

UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN NATIONAL OPEN UNIVERSITY OF NIGERIA: BENEFITS AND CHALLENGES IN SOUTH EAST, ZONE

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Abstract

The study examined the Utilization of Information and Communication Technology in National Open University of Nigeria: benefits and challenges in South East Zone of Nigeria. A survey research design was used for the study. Three research questions guided the study and one null hypothesis was formulated and tested at 0.05 level of significance. The population of the study was made up of 2002 students of National Open University in Imo State and Abia State study centers. The sample comprised 193 students in Imo State and 123 students in Abia State study centers which made up of the total sample of 322 students. The sample was drawn from two states out of 5 states in South East Zone using simple random sampling technique. A 15 item questionnaire was designed using the 4 point likert scale model and validated by three experts, one in computer science education and two in the unit of Measurement and Evaluation, Michael Okpara University of Agriculture, Umudike. The reliability of the instrument was determined using test re-test method and data obtained was analysed using Pearson Product Moment Correlation and yielded a coefficient of 0.85. All the research questions were analyzed using criterion mean scores, and cluster mean scores while chi-square test statistic was employed in testing the null hypothesis. The results of the data revealed that the use of Information and Communication Technology media promote students learning in National Open University of Nigeria and that there was a significant association between the students' preference in the use of conventional and ICT media method in learning. Based on the findings, it was recommended among others that ICT media should be used in NOUN to reach greater population of students since it promotes students learning

Keywords: ICT, Utilization National Open University of Nigeria, Benefits and Challenges.

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Introduction

The National Open University is perhaps the most comprehensive of existing distance learning programs in use today. Here in Nigeria, the National Policy on Education (1977) revised 1998 and 2004 made provision for a National Open University. A three man planning committee was set up in 1981 to start work on the establishment of the university. Bill was passed by the senate. In spite of the tremendous amount of work that had gone on for the establishment of the NOUN, it never really took place until the Olu-Obasanjo administration reactivated it again in the year 2002. The university has branches in several states of the federation and new branches are being established as the people embrace the usefulness of this form of learning. With the advent of the internet, as the world becomes a global village, communication and information can now be both assessed and shared through the information super highway.

The seeming fragility of distance education and its continued lack of status in the eyes of many administrators and educationists in conventional institutions do not make it less successful form of education (Keegan, 2009). An answer to this is provided by Perry the foundation Vice Chancellor of the Open University of the United Kingdom (as cited in Keegan, 2000) that academics all over Britain accept that Open University has succeeded distance learning works and that the National Open University graduates are as good as any others. They (these graduates) have been accepted by every British University in Post Graduate courses without question. The quality of the course is commended by academics in other universities.

Giving credence to the above is the fact that the University of Port Harcourt, Michael Okpara University of Agriculture Umudike and several others in Nigeria accept students from NOUN by offering them admission, into the Post Graduate programs without question. It has been found that NOUN can expand one's opportunities for education. It is also capable of improving the quality of teaching by upgrading the lecturers. It overcomes and transcends geographical boundaries of many students making education more relevant to people's lives by way of providing a rich curriculum and a wide range of courses to choose from. There is hesitant approach to learning among potential students using Information and Communication Technology media.

Information and communication technology (ICT) is the practical offshoot of Educational Technology which by definition is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources (Jonassen & Reeves 2008)

Using information and communication technology, the mode of delivery of instruction is very important for NOUN learning. There are two major types of mode of instruction for NOUN; mixed mode of instruction delivery system: this system uses several different media methods or deliveries such as video and e-mail. Single mode of instruction delivery system: this method according to Harris (2002) does not provide enough instructional power to ignite student's interest because they fail to provide student involvement. As a distinct mode of imparting education, NOUN learning relies heavily on print materials. Considering the rapid expansion of ICT's in the country, national open universities has commenced plan on the introduction of more electronic media like CD-ROM, e-mail, internet and interactive e-learning systems for its courses delivery. Indeed, NOUN has established its own radio station in its headquarters in Lagos.

In addition, Kennewell, (2000) suggest that a good ICT plan should also comprise an assessment and evaluation approach to obtain a clear picture of current ICT use. This fosters an interactive approach in planning and monitoring ICT integration. Other ICT-related university factors that can be connected to university improvement approaches are the degree of ICT training (Galanouli, Murphy & Gardner, 2004). While ICT training is clearly useful, continuous support is an issue that concerns many lecturers to a larger extent. From the study of Lai and Pratt (2004) it is clear that the ICT-coordination is in a good position to guide and successfully integrate ICT in university. Also cooperation between universities is seen as an important key factor for the integration of ICT.

Bransford (2008) stated that ICT-supported education can promote the acquisition of the knowledge and skills that will empower students for lifelong learning. According to Organization for Economic Co-operation and Development (2005), information and communication technology can work in a number of general ways; It can be used to help in school administration, It can be used to train students in skills which they will need in further education and as an ongoing learning process throughout the rest of their lives and for their future jobs, e.g. word processing, email communications and so on, It can provide access to information and communication outside the classroom via the Internet, It can be used to support teacher development via external networks, It can support and potentially transform the learning and teaching process, ICT has a number of features which it particularly suitable for tertiary education and It combines and integrates a full range of media essential for effective learning.

According to Patil, (2012), the following are ICT benefits to the students. Computers can improve independent access for students in

education, students with special educational needs are able to accomplish tasks, work at their own, create greater enthusiasm for learning amongst students, visually impaired students using the internet can access information alongside their sighted peers, give greater exposure to vocational and workforce skills for students, students with profound and multiple learning difficulties can communicate more easily, students using voice communication aid gain confidence and social credibility at school and in their communities, Increased ICT confidence amongst students motivate them to use the Internet at home for schoolwork and leisure interests, Provide distance learners country-wide with online educational materials, Provide learners with additional resources to assist resource-based learning. With the introduction of computers, the precursor of our modern-day ICT, and the promising potentials of computer-based instruction and learning, many researchers and funding agencies were led to invest much of their resources to investigate the possibility of computers replacing teachers in key instructional roles (Roblyer, Castine & King, 2008).

The impact of ICT in National Open University learning program has contributed in realization and demonstration of the National Open University of Nigeria in achieving its expected outcome.

According to (World Bank, 2000 as cited by Ololube, Ubogu & Ossai, 2007) empirical studies have indicated that even lecturers who have competence in the use of ICT do not integrate them in their teaching. Problems of quality and lack of resources are compounded by the new realities faced by higher education, institutions battle to cope with every increasing students' numbers.

Not only have higher education systems expanded worldwide, the nature of the institution within these systems has also been shifting, through a process of differentiation.

Lewis and Smith (2002) summarized these factors as limited equipment, inadequate skills, minimal support, time constraints and the lecturers own lack of interest or knowledge about computer. Kwacha (2007) also noted that the most common problems associated with the effective implementation and use of ICT are lack of qualified ICT personnel's, cost of equipment, management attitudes, inconsistent electric power supply, inadequate telephone lines, particularly in rural areas and non-inclusion of ICT programs in teacher's training curricula and at the basic levels of education.

Similarly, according to UNESCO (2012), reported that the 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. Perhaps, another most serious challenge facing NOUN 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. It is against this background, the present study focused on the utilizations of Information and Communication Technology in National Open University of Nigeria: benefits and challenges in South East, Nigeria.

The following research questions and hypothesis were raised to guide the study

- To what extent has the use of Information and Communication Technology media method of learning promoted students learning in National Open University of Nigeria?
- What are the challenges of the use of Information and Communication Technology media in National Open University Nigeria program?
- What are the benefits to students' in the use of Information and Communication Technology in National Open University of Nigeria?
- There is no significant association between students' preference the use of ICT media and conventional method in learning.

Method

A descriptive survey design was adopted for the study. This is because the study involved the use of a representative sample from a population and drawing conclusion based on the analysis of available data. The target population of the study consisted of all the 2002 students of the National Open University of Nigeria, Imo and Abia State study centers. Based on ten percent (10%) of the total population and Robert and Morgan formular (1971), samples size of 322 students was drawn from the population, this is a fair representation of the current enrolment level at the branches of the university.

This sample was drawn from two states out of five states in South East of Nigeria based on simple random sampling technique. On the other hand, the

selection of 322 students was based on the use of proportionate stratified random sampling using sampling fraction of 0.16.

The instrument that was used for data collection of data is a questionnaire. The developed instrument was captioned Evaluation of Information and Communication Technology Media use in the Open University of Nigeria (EICTMOUN) to elicit information from the students. The instrument was made up of two parts. Section A, which deal with the background information of the respondents while section B deals with the questions with items on Information and Communication Technology availability and utilization in National Open University of Nigeria. The response modes were on a 4 (four) point likert scale like Strongly Agree (SA) Agree (A) Disagree (DA) and Strongly Disagree (SDA).

It was validated by three experts, one in computer science education and two in the unit of Measurement and Evaluation in the department of Science Education, Michael Okpara University of Agriculture, Umudike. The test-retest method of reliability of the instrument was used and the data obtained were analyzed using Pearson Product Moment Correlation and yielded a correlation coefficient of 0.85. The data obtained from this study were analyzed using mean to answer the research questions while Chi-square statistic was used to test the null hypothesis at 0.05 level of significance.

Results

Table 1 Mean Responses of students on the use of information and communication technology media method of learning.

Item NO	Cluster A	SA 4PTS	A 3PTS	D 2PTS	SD 1PT	NO of Respon dents	Total	Mean Score	Rmks	Remarks
1	learning through ICT Media is accepted by me	620	345	38	33	322	1036	3.22	3	Accepted
2	I understand my lectures when given through ICT Media.	732	243	58	29	322	1062	3.30	2	Accepted
3	I prefer online lesson because I have the opportunity to study online and make more research	728	204	144	0	322	1072	3.33	1	Accepted
4	I performed better in their results whenever they studied through Information and Communication Technology media	576	294	116	22	322	1008	3.13	4	Accepted

5	Using Information and Communication Technology media ensures accuracy, timeliness and effective learning	488	138	252	28	322	906	2.81	5	Accepted
Cluster Mean Scores = 3.16										

Data in Table 1 above show that items 1, 2, 3, 4 and 5 had mean score of 2.50 above. It implies that all the items are accepted since they received mean scores above the acceptance level of 2.50. It also implies that students agreed that all the items on method of learning through Information and Communication Technology media were accepted. It implies that the use of Information and Communication Technology media promoted students' learning in National Open University of Nigeria.

Table 2 Mean responses on the challenges of the use of information and communication technology media.

Item NO	Cluster B	SA 4PTS	A 3PTS	D 2PTS	SD 1PT	NO of Respondents	Total	Mean Score	Ranks	Remarks
6	Distance education are not easy for those who are not ICT compliant	220	483	138	37	322	878	2.73	5	Accepted
7	Irregular power supply hinders the use of ICT media in schools.	308	450	118	36	322	912	2.83	4	Accepted
8	Few ICT technical supports and difficulty in accessing disciplined-specific journals, hinders the use of ICT.	512	411	94	12	322	1029	3.20	1	Accepted
9	Inadequate softwares for teaching, learning and research hinders the use of ICT	388	447	130	11	322	976	3.03	2	Accepted
10	Poor maintenance and frequent breakdowns of ICT facilities hinders the use of ICT	308	480	142	14	322	940	2.92	3	Accepted
Cluster Mean Scores = 2.94										

Data in Table 2 above show that items 6, 7, 8, 9 and 10 had mean score of 2.50 above. It implies that all the items are accepted as the challenges of the use of Information and Communication Technology media in National Open

University Nigeria program since they received mean scores above the acceptance level of 2.50.

Table 3 Mean responses of students on the students' benefits in the use of information and communication technology

Item NO	Cluster C	SA 4PTS	A 3PTS	D 2PTS	SD 1PT	NO of Respondents	Total	Mean Score	Ranks	Remarks
11	My knowledge of ICT has enhanced academic performance	492	522	50	0	322	1064	3.30	1	Accepted
12	Using ICT enables me to accomplish tasks more quickly with low cost.	332	405	92	58	322	887	2.75	5	Accepted
13	I find ICT useful in my learning and research work	488	384	72	36	322	980	3.04	4	Accepted
14	ICT gadgets and products help to develop student interests during teaching and learning	648	303	48	35	322	1034	3.21	3	Accepted
15	ICT is a great innovation in Nigerian educational system that helps students work and study better	624	351	66	16	322	1057	3.28	2	Accepted
Cluster Mean Scores = 3.11									Accepted	

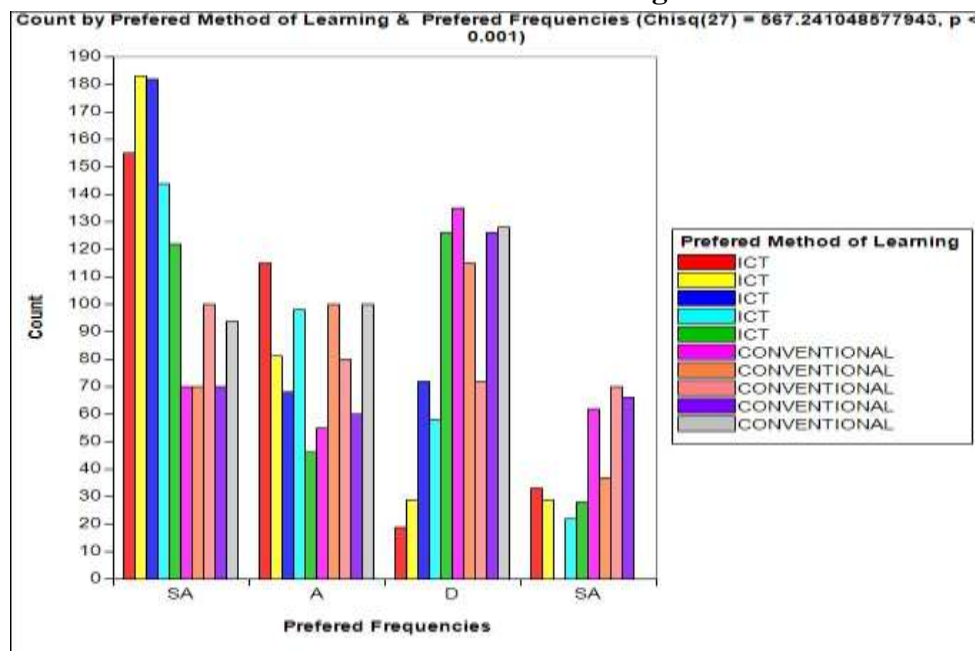
Data in Table 3 above show that items 11, 12, 13, 14 and 15 had mean score of 2.50 above. It implies that all the items are accepted as the students' benefits in the use of Information and Communication technology in National Open University of Nigeria since they received mean scores above the acceptance level of 2.50.

Table 4 Chi-square analysis on the frequencies of students who prefer ICT media method and conventional method in learning

Method of Learning	Item NO	SA	A	D	SD	Total
Learning through ICT media is accepted by me	16	155	115	19	33	322
I understand my lectures when given through ICT media.	17	183	81	29	29	322
I prefer online lesson because I have the opportunity to study online and make more research.	18	182	68	72	0	322
Using ICT facilities in learning ensures accuracy, timeliness and effective learning	19	144	98	58	22	322
I performed better in my result whenever I studied through ICT media	20	122	46	126	28	322
Learning through conventional method is accepted by me	11	70	55	135	62	322
I understand my lectures when there is face to face method of lesson delivery	12	70	100	115	37	322
I prefer face to face lectures because I have the opportunity to ask my instructors questions with instant feedback	13	100	80	72	70	322
Using traditional method of learning ensures accuracy, timeliness and effective learning	14	70	60	126	66	322
I performed better in my result whenever I studied through conventional method of learning	15	94	100	128	0	322
Grand Total		1190	803	880	347	3220

$P < 0.001$; D.F = 27; Critical $X^2 = 40.11$; Cal $X^2 = 567.24$

Figure1. Bar chart presentation on the frequencies of students who prefer conventional method and ICT media in learning



Data in Table 4 above show a calculated X^2 value of 567.24. This was compared with the critical X^2 value 40.11 when tested at 0.05 level of significance with 27 degree of freedom. The null hypothesis is therefore rejected. This implies that there is a significant association or relationship between the students' preference in the use of ICT media method in learning and students preference of conventional method in learning. However, from the observed frequencies and bar chart, one can find that students prefer the use of Information and Communication Technology media in learning as it promoted their learning.

Discussion

This study accepted that the use of Information and Communication Technology media promote students learning in National Open University of Nigeria. The finding agree with the view of Wadi and Sonia (2002) who explained that ICT can influence students' academic learning in several ways by increasing motivation and engagement. The researchers further noted that ICT is also a transformational tools which when used appropriately, can promote the shift to a learner centered environment. The finding also contradicts with the view of Fuchs & Woessman (2004) who asserts that ICTs

can distract learning. This may be particularly salient at home, where computers may be used mainly to play computer games and Internet access could be source of distraction because of chat rooms or online games, reducing the time spent in doing homework or learning. Thus, the impact of the availability of ICTs on student learning will strongly depend on their specific uses. ICT-based instruction could restrict the creativity of learner.

The findings revealed that there is a significant association or relationship between the students' preference in the use of conventional and ICT media method in learning. It was found out that the students prefer the use of ICT in leaning to conventional method. The finding is in line with the finding of Bottino and Sharma (2003) who mentioned that the use of ICT can improve students job performance, lecturing, administration, and develop relevant skills in the disadvantaged communities, the finding also agree with the view of Yuen et al (2003) who revealed that the use of ICT in learning improves the quality of education by facilitating learning by doing, real time conversation, delayed time conversation, directed instruction, self-learning, problem solving, information seeking and analysis, critical thinking, employability skills as well as the ability to communicate, collaborate and learn.

One of the finding include the challenges facing the use of ICT in lesson delivery in National Open University of Nigeria include Poor maintenance and frequent breakdowns of ICT facilities, Irregular power supply, inadequate software for teaching, learning and research, few ICT technical supports and difficulty in assessing educational materials. The present findings agree with Kwacha (2007) who reported that the most common problems associated with the effective implementation and use of ICT are lack of qualified ICT personnel, cost of equipment, management attitudes, inconsistent electric power supply.

This study revealed that the students benefits from the use of Information and Communication technology in Nation Open University of Nigeria includes knowledge of ICT have enhanced academic performance, using ICT enables me to accomplish tasks more quickly with low cost, found ICT useful in their learning and research work, ICT gadgets and products help to develop student interests during teaching and learning, ICT is a great innovation in Nigerian educational system that helps students work and study better. This findings are in agreement with the view of Bottino (2003) and Sharma (2003) mention that the use of ICT can improve students job performance, improves the quality of education by facilitating learning by doing, real time conversation, delayed time conversation, directed instruction, self-learning, problem solving.

Conclusion

This study examined the Utilization of Information and Communication Technology: Benefits and Challenges in National Open University of Nigeria. From the findings, the researchers concluded that the use of Information and Communication Technology media promotes students learning in National Open University of Nigeria, that students prefer the use of ICT in lesson delivery as it promotes their learning. It was concluded that the challenges facing the use of ICT in lesson delivery in National Open University of Nigeria are Poor maintenance and frequent breakdowns of ICT facilities, Irregular power supply, inadequate software for teaching, learning and research, few ICT technical supports and difficulty in assessing educational materials. The study conclude that the students benefits from the use of Information and Communication technology in National Open University of Nigeria which includes knowledge of ICT have enhanced academic performance, using ICT enables me to accomplish tasks more quickly with low cost, found ICT useful in their learning and research work, ICT gadgets and products help to develop student interests during teaching and learning, ICT is a great innovation in Nigerian educational system that helps students work and study better, computers system, video conferencing, internet connectivity, mobile phones and interactive whiteboard with projectors are available in National Open University of Nigeria. There was a significant association between the students preference in the use of conventional method and ICT method in learning.

Recommendations

Based on the findings, discussions and conclusion of this study, the following recommendations are made:

1. That ICT media should be used in NOUN to reach greater population of students since it promotes students learning.
2. That government should equip NOUN with ICT media and adequate manpower to solve the challenges facing the use of ICT in lesson delivery in National Open University of Nigeria.
3. That NOUN should Endeavour to adopt the innovation of fully utilized ICT media and new teaching approaches because of its benefits in students learning.

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