



# The Impact Of Information And Communication Technology (Ict), Usage On Students' Academic Performance In University Of Nigeria Nsukka Enugu State.

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## Abstract

*The main purpose of this study was to examine the impact of information and communication technology (ICT) usage of student' academic performance with particular reference to the University of Nigeria Nsukka . A total population of 500 students was sampled using simple random technique. Data for this study were collected using a well-structured questionnaire. Data collected were analyzed using descriptive statistics such as simple table and percentages, while hypotheses formulated were tested using the Pearson Product Moment Correlation Analysis. The results showed that internet usage has led to significant improvement in the academic performance of student of the University of Nigeria Nsukka. The results also showed that e-learning has significant relationship with academic performance of students in the University of Nigeria Nsukka. However, the results showed that the use of Facebook by the students has no significant relationship with their academic performance. Based on the findings, the study recommends that the University authority should expand the current size of the ICT Centre in the campus and make it function efficiently. Also, the University of Nigeria Nsukka authority should provide affordable internet services to students.*

**Keyword:** Information, Communication, Academic performance, Student, Impact.



## **1. Introduction**

In recent time, the use of information and communication technology (ICT) has increasingly gained ground in education sector the world over. There has also been an increasing advocacy by educators, education counselors and education planners for the use of information and communication technology (ICT) in schools in Nigeria. This is so because the utilization of Information and Communication Technology (ICT) has been considered as an effective medium in contributing towards the advancement of education (Arinze, Okonkwo and Iwunor, 2012).

The role of information and communication technology (ICT) in the process of learning among university students has become increasingly commendable. There is no gainsaying that the revolution of information and communication technology (ICT) has provided students with the easiest medium to obtain learning materials for their educational pursuit. It is now a common scene to observe students browsing internet for materials for their assignment, lectures, and research study. It is because of the indispensable role of information and communication technology that made Oketunyi (2002) notes that use of ICT in Nigeria universities has become increasingly popular in that most universities now have electronic libraries, and more students and lectures have varying forms of computer hardware and devices to search the web for the education resources. Following from the above perception, it is rather debatable whether the utilization of information and communication technology (ICT) by university students has resulted to academic success with special reference to students of university of Nigeria Nsukka.

### **Research questions**

1. This study seeks provide answers to the following research questions:
2. What is the relationship between internet usage and academic performance of students in the University of Nsukka?
3. There is no significant relationship between Facebook usage and academic performance of students in the University of Nsukka?

There is no significant relationship between e-learning usage and academic performance of student in the University of Nsukka?

## **2. Literature Review**

### **2.1. Conception Issues**

According to Bandele (2006), information and communication technology (ICT) is a resolution the use of computer, internet and other telecommunication technology in every aspect of human endeavor. The author posited that information and communication technology (ICT) is a simply and about sharing and having access to date with ease. It is regarded as a super highway through which formation is transmitted and shared by people all over the world. ozoji in Jimoh (2007) defined information and communication technology (ICT) as the handling and processing of information ( in the form texts, images, graphs, instruction etc.) for use, by the means of electronic and communication devices such as computers, camera, telephone. Ofodu (2007) also refer to information



and devices, assisted by human and interactive material that can be used for a wide range of teaching and learning as well as for Personal uses. Ajayi and Ekundayo (2009) defined information and communication technology (ICT) as a processing and sharing of information using all kinds of electronic devices, an umbrella that include all technologies for the manipulation and communication of information. Badru (2002) defines “ICT” as the science and activity of processing, storing and sending information by using computers and other communication technology Obashoro (2007) identified ICT infrastructure to include multi-media CD-ROMS, MP3 player, website, learning, discussion boards, emails, computer-aided assessments, learning management software, blogs etc. in the same vein, Folorunso, Longe and Ijere (2003) identified ICT infrastructure to include internet, world wide web (WWW), electronic data interchange (EDI), local area network (LAN) Wide Area Networks (WAN), protocols, content management and meta data standard (MDS).

### **Internet usage and student academic performance**

Numerous studies have been carried out to investigate the impact of internet usage on student's performance. Luambano and Nawe (2004) investigated the internet use by student of the University of Nsukka. Their findings revealed that the majority of the student were not using the internet due to the inadequacy of computers with internet access, lack of skill in internet use and slow speed of computer. It was also revealed that most student who used the internet did not use it for academic purpose. It was suggested that more computer connected to the internet should be provided and that training should be given to the student on use of internet.

Ruzgar (2005) studied the purpose of the internet use and learning via internet. It was concluded that the internet has become an integral part of collage life and its usage is approaching 100 percent among student. It was found that 36 percent of the student spent 1-10 hours per week on the internet. In terms of activities online, sending /receiving email topped the list, followed by reading news and finding sports information, research for school-related work, chat, research for products and service, and downloading images. Because of their online activities, student watched less television.

Omotoyo (2006) assessed the extent of use of internet among undergraduate student at the Obafemi Awolowo University, Ile-Ife, Nigeria. A total of 1664 respondent were sampled, using a stratified sampling method. Analysis of the result was done using the descriptive statistical methods such as means and percentages. The finding revealed a high percentage use of the internet; the access point being cyber cafes. Specifically, the result revealed that that of the 664 respondent, 596 (89.9%) had access to the internet facilities which 68 respondents has no access to internet facilities. The study recommends that the university should provide access point for students.

Awoleye, Siyanbola and Oladipo (2008) examined the level of penetration of internet usage among undergraduate student in Nigeria using Obafemi Awolowo University as a case study. 300 student in 10 different faculties from 40 department were sampled using a well-structured questionnaire. Statistical packages for social science (SPSS) were used to quantitatively analyze



the data. Result showed that about 92% of undergraduate student have embraced the internet and are using it consistently. The result also found that student used the internet mostly e-mail, information search and online chatting; all of these were found to have significant impact on the academic and social life. Further analysis revealed that male students appear to use the internet more than the female counter part; just as science based students use it more than non-science based students. The study recommended that appropriate policies should be implemented for all higher schools of learning in Nigeria to facilitate further diffusion and use of internet.

Bankole and Babalola (2012) examined the extent of use of the various internet based service and resources by the under graduate student of Olabisi Onabanji university, Ago Iwoye, Ogun state, Nigeria. The study employed a descriptive survey method that utilized a questionnaire as the major data collection instrument. a sample of 1,120 participant was chosen using the stratified random sampling technique. The data collected analyzed with descriptive statistics using the statistics package for social science (SPSS) software. The result showed that the greatest number of respondents (66.1%) accessed the internet at cyber cafes outside the University campuses, followed by cyber cafes within the university campus (30.4%), and home (19.5%). The result also showed students used the internet for a variety of purposes which include for communication (90.6%), doing class assignments (43.5%), to update knowledge (32.9%) and to supplement lecture notes (27%). On problem encounter by student, the study identifier the major ones to include slowness of the server, limited institutional internet facilitate, frequent power outage and high cost of usage. The results also suggested gender difference in internet addiction. Male student has higher internet addiction than female ones.

### **Facebook Usage and Students Academic Performance**

With the advance technology in communication, a social network such as Facebook is perhaps considered one of the most important too used to keep in touch or share information with peer. However, the usage of Facebook can become habit that may affect the academic performance of students. According to Fodeman and Monroe (2009), the usage of Facebook usage has raised the level of anxiety among student such as they are apprehensive about being without cell phones for a few hour. Based on this perception, empirical studies have been conducted to examine the effect of Facebook usage on students' academic performance.

Kabre and Brown (2011) examined the impact of Facebook usage on the academic performance and the quality of life of college student at a historically black university in the southern part of the United States. Data for the study were collected using a well-structured questionnaire. Data collected were analyzed using a one-way analysis of variance statistical method. The result of the analysis showed that the use of Facebook by students has not enhanced their academic performance.

Roius (2012) examined the impact of Facebook usage on Tunisain students' achievements, sampling 161 Tuisain students. The study employed a descriptive statistical method as its method of data analysis. The result of study showed that Facebook usage does not affect significantly student academic performance and their satisfaction with the family, whereas it decrease their actual satisfaction with friends.



Haq and Cand (2012) investigate the impact of Facebook usage on academics performance among university students. A self-administer questionnaire is used for collecting data from a sample of 384 students. The data collected were analyzed using chi-square statistical method. The study reveals that 87.5 of the student have account on the Facebook and no gender difference found. Male and female on the average spend equal time on internet. The result showed that Facebook use in general, has adverse effect is observes greater for male student. The social interaction with the existing friends is found the most common use of the Facebook among student.

Thuseethan and kuchnesan (2014) examined the usage of Facebook among Sir Lankan university students and the influence it has on their academics performance. Information for this was study was gathered through web based questionnaire surveyed on 287 students. The analysis of result was done using descriptive statistics . the result of the study showed that the study of Facebook has led to low examination grades by students. specially, the result showed that most of the heavy or frequent users received low grades, compare to light users.

A'lamElhuda and Dimetry (2014) examined the impact Facebook and other social network usage on academic performance and social life among medical students at Khartoum University. A total number of 275 students were sampled using self-administered questionnaire. Data collected were analyze using descriptive statistic and inferential methods. The results of the study showed that the negative effect of using the social network on academic performances was very high especially among female students. The result found that 7 out of 10 users saw their performance affected negative from using the social network while 9 out of 10 users observed their concentration academic activities affect negative from using the social networks

### **E- learning and Students Academic Performance**

There are many studies conducted on e-learning and its impact on student' academic achievement. Mashoukh (1992), conducted a study to assess the impact of using computer in teaching on the students' achievement and maintain the Scientific content and the time of learning for grade eight students in Medina. The results of this study indicated that there is a statistically significant difference in students' achievement that distinguished grade in the eight students who studied selected topics in science though the teacher.

Almutairy (1998) conducted a study aimed at identifying the impact of using computer software in science on the achievement of grade six student in Riyadh. The study concluded that there is a statistically significant difference between the means scores of the students' achievement in science at the level of remembering and understanding in favor of the experiment group.

Andrewartha and Wilmot (2001) also have studied the use of multimedia to argue the students. Learning as a strategy for enhancing active learning among student. In this study they developed a multimedia course on 'editing' to replace traditional classroom based teaching on 'editing' subject. The researcher's instruction and sometimes is better, because student were more engaged with the material.

### **Summary of literature review**

From the review of the empirical studies in the proceeding section, it is observed that majority of the studies existed investigates the impact of various components information and communication technology (ICT) on academic achievement of students.

On the impact of Facebook usage on academic achievement, majority of the studies reviewed (such as Kabre and Brown, 2011, Rouis, 2012, Haq and Chan, 2012, thu than and Kuhanesan, 2014, Negussie and Ketama, 2014, A'lam Elhuda and Dimetry, 2014, among others have found that Facebook usage impact on students performance. Lastly majority of studies (such as Masloukh, 1992; Alumutairy, 1998; Andrewartha and Wilmot, 2001; Sorour, 2010, lumadi, 2013; among others reviewed on the impact of e-learning on academic achievement revealed that e-learning contributed positively to academic success of students. However, from the review of the studies, it is found that little or no study has been carried out to examine the impact ICT usage on students' academic performance in university of Nsukka. This is the gap this study attempts to fill.

### **3. Methodology**

The research design used in this study is the survey design. Ndiyo (2005) defined a survey as a science experiment conducted on a scale on a defined population to determine some desirable characteristics of a designed population. For the purpose of this study, the sample survey adopted is aimed at collecting sample from population in order to Examine the impact of information and communication technology (ICT) usage on students' academic performance among university student in Nigeria, with particular references to university of Nigeria Nsukka.

### **4. Result And Discussion**

The main dependent variable of the study is teachers' teaching effectiveness. The mean and standard deviation of these main variables of the study were calculated and presented as shown in Table 1. A total of three hundred (300) teachers were used for the study.

TABLE 1: General description of research variable

| <b>VARIABLE</b>      | <b>N</b> | <b>X</b> | <b>SD</b> |
|----------------------|----------|----------|-----------|
| Internet usage       | 300      | 17.03    | 2.12      |
| Facebook usage       | 300      | 16.79    | 2.18      |
| E-learning usage     | 300      | 15.99    | 3.00      |
| Academic performance | 300      | 16.74    | 2.09      |

### **Hypothesis one**

There is no significant relationship between internet usage and students' academic performance. The independent variable in this hypothesis is internet usage while the dependent variable is students' academic performance. Pearson product moment correlation statistic technique was employed to test the hypothesis. The result is as presented in Table 2.

Table 2. Pearson product moment correlation coefficient analysis, of the relationship between internet usage and students' academic performance (N= 300)

| VARIABLE             | $\sum X$<br>$\sum Y$ | $\sum X^2$<br>$\sum Y^2$ | $\sum XY$     | R-value |
|----------------------|----------------------|--------------------------|---------------|---------|
| Internet usage       | 5109                 | 6342                     | 2.114<br>0125 | 0.69*   |
| Academic performance | 5022                 | 5461                     |               |         |

$p < 0.05$ ,  $df = 298$  critical  $r = 0.133$

The results as obtained in table 2 showed that the calculated R-value of 0.69 is greater than the tabulated R-value of 0.133 at 0.5 level of significance with 298 degree of freedom. The null hypothesis is there rejected while the alternative hypothesis is rejected. Hence, there is significant relationship between internet usage and academic performance of students in the University of Nigeria Nsukka.

### Hypothesis Two

There is no significant relationship between face book usage and academic performance of student in University of Nsukka. The independent variable in this hypothesis is face book usage while the dependent variable is students' academic performance. Pearson product moment correlation statistical technique was employed to test the hypothesis. The result is as presented in table 3.

TABLE 3. **Pearson production moment correlation coefficient analysis of the relationship between face book usage and academic performance (N=300)**

| VARIABLE             | $\sum X$<br>$\sum Y$ | $\sum X^2$<br>$\sum Y^2$ | $\sum XY$       | R-value |
|----------------------|----------------------|--------------------------|-----------------|---------|
| Internet usage       | 5037                 | 6248                     | 2.114<br>140542 | 0.72*   |
| Academic performance | 5022                 | 5461                     |                 |         |

\* $P < 0.05$ ,  $df = 298$  critical  $r = 0.133$

The results in table 3 showed that the calculated R-value 0.72 is less than the tabulated R-value of 0.133 at 0.5 level of significance with 298 degree of freedom. The null hypothesis is therefore accepted while the alternative hypothesis is rejected. Thus, there is no significant relationship between face book usage and academic performance of students in University of Nigeria Nsukka.

### Hypothesis three

There is no significant relationship between e-learning usage and academic performance of students in the University of Nigeria Nsukka. The independent variable in this hypothesis is e-learning usage while the dependent variable is students' academic

performance. Pearson product moment correlation statistical technique was employed to test the hypothesis. The result is as presented in Table 4.

Table 4. Pearson product moment correlation coefficient analysis of the relationship between e-learning usage and academic performance of students (N= 300)

| <b>VARIABLE</b>      | $\sum X$<br>$\sum Y$ | $\sum X^2$<br>$\sum Y^2$ | $\sum XY$ | <b>R-value</b> |
|----------------------|----------------------|--------------------------|-----------|----------------|
| E-learning           | 4797                 | 6185                     | 141264    | 0.82*          |
| Academic performance | 5022                 | 5461                     |           |                |

\* $P < 0.05$ ,  $df = 298$  critical  $r = 0.133$

The result presented in table 4 showed that the calculated R-value of 0.82 is greater than the critical R-value of .133 at 0.5 level of significance with 298 degree of freedom. The null hypothesis is rejected while the alternative hypothesis is accepted. Hence, there is significant relationship between e-learning usage and academic performance of students in the University of Nsukka.

## 5. Conclusion

This study was carried out to examine the impact of information and communication technology (ICT) usage on academic performance of students in the Nigerian Universities with particular reference to the University of Nsukka. The utilization of information and communication Technology (ICT) has been considered as an effective medium in contributing towards advancement of education. This is so because ICT resources have served as veritable media through which students obtain the relevant materials for their academic pursuit. But whether the utilization of ICT resources by the students of the University of Nsukka has led to their academic success remained a debatable issue. This was the main objective of this study.

From the results obtained, it is found that internet usage has led to significant improvement in academic performance by the students of the University of Nsukka. The results also showed that e-learning has significant relationship with academic performance of the student in the University of Nsukka. However, the results showed that the use of Facebook by the students has no significant relationship with their academic performance.

From the results obtained, the following recommendations are made:

1. There is need for the University authority to expand the current size of the ICT center in the campus and make it function efficiently. The university authority can do this by providing steady power supply in the University environment so as to ensure a steady access to the internet.
2. It is equally expected that the university of Nsukka authority should provide affordable internet services to students. The school authority can do this by subsidizing the cost of internet services for the student.



3. There is also need for the University authority to establish internal e-library facility such as establishment will afford students easy access to academic materials for their studies.
4. Lastly, training programme in ICT proficiency should also be implemented for students who do not have skills in using the various information and communication technology (ICT) facilitates. It is expected that such training programme will help improve student proficiency in the use of ICT resources.

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