. The principal contribution of a university to society turns out on the quality of knowledge it generates and impacts, the habits of critical thought and problem-solving it institutionalizes and inculcates in its graduates, and the values of openness and democratic governance it promotes and demonstrates.

Moreso, most lecturers are yet to acquire the requisite computer skills, and where opportunities exist for them to do so, they shun them because of the phobia they have developed over the ICT. One may add that incompetent varsity teachers can only produce incompetent graduates (Akuegwu, Nwiue & Agba, 2008). The web is now causing educators to re-think the very nature of teaching, learning and schooling. In the general context of globalisation, and with ever-increasing demand for higher education, especially in developing countries, universities are faced with the challenge of providing education for such growing population of students. The only possible solution is to resort to distance education and ICT-based learning, provided such technologies are properly mastered and necessary investments made in hardware and software as well as in human skill and training (Loing, 2005).

Owston (2000) observed that claims have been made that ICT can free teaching and learning form the physical boundaries of classrooms and time restraints of class schedules. Under the circumstance, traditional lectures and demonstration can become Web based multimedia learning experiences for students. In integrating ICT into university teaching, learning resources can be augmented by learning resources of the world via the web. Moreover, Owston observed that the web can help us to re-focus our institutions from teaching to learning, from teacher to student.

Accessibility of information and communication technology as influencing factor to its utilization

Students' enrolment in higher education at global level witnessed rapid increase since mid eighties. This was linked with the global economic recession and changes in the labour market. Students' enrolment in higher education in Nigeria has also manifested similar trend since year 2000, when the establishment of many states and private Universities, Polytechnics and Colleges of Education relatively increased students' enrolment in these institutions (JAMB, 2009).However, adequate measures have not been put in place to assist both lecturers and students in Nigeria institutions to access and utilize information without having to travel to another geographic location. The impacts of information and communication technology (ICT) on all spheres of human endeavors have been tremendous. Most remarkable is education sector which has been transformed by the use of ICT. Where ICT are used for learning, evidences suggests that they are chiefly used to present and disseminate information as tools for presentation rather than the often cited promotion of 21st century skills.

Librero (2006) observed that conventional universities and other educational institutions are now using ICT to achieve blended learning environments which blend traditional face–to-face classroom delivery with distance delivery. ICT use in education especially distance learning is also re-shaping Universities entire organizational structures. Westbrook (2001) observed that the introduction of ICT in education has resulted in changes in four core areas of education such as curriculum, role of teachers and students, organizational structure and, learning environment. Given that a growing number of transactions now take place on-line at a distance, appropriately automated systems for recording these transactions, tracking them, keeping and retrieving students records and so forth must be supported by holistic policies and procedures that take into account all academic related activities. Obviously, ICT has made the culture of learning to shift from the culture of students passively listening in a classroom where attendance matters, to the culture

of pro-active reading, encoding and decoding anytime, anywhere. There are wide variations of ICT used in various higher institutions of learning around the world.

Further specific applications and combinations of these applications are very much shaped by the context of their target user populations. Compared with developed countries, the use of ICT in education programs in developing nations is relatively limited. Some of the reasons mentioned for such gaps are because developing countries face shortages of financial resources, limited Internet access, a lack of trained teachers and the lack of proper policies. Nevertheless, there has been growing interest in the use of ICT in educational settings in developing countries. Furthermore, in recent years, several countries have attempted government led initiatives to expand access to ICT in schools. These initiatives have often been associated with a broader educational quality improvement agenda (Zucker & Light, 2009*)*.

However, it is important to state that the attempt to integrate ICT into Nigerian education system has faced a lot of challenges, such as costs of different ICT Components and financing, dearth in ICT technical staff, unsure prospect of ICT application to education, and problem in the job situation (where there is so much emphasis on computer literacy), poor electricity supply, poor availability of ICTs trained personnel, etc. Although many universities and institutions of higher learning in the country now can boost of ICTs centers, yet the fact remains that some of these ICTs centers are not functional as a result of many obstacles. Supporting this Adejoh & Ozoii (2005) stated that some of the obstacles in the utilization of ICTs in teaching and learning include; low level of ICT literacy among teachers, dearth of technical staff, low level of funding, irregular power supply, high cost of ICT facilities and lack of relevant ICT infrastructures.

Naturally, going by the level of technological development round the globe, electricity is a key factor in the operation of most gadgets and appliances, ICTs inclusive. So when availability of electricity is not assured, there is no way ICTs can effectively be utilized in educational institutions. Again, it is important to point out the obvious fact that most of the ICT components are expensive to acquire. For example, computers, laptops, electronic boards etc. are not cheap to purchase. Internet connections are equally expensive to maintain. Even when certain handsets can be used to browse, yet not all the needed information can freely be downloaded without much cost. These definitely limit students' and lecturers' access to ICTs. ICT internet is a valuable resource that makes students and lecturers have online access to data without making a trip to the library and in many cases data will be up to date than the library printed materials. However in the absence of electricity, students and lecturers are left with the option of using textbooks, journals, magazines and newspapers on library bookshelf that are more or less obsolete as their only sources of information. The low level of funding the education sector in Nigeria is also what is affecting the ICTs funding in Nigerian universities. Poor funding of education sector in Nigeria has so far resulted in incessant industrial actions which is one of the causes of students' poor academic performance. If ICT integration into university education is properly funded by the government, students will have the opportunities of owning personnel computers, laptops and other necessary ICTs which will definitely help them in their learning. Dearth of ICTs trained staff is also a great hitch to ICTs proper utilization in our universities. Most university lecturers are unable to use ICTs probably because they don't currently have the required training. It is indeed true that when the educational progress of the Nigerian students is declining and unable to meet with the world standard due to poor access to the use of ICTs, there will be decline in the national development which is highly dependent on nations' education system. Thus, Mbangwu & Ochai (2012) stated that the aim of education in the nation's economy is to produce a workforce that would be self-reliant entrepreneurs who would help to alleviate poverty and

facilitate national development. It is on these bases that this paper would want to investigate the extent of the use of ICTs by lecturers and students in education.

Methodology

The study investigated the factors influencing students' Utilization of Information Communication Technology in Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria. The researcher used survey design of the descriptive type of research for the study.

The population for the study consists of all students (male and female) of Federal Polytechnic, Ado Ekiti, Ekiti State, Nigeria.

The sample size of one hundred and fifty (150) students were used as respondents for the study. The respondents were selected across the strata of the institution. Different levels of students were purposively selected for the study: seventy five (75) each of OND and HND students of Federal Polytechnic respectively were selected for the study. Two research questions were raised and tested at 0.05 level of significance.

The research instrument used for this study was questionnaire. The instrument was tagged as: "Students Questionnaire on Utilization of ICT". The instrument was a self-structured questionnaire. The questionnaire was made up of two sections, A and B. Section A was used to elicit information on the Bio-data of the respondents which include: gender, and status (OND or HND) students. Section B was used to elicit information on the research variables. The questionnaires contained twenty (20) items each for students and it was of likert scale format of response; strongly agree, SA, agree, A, strongly disagree, SD and disagree, D.

The instrument was subjected to validity and reliability mechanism. The face and content validation of the instruments was done by the researcher and two experts in the field of ICT usage. The reliability of the instrument was carried out using a split half method of reliability. The data collected was analysed using Pearson's Product Moment Correlation in order to determine the value of (r) at 0.05 level of significance. The reliability index of the instrument was found to be 0.86.

The administration of the questionnaire was done by the researcher and two (2) trained research assistants. The researcher and the research assistants distributed the questionnaire to the respondents. The data collected were analysed using Chi-Square (X^2) statistical analysis package.

Results and Discussion

Research Question 1

Will availability of Information Communication Technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti?

Table 1: Chi-Square Analysis of data on the influence of availability of Information Communication Technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti.

S/N	ITEMS	X^2-Cal	X^2-tab	df	Remark
1	Information communication technology facilities are not available in the Federal Polytechnic, Ado-Ekiti	12.86	7.82	3	*
2	Students are not using ICT facilities in School because it is not available.				
3	Library are not well equipped with ICT facilities.				
4	Availability of ICT facilities has nothing to do with the utilization.				
5	Laboratories/workshop and classrooms are not well-equipped with ICT facilities.				

P< 0.05 , * = Significant

A cursory look at table 1 reveals that x^2-calculated was 12.86 and x^2- critical was 7.82 in research question one. Showing that x^2-calculated is greater than x^2-table value at 0.05 and df = 3 (i.e.. $x^2_{-Cal} > x^2_{-tab}$). The result is significant; this implies that availability of Information Communication Technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti. This result agrees with the findings of Biggs (2008).

Research Question 2

Will accessibility of Information Communication Technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti?

Table 2: Chi-Square Analysis of data on the influence of accessibility of Information Communication Technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti.

S/N	ITEMS	X^2-Cal	X^2-tab	df	Remark
1	Information communication technology facilities are not accessible in the Federal Polytechnic, Ado-Ekiti	10.29	7.82	3	*
2	Students are not using ICT facilities in School because they not accessible.				
3	Libraries equipped with ICT facilities are not accessible in the school.				
4	Accessibility of ICT facilities has nothing to do with the utilization.				
5	Non accessibility of Laboratories/workshops and classrooms well-equipped with ICT facilities has nothing to do with utilization of ICT facilities.				

P< 0.05 , * = Significant

A good look table 2 reveals that x^2-calculated was 10.29 and x^2- critical was 7.82 in research question one. Showing that x^2-calculated is greater than x^2-table value at 0.05 and df = 3 (i.e.. $x^2_{-Cal} > x^2_{-tab}$). The result is significant; this implies that accessibility of

Information Communication Technology influences its utilization among students in Federal Polytechnic, Ado-Ekiti.

Conclusions

From the findings of the study, it was revealed that their availability of ICT materials in Ekiti State institutions for students and lecturers predisposed its uses among students and lecturers in Ekiti State tertiary institutions. The accessibility of the ICT devices was not feasible and encouraging and this predisposed its utilization among students and lecturers. The level of literacy of students and lecturers predisposed its utilization for effective teaching and learning in Nigeria tertiary institution.

Recommendations

Based on the findings of the study, the researcher put forward the following recommendations:

1. State and federal government should provide more ICT materials tertiary institutions for students and lecturers in order to integrate them into the world of technology.
2. The government and school management should always make the available ICT devices accessible and functional for use in teaching and learning.
3. School management should ensure that the provided ICT gadgets are located in place that is not too far from the lecture hall of students and offices of the lecturers to enhance its utilization in teaching and learning.

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