

Challenges Preventing Students in Public Tertiary Institutions from Using Information Communication Technology for Learning in Nigeria and the Way Forward

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Abstract: This paper examined the challenges preventing students of public tertiary institutions in Nigeria from using ICT for their learning programme. The paper depends on secondary data to support the various points raised in the paper. The secondary data were sourced from the print materials and online publication. Inadequate funding of ICT, inadequate ICT facilities, poor implementation of ICT policies, high cost of ICT, unstable electricity, unstable internet service and student poor ICT literacy were identified as challenges preventing students of public tertiary institutions in Nigeria from using ICT for their learning programme. To address these problems preventing Nigeria tertiary students from using ICT for their studies. This paper recommended the following: the government should increase the funding of public tertiary institutions, provision of ICT facilities, subsidize the cost of ICT facilities, implement the ICT policies on education, capacity development for students and provision of constant electricity and internet services in all tertiary institutions across the country.

Key words: Challenges, ICT, Tertiary institutions. Education, Students

1. Introduction

Tertiary Education is the education given after Post Basic Education in institutions such as Universities and Inter-University Centers such as the Nigeria French Language Village, Nigeria Arabic Language Village, National Institute of Nigerian Languages, institutions such as Innovation Enterprise Institutions (IEIs), and Colleges of Education, Monotechnics, Polytechnics, and other specialized institutions such as Colleges of Agriculture, Schools of Health and Technology and the National Teachers' Institutes (NTI) (NPE,2013).

The goals of Tertiary Education shall be to:Contribute to national development through high-level manpower training; provide accessible and affordable quality learning opportunities in formal and informal education in response to the needs and interests of all Nigerians; provide high-quality career counseling and lifelong learning programmes that prepare students with the knowledge and skills for self-reliance and the world of work; reduce skill shortages through the production of skilled manpower relevant to the needs of the labour market; promote and encourage scholarship, entrepreneurship and community service; forge and cement national unity; and promote national and international understanding and interaction(NPE,2013).

Tertiary Educational institutions shall pursue these goals through: Quality student intake; quality teaching and learning; research and development; high standards in the quality of facilities, services and resources; staff welfare and development programmes; provision of a more practical based curriculum relevant to the needs of the labour market; generation and dissemination of knowledge, skills and competencies that contribute to national and local economic goals which enable students to succeed in a knowledge-based economy; a variety of flexible learning modes including full-time, part time, block release, day-release, and sandwich programmes; access to training funds such as those provided by the Industrial Training Fund (ITF), Tertiary Education Trust Fund (TETFund); Students Industrial Work Experience Scheme (SIWES) that is well structured, coordinated and supervised; maintenance of minimum educational standards through appropriate regulatory agencies; an all-inclusive credible admissions policy for national unity; supporting affordable, fair access to tertiary education through scholarships and students' loans; inter-institutional co-operation and linkages; and dedicated services to the community through extra-mural and extension services (NPE,2013).

The tertiary institutions are home to the students, academic staff and non-academic staff. The students are recognized as one of the most important factors in the tertiary education. Ogunode, Audu, Ahaotu, (2020) observed that students are learners in educational institutions. Studentship started from the early child education to basic education to secondary school education and ends in the higher institutions. Higher institutions students are learners in the higher institutions. Higher institutions students are matured learners. Students in higher institutions are aged from 18 years and above. Students of higher institutions are ready for learning and research. Some of the students of higher institutions are dependent while others are independent. Students in higher institutions are either doing first degree, second degree or third degree (Ogunode, Audu, Ahaotu, 2020, Ogunode & Abubakar, 2021). National Open University of Nigeria (NOUN, 2009) observed that students are the focal point of school administration. Therefore, 'whatever the school head does, must take into account the students, their welfare, and other activities that affect their lives and stay in school. Schools are set up not for teachers, not for parents, not for educational administrators but for students. The various decisions taken by school administrators therefore, depend upon knowing the general and specific needs of the students' population (Ogunode & Abubakar, 2021). Ogunode, Audu, Ahaotu, (2020) submitted that Nigerian students in tertiary institutions are faced with many challenges and one of these challenges is inadequate infrastructural facilities. Infrastructural facilities like information communication and technology are inadequate in majorities of the higher institutions in the country. Adavbiele (2016) noted that today, many schools in Nigeria are faced with the developmental challenges of the use of Information Communication Technology (ICT) in terms of e-teaching and e-learning processes. This paper discusses the challenges preventing students of public tertiary institutions in Nigeria from using informational communication technology for their studies effectively.

2. Concept of Information and Communication Technology

Uwabueze & Ozioko (2011), defined information and communication technology as a set of tools that help a person work with information and perform tasks related to the information process. Unwin, (2004) observed that ICT has improved the value of education by providing access to a great variety of educational resources and by enabling participatory pedagogies. It also improves the management of education through more efficient administrative processes, including human resource management, monitoring and evaluation, and resource sharing while United Nations Educational Scientific and Cultural Organization (UNESCO, 2005) viewed ICT as a combination of all the computers, telecommunication, and media technologies. They are also electronic

technologies used for accessing, processing, gathering, manipulating, and presenting or communicating information in the education system.

Timiyu (2003), sees information and communication technology (ICT) to include electronic technologies for creating, acquiring, storing, processing, communicating and using information. Timiyu classified ICT along two broad dimensions: the content-conduit facet and the service product dimension. Content-oriented ICT consist of the digital creation and publishing of information or content (e.g. database products, electronic books, and websites). Conduit- oriented ICT offers the guide or media for storing and transmitting of this information (e.g. telephone network). The product-oriented approach, on the other hand, embraces all physical objects or equipment used for information processing or transmissions like computers, cellular phones, and TV transmitters. ICT is defined by Ayannuga (2009) as the marriage that exit between computer system and communication which can be described as the use of computer-based technology and internet to make information and communication services available to a greater number of users. The United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2013) stated that ICT can contribute to universal access to education, equity in education, the delivery of quality learning and teaching, teachers' professional development, efficient management, governance, and administration. Patrick and Brenda (2018) concludes that ICT is not just the bloom of the education system, but also the primary and secondary options required to improve effective and meaningful interaction between teachers and students of secondary schools. It has the power to make students enjoy things that they would normally find time-consuming and difficult because it involves practical teaching and student-centered and not teachers talking and writing on the chalkboard and student copying from the chalkboard into their notebook without engaging in practical teaching which makes learning boring. ICT is a teaching tool that improves the quality of secondary school student's education and support teachers' work. ICT usage in teaching in public secondary schools will aid effective teachings and learning and help the students acquire necessary skills that will enable them to contribute to the growth, improvement, and development of the nation socially and economically.

ICT usage can be defined as the utilization of a diverse set of technological tools and resources that can be used to communicate, and to create, disseminate, store, and manage information(Saraf et al., 2016) while Teo&Beng Lee, (2010)ICT usage can be referred toas the utilization of the internet along with computer networks, World Wide Web, email and search engines used in the production and sharing of information.

ICT is applicable to all field in education and ICT support both the students, teachers and non-teaching staff to deliver their services very fast. Joshi and Chugh (2009) observed that stated that information and communication technology has immense potential to motivate and engage students in learning. Innovations in technology can be used in enhancing existing teaching and learning tools in the classroom in order to facilitate the development of computer-related competencies in business education. Technology allow students to have control over their learning environment and to act as self-directed learning's promoting more active learning. Accorlding to Patil, (2012). The following are ICT benefits to the students

- A. Computers can improve independent access for students to education
- B. Students with special educational needs are able to accomplish tasks working at their own.
- C. Create greater enthusiasm for learning amongst students,
- D. Visually impaired students using the internet can access information alongside their sighted peers.

- E. Give greater exposure to vocational and workforce skills for students,
- F. Students with profound and multiple learning difficulties can communicate more easily.
- G. Students using voice communication aids gain confidence and social credibility at school and in their communities.
- H. Increased ICT confidence amongst students motivates them to use the Internet at home for schoolwork and leisure interests.
- I. Provide distance learners country-wide with online educational materials.
- J. Provide learners with additional resources to assist resource-based learning. Lurfke in Yusuf (2004) noted among other things that today's students live in a worldwide knowledge-based age, and they deserve teachers whose practice can embrace the best that technology can bring to learning. Through teachers used of ICT facilities, students can easily be given the opportunity of becoming part of the knowledge age and skills communicated to young people in an increasingly intricate world. Lecturers will need to use ICTs in order to prepare tomorrow's employees and customers with required competence and knowledge to use ICT within their work.

3. Challenges Preventing Students of Public Tertiary Institutions in Nigeria from Using Information Communication Technology for Learning

There are many challenges preventing students of public tertiary institutions in Nigeria from using ICT for their learning programme. Some of the challenges include; inadequate Funding of ICT, Inadequate ICT facilities, poor implementation of ICT policies, high cost of ICT, Unstable electricity, Unstable internet service and student poor ICT literacy.

3.1. Inadequate Funding of ICT

Inadequate funding of ICT programme in the Nigerian tertiary institutions is a major problem preventing the effective use of ICT by students for learning. The funds released for the administration of tertiary education in Nigeria is inadequate and this is affecting the capital development of many public higher institutions. Ogunode, Babayo, Jegede & Musa (2021) Opined that many universities do not have funds to buy adequate ICT facilities and distribute them to all offices where ICT facilities are required for official use. The annual allocation for the administration and management of universities in Nigeria is small and is affecting the development of infrastructural facilities like the ICT in the various institutions. Many offices and departments in the universities in Nigeria do not have an adequate computer system and laptops enough for the Non-academic staff to work. Some Non-academic staff has to wait for others to finish using the computer before they can use it for office work. The universities due to their underfunding could not provide all the relevant information technologies to meet the information needs of their academic and non-academic staff (Ogunode, 2020).

3.2. Inadequate ICT Facilities

The problem of inadequate ICT facilities in many public tertiary institutions across the country is hindering the students from using ICT to carry out their academic work in the various institutions. Adeyemi and Mary (2013) submitted that Nigeria lacks the necessary infrastructural facilities to benefit from ICT. Again, most of the ICT infrastructures such as internet, telefax, e-mail are dependent on NITEL (Nigerian Telecommunications Limited), NIPOST (Nigerian Postal Agency) and PHCN (Power Holding Corporation of Nigeria) services. These services are epileptic in delivery and attract unbearably high bills. Ibegwam (2004) observed that students of the College of Medicine, University of Lagos, Nigeria listed frequent computer breakdown and slow speed of

downloading materials as factors affecting their use of the Internet. The effect of these constraints may be reduced in the federal universities due to the intervention of some foreign organizations that have been assisting in the acquisition and implementation of ICT infrastructure in such institutions. , that Nigeria tertiary institutions lack basic office gadgets and technologies like computer, printers, faxing machines, photocopiers, binders, and projectors not even to talk of internet in most of the institutions particularly Colleges of Education. The dearth of these rudimentary facilities contribute to the challenges facing placement of ICT in Nigeria tertiary institutions, as no institutions can function effectively in this modern trend of ICT without these facilities.

3.3. Poor Implementation of ICT Policies

The National policy on ICT states that government shall provide adequate ICT facilities in all educational institutions to support teaching and learning. The objectives of this policy is to ensure that ICT facilities are provided for both teachers and students in their respective institutions. Adavbiele (2016) cited Okhiria (2007) also noted that National Universities Commission (NUC) in Nigeria has prescribed that there should be at least one computer to every four students and one PC to every two lecturers below the grade of lecturer I, one PC per senior lecturer and one notebook per reader/ professor. NUC has gone further to establish e-learning platforms fitted with twenty smart boards in twelve Federal universities for the promotion of the use of ICT in teaching and learning. Majority of the Nigerian universities have not achieved this recommended system ratio for their faculties, though some have made giant or notable strides in campus wide area networking and e-learning course deliveries. The poor implementation of these ICT policies is among the factor prevent Nigerian tertiary institutions students not having access to adequate ICT facilities to support their learning programme. Adeosun, (2010) carried out a study that showed that lack of ICT resources and poor infrastructure prevents full implementation of ICT in Nigerian tertiary institutions. The poor implementation of ICT policies in the Nigerian tertiary institutions is preventing many students from using ICT effectively for their students.

3.4. High Cost of ICT

High cost of ICT facilities is another major problems hindering the Nigerian public tertiary institutions from using ICT for learning in their various institutions. Many students are not financial buoyant to purchase such ICT devices considering the high rate of poverty in the country. Ohiwerei, Azih, & Okoli, (2013) submitted that Desktop and Lap-top are still very expensive in Nigeria such that more than 85% of business education students are unable to acquire one for their academic utilization. It is unfortunate to note that government agencies, non-governmental agencies (NGO) corporate organizations and individuals have not in any way been able to assist business education students by donations. There are still large percentages of business education students who are still unable to purchase computers for use. Currently new computers are as from #150,000.00 upwards. The high cost of internet data and electronic services, is basically the element of ICT usage and value and is one of the challenges of installing ICT in Nigerian tertiary institution (Tongia & Subrahmanian, 2006). Ogunode, Babayo, Jegede & Musa (2021) observed that the high cost of ICT facilities is responsible for limited ICT facilities in many higher institutions across the country. Due to poor funding, many higher institutions cannot afford to buy large quantities of ICT facilities for office use. Much Non-academic staff too cannot afford to buy new ICT facilities for personal use. The high cost of ICT facilities is one of the major factors preventing the Non-teaching staff from using ICT constantly to carry out official responsibilities.

3.5. Unstable Electricity

Another problem preventing Nigerian public tertiary institutions students from using ICT to support their studies effectively is the problem of unstable electricity supply. Babatunde & Paschal (2016) submitted that in Nigeria, the biggest challenge to the growth and development of most industries is poor electricity supply. This is a huge setback to the progress of Nigeria, as it is difficult to boast of one full day without electricity interruption not to talk of a week or one Month. Meanwhile, most countries of the world are beginning to celebrate 100 years and still counting of no electricity interruption. Ohiwerei, Azih, & Okoli, (2013) opined that Nigeria being a developing nation cannot boast of twenty four hours electricity supply to its citizens. The institutions are directly connected to Power Holdings Company of Nigeria, yet no electricity of power is supplied to the institutions. It is on a sad note that some of the faculties and departments of the institutions cannot afford a generating set such that can power the entire computer for teaching and learning. Consequently, both the teachers and students are handicapped and may not be able to offer the computer lesson. Adavbiele (2016) identified lack of consistent and affordable electricity supply discourages the use of ICT in my University, low access to ICT facilities in my university, Non possession of personal computer and some essential software hinder the use ICT in my study, Problem of poor reception (uploading and downloading of documents/files act as hindrance), Health related problems associated with the use of computer like eye strain and heat exposure discourage me on the use of ICT, Inability of my university to meet the capital and running cost of establishing both the internet and intranet facilities. Problem of resourcing issues like class size, students and teacher preparation for the new modes of learning and teaching and for the use of associated technologies and Pedagogical issues like the need to re-design courses for different delivery modes hinders me on the use of ICT as problem hindering effective of ICT usage in universities.

3.6. Unstable Internet Service

Unstable internet services is a very big challenge to the use of ICT for the Nigerian students at higher institutions. The internet service in the country are not strong and stable to support effective browsing on facilities. Many students cannot submit their assignments, carry out research online or even check their results due to poor internet services within the campuses. Ohiwerei, Azih, & Okoli, (2013) observed that some of the Nigerian universities are not able to connect to the world wide web, even if the universities are connected, department of business education where students are to be taught information and communication technology are not connected due to the high costs involved in the connection while Ajuwon (2003) who reported insufficient computer and Internet use proficiency as factors affecting the use of computer and the Internet among first year clinical and nursing students in a Nigerian teaching hospital. Adavbiele (2016) also discovered in his study that there is a gap between the university teachers and students and ICT usage in classrooms and many university lecturers and students have to go to commercial cyber cafés in town before they have access to a computer that is internet connected, teachers are faced with some challenges and barriers of availability of facilities which prevent them to employ ICT in the classroom. Babatunde & Paschal (2016) observed that in Nigeria, the high cost of internet data and fast tariff set by internet providers, mostly international companies doing business in the country with the main interest of making profits is among the challenges of ICT deployment. Although the government is supposed to regulate the internet distribution cost and tariff speed of these internet providers, most often the agencies in charge of such regulations are more interested in tax and the welfare of their organisation that they overlook the value of services the companies they regulate offer to the people. This is seriously affecting the deployment of ICT in Nigerian universities, as most universities in Nigeria are autonomous (i.e. they manage their own funds) especially state

owned universities like Enugu State University of Science and Technology (ESUT). Hence, they cannot afford to make ICT available to the whole university which includes staff and students, unless they have sponsors or government funding to embark on such projects. The government should subsidize internet data cost and set a minimum tariff speed for internet providers, in order to enable Nigerian universities to embrace ICT (Babatunde& Paschal 2016).

3.7. Student Poor ICT Literacy

Student poor ICT literacy is another problem preventing many public tertiary institutions students from using ICT to support their studies. Ogunode (2020) did a study and discovered that the challenges preventing students of educational administration and planning from using ICT for learning includes; and poor computer literacy of the lecturers, unstable power supply, lack of personal laptop or computer system, unstable ICT Network services, High cost of ICT services and poor infrastructural facilities of ICT in higher institutions. Mutula(2010) did a study and discovered that fresh students from secondary schools who got admission into the University of Botswana were largely information illiterate and this created challenges to the university in terms of offering effective academic programmes. Airen(2011) did a study on ICT literacy of the undergraduates and found that students in Faculty of Social Sciences were found to have poor skills in the use of computer and the Internet (with more than 33%), when the average was computed for very poor and poor ICT knowledge, while over 34% of the respondents in Faculty of Arts were found to have poor skills in the use of the telephone. The result also showed that six factors identified as constraints to ICT literacy of the undergraduates were: namely: Inaccessibility to ICT, Inadequate ICT, lack of skills to use these facilities, irregular power supply, limited duration for the use of ICT and frequent computer breakdown. Out of these six factors, three were found to be major given that more than 50% of the respondents identified them as constraints: irregular power supply (67.4%), inadequate ICT (54.3%) and limited duration of the use of the available ICT (54.2%).

4. Way Forward

To address these problems preventing Nigerian tertiary students from using ICT for their studies. This paper recommends the following: education program, provision of ICT facilities, subsidize the cost of ICT facilities, implement the ICT policies on education, capacity development for students and provision of constant electricity and internet services:

- A. Adequate Funding for Computer Education Programme:** The government should increase the funding of ICT education in all the public tertiary institutions in Nigeria.
- B. Provision of ICT Facilities:** The government should provide adequate ICT facilities to all the public tertiary institutions to enable the institutions to deploy ICT facilities for teaching and learning in the classroom
- C. Subsidize the Cost of ICT facilities:** The government should subsidy ICT facilities for students to enable students to buy their personal systems and use it for their learning.
- D. Implement the ICT Policies on Education:** The national policy on information and communication technology in all tertiary institutions should be well implemented beyond mere policy statement.
- E. Capacity Development for Students:** Capacity development programs should be provided for tertiary institutions students to enable them to use ICT facilities to support their learning.
- F. Provision of Constant Electricity and Internet Services:** The government should ensure that educational institutions in the country especially the tertiary institutions are provided with constant power supply and internet services.

5. Conclusion

In conclusion, this paper observed that there are many challenges preventing students of public tertiary institutions in Nigerian from using ICT for their learning programme. The paper identified; inadequate Funding of ICT, Inadequate ICT facilities, poor implementation of ICT policies, high cost of ICT, Unstable electricity, Unstable internet service and student poor ICT literacy as challenges preventing students of public tertiary institutions in Nigerian from using ICT for their learning programme. To address these problems preventing Nigerian tertiary students from using ICT for their studies. To address these problems preventing Nigeria tertiary students from using ICT for their studies. This paper recommended the following: the government should increase the funding of public tertiary institutions, provision of ICT facilities, subsidize the cost of ICT facilities, implement the ICT policies on education, capacity development for students and provision of constant electricity and internet services in all tertiary institutions across the country.

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