

# Availability and Usage of ICT Facilities in Nigerian Universities

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## Abstract

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*This study was carried out to examine availability and usage of Information and Communication Technology (ICT) facilities in Nigerian universities. The survey design was adopted. The instruments used was a structured questionnaire ( $r=0.87$ ) which was administered to the participants to collect data. Data collected were analysed using simple percentages. The results revealed that students' level of ICT usage was high, while the level of availability was very high also. Consequent on these findings, the study recommended that government, as a matter of urgency, should ensure that more ICT indicators are made available in the Nigeria universities and should also put in place effective policies and legislations that will remove all barriers to the usage of Information and Communication Technology in order to encourage the usage of the provided ICT indicators.*

**Keywords:** Availability, Usage of ICT facilities, Nigerian undergraduates

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## Introduction

Information and communication technologies [ICT] has become a global phenomenon of great importance and concern that affects all facets of human life; communication, agriculture, trade, medicine, engineering, duction, architecture, governance, commerce, defense and global security. Information and communication technology refers to a range of technologies involved in information processing and electronic communication. These include the radio, television, videos, computers, sensors, interface, boxes, e-mail, satellite, connections, internet and all the software and materials which are employed by teachers for teaching and learning [Ajagun, 2003]

The new communication has shrunk distance and eroded borders and time, such that the remotest village in Nigeria has the possibility of tapping a goal tore of knowledge. This development makes it possible to receive vast amounts of information from anywhere in the world in seconds. This technology greatly facilitates the acquisition of knowledge, offering the developing countries the opportunity to enhance their educational system, improve their policy formulation and widen their range of opportunities [Wol bank, 1999 cited in Abba, 2003].

The importance of technology in the educational process is quite evident. The accelerated growth of these technologies is

connected to the advent of computer as a facilitator. Therefore, no discussion on new technologies can be complete without using the starting role of the computer in facilitating information and communication technology utilization.

Computer holds greater promise in the institutional process compared to other media such as book materials, chalkboard, radio/television and films that have dominated institutional practices over the ages.

The computer is capable of activating the senses of sight, hearing and touch of the users. It has the capacity to provide higher interactive potential for user to develop their individual intellectual and creative abilities. The computer offers a problem-based learning environment that helps the user to apply themselves in a creative manner and acquire creative rather than passive knowledge.

The world is changing from what has been referred to as the 'industrial age' to the 'computer age' or 'information age'. Many societal changes are taking place and these changes brought about by computer are dramatically altering the way people live and work. [Banahene, 1995]. The new technologies are seen as the contemporary solutions to several educational problems in the word.

Consequently, there is emphasis on the intensive use of information and communication technology [ICT] for teaching and learning in the developed world as a potent means of

equipping students for successful and productive living in a technologically developed world [Thomas, 2003]. Computer is the nucleus of ICT, no wonder, it was further stressed that if the computer was suddenly silenced, the whole world would be thrown into chaos.

At the instructional level, new technologies have greatly influenced information in the act of teaching and research. Computers are used by pupils to learn reading, mathematics, social studies, arts, science, music and so on. Though the simultaneous use of audio, text, images, graphics, motion, computers give ample and exceptional opportunities to the students to develop capacities for high quality learning and to increase their ability to innovate

Similarly, the internet helps us link the students to the schools and libraries around the world thereby making it possible for them to access information in any subject. Apart from enjoying access to large quality of information, internet facilities individualized learning, creativity, vital skills of inquiry and problem solving that are useful for productive living.

However, the creative freedom and choice of direction provided by the use of multimedia in the institutional process empower the students to cope with learning problems even without teachers' interference. Thus, the computer-based teaching in Nigerian universities will help to enhance the intellectual and creative potential of the students. The active involvement of students in the generation of their own knowledge facilitates active learning rather than the teacher-dominated pedagogy. Such students will be better equipped with vital skills of problem solving.

Chapin and Messick [1992] distinguished between interactive and non-interactive dimensions of technology for teaching in Nigerian universities. By nature, non interactive media like film, film strips television, radio, videocassettes e.t.c, promote passive learning because viewers, that is students cannot easily change the presentation. On the other hand, interactive media like computers and telecommunications facilitate problem-based learning. Accordingly, computers facilitate the

storage, editing, retrieval and presentation of data and these could be historical, geographical, cultural, demographical and economic data.

In Nigeria, the federal government has recognized the significances of ICTs in all human endeavors, the changing needs and roles of education and this led to the inclusion of computer education in the Nigerian policy in 1988. Nigerian started implementing its ICT policy in 2001 after the federal executive council approved it by establishing the National Information and Technology development agency [NITDA], the implementing body. The policy empowers NITDA to enter into strategic alliances and joint ventures and to collaborate with the private sector to realize the specifics of a country's vision of making Nigeria an IT capable country in Africa and a key player in the informative society by the year 2005 through using IT as an engine for sustainable development and global competitiveness. This vision is yet to be fulfilled.

Nigeria's education ministry is yet to design its ICT capacity policy for education. The ministry's ICT department was created in February, 2007. However, several different initiatives by government agencies and the private sector to introduce and promote ICTs in education are underway. The drawback to these programmes is the generally sporadic and insufficient supply of electric power in urban areas.

The National Universities Commission (NUC), the government agency responsible for registering and regulating universities, has prescribed PC ownership for universities as follows: one to every four students, one PC to every two lecturers below the grade of Lecturer, one PC per Senior lecturer and one notebook per Professor / Reader. While some universities like the Nnamdi Azikwe University have achieved a better ratio for their faculty, the same cannot be said for the PC to student ratio. However, some universities have made giant strides in campus-wide area networking and e-learning course deliveries.

Acquisition of basic ICT skills and capabilities have recently been made mandatory

as part of the national minimum standard for teacher education at the Nigeria certificate of education and first degree in education levels. Also, some universities in Nigeria have made ICT skills a requirement for continuing and graduating students. Thus, the teacher education college has also been impacted by the current ICT revolution.

In spite of the importance of ICTs to all facets of life and the federal government's effort to make it available, the ICT revolution is yet to attain that critical mass required for it to register the necessary impact in the teaching, student and civilian population nationwide and this is because ICT resources are still grossly inadequate and slowly utilized in Nigeria. While some universities like OAU, UNIJO can boast of having computers as prescribed by the NUC, the majority of Nigeria's Universities, Polytechnics, Nursing and midwifery schools and Colleges of Education lack computers.

A study carried out on availability and usage of selected information technology types revealed that the level of usage of new technologies in Nigeria is very low. This is attributed to numerous constraints such as lack of infrastructural facilities, computer illiteracy and low level of awareness. Many of the lecturers in the public Universities have to go to commercial cyber cafés before they can have access to a computer. The private universities are better off since the majority of them, for example the ABTI- American University of Nigeria (AAUN), has 24-hours internet connectivity on campus and each student is provided a laptop with the cost factored into the fee structure. Though, the AAUN fee is beyond the means of most Nigerians.

The activities of NITDA, ETF, School Net Nigeria and other stakeholders as well as the partnerships with CISCO and Microsoft should gradually move the nation towards the realization of its ICT vision as network operators and software developers take advantage of the opportunities offered to acquire essential expertise and technology in their areas of endeavour to help initiate generalized internet

usage. It is then that e-learning and ICT application to education in general may come of age in Nigerian schools.

It is on this background that this research is designed to assess the level of availability, usage and impact of ICT on Nigerian University Students Academic Performance a case study of Federal University of Technology, Akure (FUTA), University of Ibadan (UI), Ladoké Akintola University, Ogbomosho (LAUTECH) and Ogun State University (OSU).

Statement of the Problem.

In view of the requirement for information technology utilization and the objectives set for students at tertiary levels of Nigerian Educational system in the National policy on Computer Education (NPCE, 1989), there is an urgent need to investigate the level of availability, the extent of utilization and the impact of new technologies on Nigerian University Students' Academic Performance.

#### **Research Question**

Rq1: What is the level of students' ICT appreciation towards academic activities?

Rq2: To what extent are the ICT indicators available in the universities of undergraduate students?

#### **Significance of the Study**

The findings of this study will be important and useful to the government for effective planning, implementation, monitoring and evaluation of policy decisions on tertiary education in Nigeria.

It will be useful to the National Universities Commission (NUC), Teachers and Students of higher education. Curriculum planners and designers will also find the results of this study very useful and significant.

#### **Scope of the Study**

This research is designed to investigate the level of availability, usage and the impact of ICT on Nigerian University Students' Academic Performance in Federal University of Technology, Akure, University of Ibadan,

Ladoke Akintola University of Technology, Ogbomoso. Olabisi Onabanjo University, Ago Iwoye.

**Computer Literacy:** It is the knowledge, skills and attitudes which enable a person to use computer technology to benefit himself and others in relation to the task he wishes to accomplish.

**ICT:** An acronym for Information and Communication Technology.

**New Technologies:** These are the various electronics and electro mechanical gadgets such as radio, television, computers, internets and satellite technologies currently in use for communication and information dissemination.

**Utilization:** The direct and indirect use of new technologies for teaching and learning.

### **Methodology.**

This study adopted the survey research design of ex-post facto type. This design is relevant as all the variables being studied have already existed and the researcher only investigated only investigated and described them as they are. There were no experimental manipulations of the variables and no intervention by the researcher as to how the variables are related. The population of this study comprised university students in Ondo, Ogun and Oyo States.

The sample size for this study was 300 respondents. The Purposive sampling technique was used to select the institutions for the study. Two federal (University of Ibadan, Federal University of Technology, Akure) and two state (Olabisi Onabanjo University, Ago Iwoye and Ladoke Akintola University, Ogbomoso) were purposely selected based on their use of ICT in the teaching and learning process. The instrument used was one self developed, questionnaire ( $r=0.87$ ). Data were analysed using descriptive statistics, t-test and anova.

**Answering the Research Questions****R.Q 1:** What is the level of students ICT appreciation towards Academic Activities**Table 1:** Students Appreciation of ICT towards Academic Activities

S/N	Students	Option	F	%
5.	How many years have you been using computers	< 1 year	27	9.0
		1 - 2 years	62	20.7
		2 - 4 years	68	22.7
		4 - 6 years	56	18.7
		6+ years	82	27.3
		No response	5	1.7
		Total	300	100
6.	Who thought you about computer	I thought myself	123	41.0
		My teachers	59	19.7
		My friends	49	16.3
		My family	51	17.0
		Other students	18	6.0
		Training outside of schools		
		On- line course	-	0
		Others	-	0
		No Response	-	0
		Total	-	0
			300	100
7.	In your school are you able to use the required ICT tools and facilities in doing your course?	No	58	19.3
		Yes	222	74.0
		No Response	20	6.7
		Total	300	100
8.	Do you have access to internet	No	58	19.3
		Yes	224	74.7
		No Response	18	6.0
		Total	300	100
9.	How often do you use the internet for surfing website in schools	Never	101	33.7
		Once a month	125	41.7
		Once a week	5	1.7
		Several times a week		
		No Response	28	9.3
		Total	41	13.7
		300	100	
10.	Please check if you have any of the following	Mobile phone	180	60.0
		Handheld/PDA	62	20.7
		E-mail Address	55	18.3
		Personal Website/ Webpage		
		No Response	3	1.0
		Total	300	100

11.	How often you use and send E-mail	Many Times Everyday	68	22.7
		A few times Everyday	87	29.0
		A few times Every Week		
		A few times every year	74	24.7
		Never		
		No Response	1	3.0
		Total	24	8.0
		22	7.3	
		24	8.0	
		300	100	
12	What are your favourite activities using computer	Find and Research Information	129	43.0
		E-mail	52	17.3
		Chat	74	24.7
		Download Music	1	0.3
		Play Games	22	7.3
		Write Computer programs		
		Make presentation using power point	21	7.0
		No Response	-	0
		Total	1	0.3
	300	100		
13.	How many hours on the average per week of normal school hours are you able to use these computers and ICTs to do your studies?	1	36	12.0
		2	16	5.3
		3	5	1.7
		4	2	0.7
		5	1	0.3
		No Response	240	80.0
		Total	300	100
14.	Where else can you have access and use of these ICT tools?	At Home	67	19.0
		In commercial places (Cyber cafe)	104	34.7
		Friends House	69	23.0
		ICT Training courses	1	0.3
		Others	0	0
		No Response	69	23.0
		Total	300	100

Table 1 shows that 68.7% of the students have been using computer over two years; 41% acquired the knowledge of ICT through self taught, 19.7% were taught by their teachers, 16.3% were taught by friends, 17% by family members while 6% were taught by peers.

Also, a considerable percentage (74.0%) are able to use ICT tools and facilities in doing their courses in school while 74.7% of the students claimed to have access to internet, 19.3% of them claimed not to have access to internet.

Moreover, 125 (41.7%) of the students claimed to be using the internet for surfing websites in their various schools while 101 (33.7%) of the students claimed that they have never used the internet before and just 28 (9.3%) agreed that they used internet for surfing websites several times a week. (60%) of the students claimed to have mobile phones while 18.3% of them have e-mail address and 3 of the students claimed to have personal website/webpage. However, (87%) of the students claimed that they used e-mail a few

times everyday while 74 of them claimed to be using e-mail a few times every week and 22 of them agreed that they have no e-mail address. Furthermore, 43.0% of the students agreed that their favourite activities using computers is to find and research information, 24.7% of them claimed that they use it for on-line chatting and 17.3% claimed that they use it to check e-mail. Also, 12.0% of the students claimed that they use

computer and other related ICTs for an hour on the average per week of normal school hours for their studies, while 80% of the students did not respond to the question. 34.7% of the students claimed to have access to ICT tools in commercial places while 19.0% of them have access to it at home and 23.0% of them claimed to have access to ICT tools in their friend's house.

**RQ2:** To what extent are the ICT Indicators available in the universities of undergraduate students?

**Table 2:** showing the extent of the availability of ICT Indicators in the universities

S/N	Students ICT Indicators	Available (Yes)		Not Available	
		F	%	F	%
1.	Overhead projector	73	24.3	161	53.7
2.	T.V	160	53.3	139	46.3
3.	VCD	79	26.3	155	51.7
4.	VHS (Video)	65	21.7	149	49.7
5.	DVD	76	25.3	158	52.7
6.	Video camera	85	28.3	149	49.7
7.	Photo camera	111	37.0	144	48.0
8.	Radio/ cassette player	88	29.3	142	47.3
9.	Digital photocopier	95	31.7	139	46.3
10.	Multimedia projector	109	36.3	146	48.7
11.	LCD projector	131	43.7	124	41.3
12.	Desktop computers	99	33.0	136	45.3
13.	Laptop computers	121	40.3	128	42.7
14.	Handheld/PDA	77	25.7	155	51.7
15.	Colour printer	137	45.7	98	32.7
16.	Black and White printer	154	51.3	74	24.7
17.	Dot Matrix	96	32.0	131	43.7
18.	Laser printer	138	46.0	90	30.0
19.	Ink jet	140	46.7	111	37.0
20.	Bubble jet	77	25.7	137	45.7
21.	Scanner	119	39.7	95	31.7
22.	CD writer	96	32.0	118	39.3
23.	Computer speaker	88	29.3	126	42.0
24.	Interactive reaching board	43	14.3	171.	57.0

Table 2 reveals that Television within 54.3% is the most available ICT indicator in Nigeria universities for the undergraduates. Also LCD projector (43.7%), Laptop computer (40.3%), Desktop computer (33.0%) are available.

Findings as presented in Table 1 showed that 68.7% of the students have been using computer over two years, 41% acquired the

knowledge of ICT through self taught, 19.7% were taught by their teachers, 16.3% were taught by friends, 17% were taught by family members while 6% were taught by peers.

Also, a considerable percentage of the students (74.0%) was able to use ICT tools and facilities in doing their courses in school while 74-7% of th students claimed to have access to

internet, 19.3% of them claimed not to have access to internet.

Moreover, 125 (41.7%) of the students claimed to be using the internet for surfing websites in their various schools while 101(33,7%) of the students claimed that they have never used the internet before and just 28 (9.3%) agreed that they used internet for surfing websites several times a week. 60% of them claimed to have mobile phones while only 18.3% of them have e-mail address and 3 of the students claimed to have personal website/webpage.

### Conclusion

The internet and its services have boosted the level of information, knowledge and opportunities available to Nigerian undergraduate students. Our investigation showed that the majority of the undergraduates in the university use the internet for many purposes; and have realized the benefits the internet has to offer undergraduate students in higher school of learning.

### Recommendation

1. The NUC should introduce a practical course that will enable the students to understand the usage of computer and other ICT indicators in the university curriculum.
2. Government should seek to increase the amount of, and access to, up to date ICT equipment in all higher school of learning as well as provide adequate resource including bandwidth relative to the school population.

3. Adoption of effective strategies to enhance staff skills in the use of ICT to deliver the curriculum is also very important. Greater use of ICT for students, staff and parent by introducing online checking of results and information about their programmes, assessments, reporting, monitoring and evaluation is also desirable.

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