*Full Length Research*

# Information and Communication Technology Skills of Undergraduate Students of the University of Jos, Plateau State, Nigeria

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This study surveyed Information and Communication Technology Skills of undergraduate Students of the University of Jos, Plateau State, Nigeria. The study employed a descriptive survey method and questionnaire was the instrument used for data collection. The population for the study comprises of all the registered 200 and 500 level students of the University of Jos. The library was used as a target point and the students that visit the library within the period of the study were used for the study. 200 level-500 level students were used in this study and were given equal chance of been picked using Proportionate stratified sampling technique. A total number of two hundred and twenty students (220) were selected and used as sample for the study It was revealed from the study that internet search skills and data processing skills are the ICT skills possessed by students of University of Jos, a majority of the students of the University of Jos have average ICT skills, majority of the students of the university Jos acquired their ICT skills through personal effort and through apprenticeship/ training and lack of funds, management reluctance towards ICT, insufficient ICT facilities, epileptic power supply and limited skilled ICT trainers are the major challenges students face while acquiring ICT skills in University of Jos. The study recommends that the university management should strengthen the ICT courses or programmes in the school by way of providing the needed facilities, adequate funding and making ICT a compulsory course to all 100 level students of the School irrespective of the department.

**Key words:** ICT, Skills, Undergraduate, Students, University, Jos, Plateau State, Nigeria

## INTRODUCTION

The term I.C.T is an abbreviation for the words, information and communication technology. It was coined as a result of the diverse communication systems which facilitates the sharing and dissemination of information on network. Information and communication technology skills is seen as information and communication technologies use for information storage and retrieval, which is developed partly, to determine ability, and to establish a synergy interaction between technological innovation and human value (Nwagwu, 2001).

Information and communication technology skill is also seen as the ability to use computer effectively as an essential part of everyone's educational skills, such as; book keeping, clerical and administrative work, stock taking, and so on. There are developments In Nigerian education sector which indicates some level of I.C.T skills application. The federal government of Nigeria, in the National policy on education (2004), recognized the prominent role of I.C.T skills in modern world, has integrated I.C.T into education in Nigeria. To actualize these goals, the education documents states that, government will provide basic infrastructure and training at primary, secondary, and tertiary level of education. Bemah (2002) stated that, the exponential growth in information and knowledge, and the corresponding increase in user needs have stipulated a greater degree of technological inventions and strategies towards the management.

Equally in 2000, Nigeria developed a policy on information and communication technology with the aim of making Nigeria information technology (I.T) adapted country in Africa, and also a leading player in the use of I.C.T as an implement for sustainable development and global competitiveness. In a related development, in 2006, the federal ministry of education launched an I.C.T driven project known as school net (Adomi, 2005). This was intended to equip all tertiary institutions and secondary schools in Nigeria with I.C.T facilities. In June 2003, at the African summit of the world economic forum held in Durban, south Africa, by the new partnership for African development (NEPAD), In which I.C.T equipment like; computers, radio, television, telephones fax machines, scanners, digital cameras, internet were launched in African countries including Nigeria (Aginam, 2006). Minishi (2007) said the significance of governmental intervention is exhibited in the growth of the ICT infrastructure, which provides a platform for institutions and library and information science departments to increase their ICT diffusion.

Kumar and Kaur (2005) stated that, the current information revolution and increasing impact of information and communication technology has modernized the process of learning and research in most tertiary institutions. Ramzam (2004) observed that system wireless network, virtual collections, interactive web interface, virtual reference service, and personal web portals, have brought changes since the start of the new millennium.

## STATEMENT OF THE PROBLEM

In today's global and competitive world, Information communication technology (ICT) has become the most widely accepted tool for multi-facet development with reference to speed, flexibility and qualitative services and the potential to revolutionize the traditional library system which by extension educational sector. Information communication technology has become the backbone of modern civilization and the moving force of the information age (Ituen, 2009). However, effective application or utilization of ICT it requires some basic skills. Lack of ICT skills have brought about resistance and techno-phobia.

It is against the backdrop that this study attempts to survey Information and Communication Technology Skills of Students of the University of Jos, Plateau state, Nigeria.

## OBJECTIVES OF THE STUDY

a.     To determine ICT skills among students ofthe University of Jos
b.     To identify ICT skills level among students of the University of Jos
c.     To discover how students of the University of Jos acquire ICT skills
d.     To ascertain the challenges faced by students of the University of Jos in the acquisition of ICT skills

## RESEARCH QUESTIONS

The study will answer the following research questions

**What are the ICT skills among students of the University of Jos?**

**What is the ICT skills level among students of the University of Jos?**

**How do students of the University of Jos acquire ICT skills?**

**What are the challenges faced by students of the University of Jos in the acquisition of ICT skills?**

## LITERATURE REVIEW

According to Biddiscombe (2001), internet and IT skills are required by information professionals in their support for learning, teaching and research within the changing context of the higher education sector in the UK and the development of managed (or virtual) learning environments. Adeyoyin (2006) conducted a survey among members of staff of 28 university libraries in West Africa to ascertain their information and communication technology (ICT) literacy level, found that there was a need for knowledge acquisition among the librarians in

Nigerian university libraries to be able to offer efficient services and that the ICT literacy among the librarians was low. Electronic information serves as a motivating factor to students as it provides the opportunity to transmit, acquire or download process and disseminate information on a subject of interest. Electronic information sources offer today's students' opportunities different from their predecessors (Ray & Day, 1998).According to Biddiscombe (2001), internet and IT skills are required by information professionals in their support for learning, teaching and research within the changing context of the higher education sector in the UK and the development of managed (or virtual) learning environments.

## ICT Facilities in Institutions

Currently, the academic libraries are in the vanguard of using the vast array of modern media and other technologies. The development and availability of information and communication technologies (I.C.T) in academic institutions have today not only increased and broadened the impact of information resources at their doorsteps, but also placed more emphasis on effective and efficient services. Their applications in libraries, commonly known as library automation, have indeed continued to ease and promote quick and timely access to and transfer of information resources that are found around the globe. The following are some of the ICT facilities or resources that can be used effectively for operations and services in tertiary institutions:

## The Computer

Computer can be referred to as the backbone, nucleus or hub of ICT application. Owoyemi (2001) defines computer as electronic machine that can accept data, process the data and supply result as we want it. According to the scholar, computer is an electronic machine that operates according to instruction the user or maker gives it, these instructions are called programs. In virtually all ICT applications, the computer is interfaced with other devices in order to function effectively. Oketunji (2007) has identified the following as the available technologies in most Nigerian academic institutions: personal computer application, CD-ROM searching, Tele facsimile, Networks, Electronic copying, Email and internet. Afolabi (2000) describes video conferencing as a means of linking up two or more remote computers, all of which have a small camera attached which enables the participants to see each other, to speak to each other and in some systems, to be able to start, send documents through the linked computer. Some tertiary institutions use this medium to source for information that are not available in their own libraries and at the same time use

this great medium to create awareness to users who are ignorant of the available of information resources in the library, this medium is also use in distance learning.

## ICT Skills acquired by Students

Tertiary education is essential to the creation of human capital in any country. The need for I.C.T in Nigerian tertiary institutions cannot be over emphasized in this technological driven age, every point or organization requires I.C.T skills competence to survive.

I.C.T skills among tertiary institutions students are outline according to Refell and Whiteworth (2002), spreadsheet skill, word processing skill, database skill, Book keeping skill, stock taking skill, clerical and administrative work skill. I.C.T skills among Nigerian students are also viewed by Goshit (2006) as: Microsoft word processing skill, Microsoft excels skill, coral draw skill and power point skill.

I.C.T skill among tertiary institution students are viewed by Ben (2013) as: technologies used, in which students have access to tools that adjust to their attention and span, and provide valuable and immediate feedback for literacy enhancement, which is currently not fully implemented.

## Challenges militating against the acquisition of ICT Skills by students

Information and communication technology skills in Nigerian tertiary institution face a lot of challenges. Adomi and Anie (2006) posit that insufficient number of computer and peripherals devices inhibit deployment of I.C.T skilled teachers. Safahieh and Asemi (2008) assessed the computer literacy skill of librarians in Isfahan University of Iran. The results indicated that majority of the librarians have acquired their computer skill through informal channels. The most common problem cited in computer usage was frequent breakdown of system, electric power failure, and inadequate computers in the libraries and librarians' inadequate computer skills. Ramesh, Babu, Vinayagamoorthy and Gopalakrishnan (2007) conducted a study of ICT skills among librarians in engineering educational institutions in Tamil Nadu to identify the types of ICT skills, assess the level of skill, the means of acquiring ICT skills and identify the constraints in acquiring such skills by the librarians. The study found that the librarians of these institutions have acquired basic skills in ICT, but they lacked knowledge about network-based services and digital library services.

The following are the challenges of I.C.T skills in Nigerian tertiary institutions, as observed by Refell and Whitworth (2002)

### a)      Poor information infrastructure

Most of the computers and other I.C.T facilities in our tertiary institutions are outdated and cannot withstand the current information needs of the institution. So students find it very difficult to make adequate use of these materials.

### b)      Inadequate power supply

There is epileptic power supply in most of our tertiary institutions, and this small measure affects the general I.C.T, related activities in tertiary institutions. Most of the I.C.T facilities function with the aid of electricity, and without constant power supply, little or no work can be achieved.

### c)      Non integration into school curriculum

Most tertiary institution does not include computer training in their school curriculum, and so teachers do not find it necessary teaching students. They only concentrate on what is in the syllabus

### d)      Poor I.C.T policy and project implementation strategy

There is no any strong policy in Nigeria guiding computer education in our tertiary institutions. So, it is most often neglected.

### e)      Inadequate I.C.T manpower (teachers)

Most of the lecturers and staff in our tertiary institutions are computer illiterate, and they cannot give out the knowledge that they don't have.

### f)      High cost of I.C.T facilities

Almost all the I.C.T facilities are very expensive, and it is not easy for a school to acquire enough facilities that will help students to use conveniently.

### g)      Limited school budget

The budget mostly allocated to I.C.T facilities is limited, and it is not enough to purchase most of the relevant I.C.T facilities needed by the students.

### h)      Lack of maintenance culture

All I.C.T facilities need adequate and proper maintenance. Most students rough handle these facilities, and the school administrators do not even service these facilities, and this make them to break down at any time.

### i)      Lack of interest in I.C.T skills acquisition on part of the students

Most students of tertiary institutions are busy with their school work, and they feel they don't have time to learn computer. Some students are scared of touching any I.C.T facilities.

### j)      Poor management on the part of the school administrators and government.

The school administrators and government do not always provide money and the manpower to maintain these facilities, so they get damaged easily and are rendered useless.

### METHODOLOGY

This study employed a descriptive survey design to examine the Information and Communication Technology Skills among Students of the University of Jos. The population for the study comprises of all the registered students of the University of Jos. The library was used as a target point and the students that visit the library within the period of the study were used for the study. 200 level-500 level students were used in this study and were given equal chance of been picked using Proportion ate stratified sampling technique. A total number of two hundred and twenty students (220) were selected and used as sample for the study. The questionnaire entitled "Information and Communication Technology Skills among Students of the University of Jos Questionnaire (ICTSSUJQ)" was chosen as the instrument for data collection. The data obtained from the copies of questionnaires retrieved from respondents were analyzed using frequency counts and simple percentages.

### RESULTS AND DISCUSSION

Table1 reveals the gender distribution of the respondents with 121(55%) females and 99(45%) males. This is an indication that female students were more in the library within the period of this study.

Table 2 is on educational levels of the respondents. Thus, 84(38%) for 400 level, 65(30%) for 500 level, 38(17%) for 300 level and 33(15%) for 200 level. It is obvious from the study that final year students (400 and 500 levels) used the library more than students in other levels. Perhaps, they are busy sourcing for materials for their research or project work.

**Table 1:** Gender Distribution of the Respondents.

| Sex | No | % |
|-----|-----|-----|
| Male | 99 | 45 |
| Female | 121 | 55 |
| **Total** | 220 | **100** |

**Table 2**: Level of the Respondents

| Level of the respondents | No | % |
|-----|-----|-----|
| 200 level | 33 | 15 |
| 300 level | 38 | 17 |
| 400 level | 84 | 38 |
| 500 level | 65 | 30 |
| **Total** | **220** | **100** |

**Table 3:** ICT skills of students of the University of Jos

| ICT skills | Agree | | Disagree | | Total | |
|-----|-----|-----|-----|-----|-----|-----|
| | No | % | No | % | No | % |
| Microsoft office  skills/data processing skills | 198 | 90 | 22 | 10 | **220** | **100** |
| Internet search skills | 202 | 92 | 18 | 8 | **220** | **100** |
| Technical skills (maintenance) | 82 | 37 | 138 | 63 | **220** | **100** |
| Using Corel draw | 102 | 46 | 118 | 54 | **220** | **100** |
| Software design skills | 55 | 25 | 165 | 75 | **220** | **100** |
| Website design skills | 24 | 11 | 196 | 89 | **220** | **100** |

**Research Question Analysis**

**Research Question One**

What are the ICT skills of the students of the University of Jos?

Table 3 shows the ICT skills of the respondents. Internet skills and Microsoft office /data processing skills got the highest response with 202 (92%) for internet skills and 198(90%) for Microsoft office /data processing skills respectively. It is obvious that internet search skills and data processing skills are most ICT skills possessed by students of University of Jos. This result is a confirmation of a statement made by Biddiscombe (2001) who posits that internet and IT skills are required by information professionals in their support for learning, teaching and research within the changing context of the higher education sector Electronic information serves as a motivating factor to students as it provides the opportunity to transmit, acquire or download process and

disseminate information on a subject of interest. Electronic information sources offer today's students' opportunities different from their predecessors (Ray & Day, 1998).

**Research Question Two**

**What is the ICT skills level of the students of the University of Jos?**

Table 4 shows the level of ICT skills of students of the University of Jos. A majority of the students of the university of Jos are averagely skilled with frequency of 118 (54%). Followed by students that are partially skilled with 64(29%). Respondents that claimed to have high skill came third with 26(12%). Respondents with low ICT skill came last with 12(5%). It is so obvious that most students have average ICT skill. This may be as a result of lack of practical approach in ICT related courses in the institution due to insufficient facilities. This finding is in

Table 4: Level of ICT skills of students

| Level of ICT skills of students | No | % |
|---|---|---|
| Highly skilled | 26 | 12 |
| Averagely skilled | 118 | 54 |
| Partially skilled | 64 | 29 |
| Low skilled | 12 | 5 |
| **Total** | **220** | **100** |

Table 5: How students acquire ICT skills

| Ways students acquired ICT skills | Agree | | Disagree | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Through personal efforts | 213 | 97 | 7 | 3 | 220 | 100 |
| Through workshops | 98 | 45 | 122 | 55 | 220 | 100 |
| Through ICT courses in school | 76 | 35 | 144 | 65 | 220 | 100 |
| Through apprenticeship/training | 198 | 90 | 22 | 10 | 220 | 100 |

Table 6: Challenges students face in acquiring ICT skills

| Challenges | Agree | | Disagree | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Lack of funds | 212 | 96 | 8 | 4 | **220** | **100** |
| Insufficient ICT facilities | 198 | 90 | 22 | 10 | **220** | **100** |
| Limited skilled ICT trainers | 176 | 80 | 44 | 20 | **220** | **100** |
| Lack of personal interest | 88 | 40 | 132 | 60 | **220** | **100** |
| Epileptic power supply | 189 | 86 | 31 | 14 | **220** | **100** |
| Management reluctance towards ICT | 202 | 92 | 18 | 8 | **220** | **100** |

contrasts with the work of Adeyoyin (2006) who conducted a survey among members of staff of 28 university libraries in West Africa to ascertain their information and communication technology (ICT) literacy level and found that the ICT literacy level of the respondents was low.

**Research Question three**

**How do students of the University of Jos acquire ICT skills?**

Table 5 reveals how students of the University of Jos acquire ICT skills. It is very clear from the study that a majority of the students acquired their ICT skills through personal efforts with 213(97%) and through apprenticeship/training with 198(90%). Crystal clear from this study through personal effort and through apprenticeship/ training are the major ways students of the University of Jos acquired their ICT skills. It is therefore shows that ICT courses and workshops are not the popular means students acquired their ICT skills. The finding of this study agrees with Safahieh and Asemi (2008) who assessed the computer literacy skill of librarians in Isfahan University of Iran. The results indicated that majority of the librarians have acquired their computer skill through informal channels.

**Research Question Four**

**What are the challenges faced by students of the University of Jos in developing ICT skills?**

Table 6 reveals the challenges students face in acquiring ICT skills. Thus respondents opinion on the challenges students face in acquiring ICT skills includes the lack of

fund with 212(96%), Management reluctance towards ICT with 202(92%) and Insufficient ICT facilities with 198(90%). Others are epileptic power supply with189 (86%) and Limited skilled ICT trainers with 176 (89%).It is very much visible from the study that lack of funds, Management reluctance towards ICT, Insufficient ICT facilities, Epileptic power supply and Limited skilled ICT trainers are the major challenges students face in acquiring ICT skills in University of Jos. This study is in conformity with Ogunleye (1997) who stated that poor electricity supply, unfavorable government policy, lukewarm attitude towards the alleviation of the suffering of the academic institutions, high cost of importation of ICT facilities and insufficient fund allocation are some of the problems that hinder the training and development of ICT skills in academic institutions. The most common problems cited in computer usage was frequent breakdown of system, electric power failure, and inadequate computers in the libraries and librarians' inadequate computer skills (Safahieh & Asemi, 2008)

## SUMMARY OF THE FINDINGS

Based on the result arising from the data analysis the following findings were summarized in the study.

i.      The study reveals that that internet search skills and data processing skills are most ICT skills possessed by students of University of Jos
ii.     The study revealed that a majority of the students of the University of Jos have average ICT skills.
iii.    It was also discovered from the study that a majority of the students of the university Jos acquired their ICT skills through personal effort and through apprenticeship/ training.
iv.     Lack of funds, management reluctance towards ICT, insufficient ICT facilities, epileptic power supply and limited skilled ICT trainers are the major challenges students face while acquiring ICT skills in University of Jos.

## CONCLUSION

The usefulness of information communication technology in educational sector cannot be overemphasized. If students are to derive or maximize the relevance and ICT potential to the fullest, they need to acquire some skills. ICT skills are very essential to deriving the benefits of ICT in the educational sector. Some students of the University of Jos only possess internet search and data processing skill. However, the students of the university of Jos ICT skills level are average. They acquired the skills through personal effort, apprenticeship and training. Lack of funds, management reluctance towards ICT, insufficient

ICT facilities, epileptic power supply and limited skilled ICT trainers hampered students' effort in acquiring ICT skills.

## RECOMMENDATIONS

i.      The university management should strengthen the ICT courses or programmes in the school by way of providing the needed facilities, adequate funding and making ICT a compulsory course to all 100 level students of the School irrespective of the department.
ii.     The University authority should ensure that alternative power source is provided for to reduce the effect of incessant power failure in the school.
iii.    The University authority should ensure that only qualify ICT professionals are employed to lecture ICT courses in the University.

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