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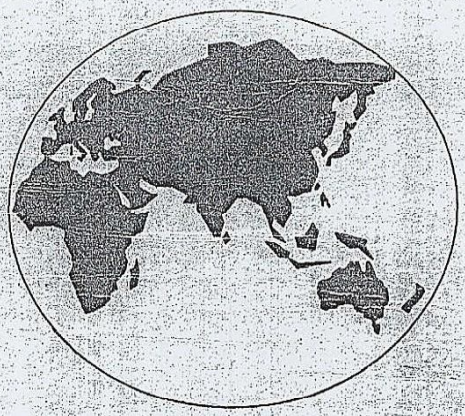

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# THE EFFECT OF INFORMATION COMMUNICATION TECHNOLOGY FACILITIES ON STUDENTS' PERFORMANCE: A CASE STUDY

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The noticed remarkable increase in efficiency and reliability in the delivery of information services has been attributed to the adoption of technology in information handling. Information technology has no doubt evolutionised the way in which we live and work especially in a library environment (Madu 2008).

Computers have been used in education for one purpose or another, practically since its inception Madu (2005). Indeed some of the first generation computers were designed and built in universities, in fact the original computers were used for scientific research. Their very presence in educational institution inevitably stimulated a certain amount of interest on how they could be used to help teaching and learning.

The Federal Republic of Nigeria has introduced information technology in school curriculum. According to the Ufot Ekaette (2004), the introduction of information technology in schools was for the nation "to successfully leap frog into information superhighway". According to him, Nigeria cannot afford not to be part of the technological revolution in the world where information technology has drastically changed the fact of human life, from education, industry, polities to entertainment. This according to him is as a result of "the unprecedented capacity of information technology to process, store, refine and disseminate data, information and knowledge in a variety of ways across geopolitical boundaries".

Information technology therefore has the ability to improve flexibility of teaching and learning modalities as it will afford students increased access to print and digital sources.

## ***STATEMENT OF THE STUDY***

In Nigerian secondary schools, students take the same subjects, use the same

textbooks and take the same public examinations. The use of information technology in the secondary schools is a new introduction to the school curriculum. While some schools have embraced this new innovation, others are yet to have it in their schools for the purpose of teaching and learning. The two secondary schools under study are Federal Government College Minna and Bosso Secondary School also in Minna. While Federal Government College Minna has information technology centre with internet facilities for teaching and learning, Bosso Secondary School has not. In a study by Hinson (2004) internet has benefit for exports. Another study by Bruce, (1994, 1995) involving 13 universities reported that for academics in Australia, the internet represent a mechanism for overcoming the disadvantages to academic teaching which may arise form institutional amalgamation, geographic remoteness or the under representation of certain teaching disciplines in Australian Universities.

To date, however, little empirical research has been done on the usage and impact of the information technology (I.T) at the secondary level in Nigeria. Also little attention is paid in the establishment of information technology centres in secondary. This may be attributed to lack of appreciation of what I.T holds in teaching and learning process.

In view of the above therefore, it is important that the role of information technology in academic performance at the secondary school level be given more attention than has been the case. This is the central focus of attention of this study as it addresses a case study of two secondary schools in Minna metropolis.

## *OBJECTIVES OF THE STUDY*

The main objective of this study is to compare the performance of secondary school students from two secondary schools in Minna on two basic subjects, viz: English language and Mathematics.

## *HYPOTHESES*

There is one hypothesis deriving from the above objectives

a. There is no significant difference on English language tests between students of Federal Government College Minna and Bosso Secondary School Minna in the same class.

## THE SAMPLE

The selection of sample for this study was purposively done, as the researcher focused on final year students only. The two secondary schools are not equally endowed in information technology. While Federal Government College has information technology centre, Bosso Secondary School has not.

*Table 1 – Profile of Schools used in this study*

| Profile | *FGC | **BSS |
|---|---|---|
| Population of students | 720 | 450 |
| Number of sample used | 67 | 61 |
| Number of ICT teachers | 5 | - |

* FGC: Federal Government College

** BSS: Bosso Secondary School

All the SS3 students in both schools were selected to participate in this study. There were 67 in FGC and 61 in BSS. However only 42 students from FGC and 20 students from BSS participated in the study. Effort was made to match them by sex and reading ability as measured by their raw scores at the end of the year English language examination.

*Table 2 : Distribution of FGC students and BSS students by age and sex*

| Profile | Sex | FGC | Mean Age | BSS | Mean Age |
|---|---|---|---|---|---|
| | Girls | 21 | 17 | 10 | 18 |
| | Boys | 21 | 19 | 10 | 19 |
| | | 42 | | 20 | |

## *PROCEDURE*

Tests of English language and Mathematics were administered on the sampled students from both schools in SS2. Both test of English language and Mathematic were designed by the researcher using English Language and Mathematics syllabi for SS2 students. Teachers of English Language and Mathematic validated and confirmed that the test items fell within areas covered by the syllabi for both subject. The English language tests consisted of twenty multiple choice items which were content dependent. The meaning in context had to be picked from a choice of four alternatives. The mathematics test had multiple choice items from which students picked the correct answers.

## *DATA ANALYSIS*

The only hypothesis in this study sought to establish whether or not there is a significant difference in performance on English language and Mathematics between FGC and BSS. While FGC has ICT facilities, BSS has not. The computation is done in Table 3. T-test was the main statistical tool used to compare scores of the two groups of students. Testing was done at 5% probability level of significance.

***Table 3 Mean English Language test scores and standard deviation of FGC and BSS students***

| English Language test score | BSS N = 32 | FGC N = 32 | t-value |
|---|---|---|---|
| Mean English language score | 9.281 | 11.563 | |
| Standard deviation | 5.511 | 3.391 | -2.60 |
| Mathematics Mean | | | |
| English language score | 7.781 | 14.313 | |
| Standard deviation | 5.925 | 4.326 | -4.96 |

From the two tests, students of Bosso Secondary School obtained lower rating than their counterpart from Federal Government College, Minna. Differences in mean scores were statistically significant in English language (t=-2.60) and in

mathematics (t=-4.96). Therefore, there is a significant difference in performance in English language and mathematics tests between the two students of the two schools.

## *DISCUSSION*

The results from this study show that the difference in mean English language scores between the students of Bosso Secondary School without ICT facilities (9.281) and Federal Government College students with ICT facilities (11.563) was statistically significant at t = -2.60. also the difference in mean mathematics score between the students of Bosso Secondary School without ICT facilities (7.781) and Federal Government College students with ICT facilities (14.313) was statistically significant at t = -4.96.

The above position was explained by the facts that the students of Federal Government College enjoyed ICT facilities. This enabled them to have information at their finger tips and made use of the available information in the study of both English language and Mathematics. On the other hand, the students of Bosso Secondary had not got the advantage of the use of ICT in their learning process.

This study has again brought to the fore the importance of ICT especially in the education sector. There seems to be a significant difference in the performance on English language and mathematics tests. The students from Federal Government College with ICT facilities scored higher average than the students of Bosso Secondary School without ICT facilities and the difference was statistically significant in both tests.

It is therefore recommended that ICT facilities be made available to all students in our secondary schools. This is connected with the fact that the values of information technology enhance teaching and learning process. Students are bound to have better access to information and possibility for resource sharing.

## REFERENCES

Atinmo I. Morayo A comparative study of the performance of Normal Hearing and Hearing Impaired Secondary School Pupils in Vocabulary and Spelling tests.

Bruce H. (1995) "A methodology for researching AARNET use" Australian Academic and Research libraries 26 (2).

Bruce, H.. (1994). "Internet services and academic work: an Australian Perspective" Internet Research: Electronic Networking applications and policy 4 (2) pp 24 – 34.

Ekaette, Ufot (2004) F. G to introduce information technology in school curriculum. Daily Independent Friday April 12.

Hinson, E. Robert, Adika Gifty and Buatsc (2005) Internet adoption among lecturers in Ghana's Premier University: Expectations and Realities. The information technologies: ***An International Journal of Information and Communication Technology*** (ICT) 2 (1).

Madu, E. C. (2008) Fundamental of modern reference service: Manual versus electronics. Ibadan: Evi-Coleman publications.

Madu, Evarest C. and Adeniran N. Tessy (2005) Information technology: Uses and preservation of resources in libraries and information centres Ibadan: Evi-Coleman publications.