



# **Utilization Of Computer Facilities In Educational Research In Federal College Of Education (Technical) Omoku, Rivers State, Nigeria**

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## **ABSTRACT**

The study focused on utilization of computer facilities at the Federal College of Education (Technical) Omoku. A descriptive survey research design was employed for the study. Out of a population of 920 final year students and 42 lecturers, a sample of 60 students and 15 lecturers drawn through stratified random sampling technique was used. Three research questions guided the study with two hypotheses formulated and tested at 0.05 level of significant. The instrument used for data collection was questionnaire. The hypothesis was tested with t-test statistic. Major finding showed that most students do not make use of available computer facilities in school for research. It was recommended that students should undergo compulsory computer training and the school should create more awareness on the use of ICT facilities for research.

**Keywords:** Computer Facilities, Research, Utilization.

## **INTRODUCTION**

The introduction of modern technology called computer in the past few decades has made it possible for the world to make a major break-through in storing and analyzing information. Nwigbo (2003) defined computer as an electronic device which is programmed to receive data, process the data and then supply the result of the processed data. In the same vein, Edefiogo (2007) defined computer as an electronic machine used for storing and analyzing information automatically. From the foregoing definitions, computer is an electronic machine, operating under the control of instructions stored in its own memory that can accept data, manipulate the data according to specified rules, produce results, and store the results for further use.

It typically consists of input and output devices, storage and arithmetic, logical units and control units. Orié M.J. (2010) asserts that a computer does three things which include; accepting data (input), processing the data and giving result (output). Computers process data to create information. To process data into information, a computer uses hardware and software. Hardware is the electric, electronic, and mechanical equipment that makes up a computer. Software is the series of instructions that tell the hardware how to perform tasks. More so, computer functions with several facilities, such as; internet, software printer, scanner, intranet and so on. These facilities contribute in one way or the other to the effectiveness of computer.

Computer has touched virtually every facet of our lives: the way we work, the way we learn, the way we live, even the way we play. It is almost impossible to go through a single day without encountering a computer, a device dependent on a computer, information produced by a computer or a word that was introduced or whose meaning has changed with the advent of computers. Its significance has made it a veritable tool in the hands of companies, business establishments, hospitals, government parastatals and most especially in schools. Recognizing the role of computer as an indispensable tool for development, and the need to acquire computer technology and integrate it into our educational system, the Federal Government set up in 1987 a National Computer Policy Committee. This committee among other things determines the curricular contents of computer education for Nigeria Schools (Bello, 2000 in Wuru, 2008). Obara (2014) states that computers are used to assist in teaching and learning process. In teaching, computers are used for instruction, which is

known as Computer Aided Instruction (CAI), while in learning, students use computer for so many purposes, such as; distance learning, assignment and research. Other uses of computer in schools include routine and clerical tasks such as registering students, storing data, issuing report cards, solving schedule problems and so on (Akaninwor, 2007). In education sector, one major area where computer is mostly used by students is the area of research. Research according to Nwankwo (2013) is concerned with finding answers or solutions to questions raised about observed issues or phenomena or events in the environment through systematic and logical procedures. It is a means through which educators find solutions to educational problems. This type of research is known as educational research. Maduabum (2007) defined educational research as the formal systematic application of the scientific method to the study of educational problems. He further stated that the stages involved in educational research includes; identification and defining of problem, reviewing the literature, providing research questions, designing the study, collection of data, analysis of data, drawing conclusion and writing of report. This method is most applicable in colleges of education where pedagogical courses are taught. Research students and lecturers who embark on research work are requested to adopt this method. This makes computer very necessary for both students and lecturers in colleges of education who are saddled with the responsibility of research work such as: assignment, seminars, dissertation and thesis. Computers are virtually used in all the stages involved in this educational research. Modh (2014) explains that computer is used in the conceptual, design and planning, data collection, data analysis and research publication phases. Also, Yusuf (2005) posits that the field of education has been affected by computers which have undoubtedly affected teaching, learning and research.

Despite the huge contributions of computer in educational research, some colleges of education in Nigeria still do not have this device in their libraries and resource centers while some of the schools that have these devices are not connected to the internet for easy access of information for research, or the power required for its operation is not consistent. Chisenga (2004) surveyed the use of computers and its facilities in public libraries in ten (10) Anglophone African countries. The study revealed that all libraries studies pointed out lack/inadequate computer personnel and lack of fund. The most interesting aspect of the findings is that libraries in South Africa express lack of burglaries proofs to protect computers from being stolen whereas findings from two Nigerian libraries revealed erratic power supply as one of the barriers for computer use. Out of the ten countries studied, only Nigeria has a very unique problem (power supply). The non availability of computer and its facilities in our colleges of education makes it rather impossible for students to have access to computer and its facilities. This could be the reason why some colleges of education students cannot operate or make use of computer when carrying out research; as a result of lack of skills, inability to purchase their personal computer and further subscription to the internet, or lack of knowledge on the use of appropriate software and so on. Attesting to this, Okwudishu (2005) asserts that lack of adequate search skill and inability to access or use internet by instructor and students are responsible for poor usage of computer in research. Surprisingly, even when some schools have this device in large numbers, some students still prefer to do their research work outside the school. Basically, these students employ the services of experts outside the school premises to assist them in sourcing for information that will be used for their research work.

Over the years, computer has attracted the attention of many researchers. Bada et al. (2009), investigated the uses of computer and its relevance to teaching and learning in Nigeria education system. In more recent work, Inyagu (2014) investigated the utilization of internet and computer in undertaking TVET educational research in tertiary institutions in Nigeria: Problems and Strategies for improvement.

However, having reviewed related topics, it will be imperative to identify the reasons why most college of education students prefer to source for information from internet facilities outside their school. Therefore, this research work will examine utilization of computer facilities in educational research at the Federal College of Education (Technical) Omoku, Rivers State.

As a modern device whose impact is felt in educational sector, computer improves the teaching-learning process. It is also instrumental in educational research. Researchers rely on its accuracy, speed, reliability and effectiveness when carrying out educational research. It helps the researcher in identifying problems, gathering information for research, literature review and in data analysis. Despite the great achievement of computer in educational research, colleges of education students still do their research work using the old method of sourcing for information from catalogue, while some students employ the services of computer

operators to help them source for information. Could it be that our colleges of education do not have the necessary computer facilities in their libraries, resource centers or computer laboratory or that the students do not have the requisite knowledge and skills in the use of computer and as such, they prefer to contract the process to those that can help them out? This is an issue that requires an urgent attention because; research students are expected to carry out their research work using the school facilities. More so, they are expected to be acquainted with the use of computer in sourcing for information since some of them will be venturing into proper research work in the future. This is the reason why the researcher deemed it fit to research on the close study of computer and its facilities utilization in educational research at the Federal College of Education (Technical) Omoku.

#### **Research Questions**

- ❖ What are the computer facilities available for educational research at the Federal College of Education (Technical) Omoku ?
- ❖ How often is the available computer facilities in the college of education used for educational research?
- ❖ What are the factors responsible for poor utilization of available computer facilities at the Federal College of Education (Technical) Omoku for educational research?

#### **Hypothesis**

- ❖ There is no significant difference between the mean responses of lecturers and students on the utilization of available computer facilities in colleges of education for educational research.
- ❖ There is no significant difference between the mean response of lecturers and students on the factors responsible for poor utilization of available computer facilities at the Federal College of Education (Technical) Omoku in colleges of education for educational research.

#### **METHODOLOGY**

The design of the study is a descriptive survey. According to Nwakwo (2013), descriptive survey is that type of design in which the researcher collects data from a large sample drawn from a given population and describes certain features of the samples as they are at the time of the study and which are of interest to the researcher, however, without manipulating any independent variables of the study. The study was carried out in the Federal College of Education (Technical) Omoku. The school is situated in Omoku, which is the Headquarter of Ogba/Egbema/Ndoni Local Government Area. The population of the study consists of all the final year Degree Students in the three departments of Federal College of Education (Technical) Omoku and their lecturers. As at the time of this study, there are 192 final year students in the three departments of the school and 42 lecturers. The research chose degree program because students at this level embarks on research work more than NCE students. The sample for the study was 60 students and 15 lecturers randomly selected through stratified random sampling technique based on three departments in the college. 20 students and 5 lecturers were selected from each department. The instrument for data collection was a 38 item structured questionnaire.

#### **RESULTS**

##### **Research Question 1**

*What are the computer facilities available for educational research at the Federal College of Education (Technical) Omoku ?*

Data used in answering the research questions are presented in table 1.

**Table 1: Percentage rating of the responses of students and lecturers on the available computer facilities at the Federal College of Education (Technical) Omoku for educational research.**

S/N	Available Facilities	Students			Lecturers		
		No. available	%	Decision	No. available	%	Decision
1	Desktop	42	70	Available	10	67	Available
2	Laptop	22	37	Not Available	6	40	Not Available
3	Palmtop	15	25	Not Available	3	20	Not Available
4	Printer	51	85	Available	11	73	Available
5	Scanner	41	68	Not Available	13	87	Available
6	Internet	49	82	Not Available	15	100	Available
7	Projector	48	80	Not Available	14	93	Available
8	Photocopier	50	83	Not Available	13	87	Available
9	Computer Lab	52	87	Not Available	14	93	Available
10	Resource Center	28	47	Not Available	6	40	Not Available
11	Moderm	27	45	Not Available	4	27	Not Available
12	Floppy Disk	15	25	Not Available	3	20	Not Available
13	Flash Drive	32	53	Available	11	73	Available
14	Printing Paper	47	78	Available	15	100	Available
15	Software App	50	83	Available	14	93	Available

Table 1 revealed that out of 15 computer facilities listed, 10 were considered available by both students and lecturers. A facility is considered available if the percentage associated with it is at least 50. The remaining 5 computer facilities had their percentage availabilities below 50% and were therefore considered not available.

**Research Questions 2**

How often is the available computer facilities in the college of education used for educational research?

Data used in answering the research questions are presented in table 2.

**Table 2: Mean rating and standard deviation of responses on the utilization of computer facilities available in colleges of education for educational research.**

S/N	Available Facilities	Students			Lecturers		
		X	SD	Decision	X	SD	Decision
1	Desktop	2.22	1.2	sometimes utilized	3.60	0.35	very often utilized
2	Printer	1.6	1.18	rarely utilized	3.13	0.40	very often utilized
3	Scanner	1.63	1.25	rarely utilized	2.60	0.48	sometimes utilized
4	Internet	2.02	1.32	sometimes utilized	3.87	0.34	very often utilized
5	Projector	2.12	1.03	sometimes utilized	3.20	0.98	very often utilized
6	Photocopier	1.87	1.28	rarely utilized	2.87	1.15	sometimes utilized
7	Computer Lab	2.13	1.05	sometimes utilized	2.80	1.11	sometimes utilized
8	Flash Drive	1.80	1.10	rarely utilized	2.40	1.08	sometimes utilized
9	Printing Paper	3.02	1.10	very often utilized	3.40	1.42	very often utilized
10	Software App	2.25	1.19	sometimes utilized	3.30	0.77	very often utilized
<b>11</b>	<b>TOTAL</b>	<b>2.23</b>	<b>1.29</b>	<b>sometimes utilized</b>	<b>3.40</b>	<b>0.87</b>	<b>very often utilized</b>

Table 2 shows that lecturers utilize the computer facilities available in colleges of education more than the students. This shows that students do their research the old way or that they patronize cyber cafés outside the school.

**Research Question 3:**

What are the factors responsible for poor utilization of available computer facilities at the Federal College of Education (Technical) Omoku for educational research?

Data used in answering the research question are presented in table 3.

**Table 3: Mean rating and standard deviation of responses on the factors responsible for poor utilization of computer facilities**

S/N	Factors	Students			Lecturers		
		X	SD	Decision	X	SD	Decision
1	Persistent power failure	3.25	1.25	accepted	3.30	1.32	accepted
2	Lack of awareness on the use of computer	3.75	1.44	accepted	3.50	1.41	accepted
3	Negative attitude of staff	3.72	1.18	accepted	2.73	1.1	rejected
4	Inability of students to use computer facilities	3.38	1.09	accepted	4.33	0.87	accepted
5	Students prefer the easy way out	3.70	1.29	accepted	4.53	0.81	accepted
6	Lack of students interest in computer application	3.52	1.42	accepted	4.53	0.50	accepted
7	Students poor perception of computer	3.68	1.28	accepted	4.33	1.01	accepted
8	Malfunctioning of equipment	2.50	1.51	rejected	2.40	1.54	rejected
9	Inability of student to harness printed information	3.83	1.20	accepted	3.93	1.24	accepted
10	Inability of students to do research unaided	4.00	1.26	accepted	4.47	0.50	accepted
11	Slow internet connection	3.57	1.29	accepted	3.87	1.26	accepted
12	Lack of appropriate search skill in students	3.60	1.41	accepted	4.30	0.79	accepted
13	Inferiority complex in students	3.63	1.14	accepted	4.00	0.89	accepted
	<b>TOTAL</b>	3.39	1.40	<b>accepted</b>	4.06	1.15	<b>accepted</b>

Table 3 revealed that 12 out of 13 listed factors were accepted by the students based on the fact that their mean values were more than the cut-off point of 3.00. Also, the lecturers accepted 11 out of the 13 factors. This shows that there is an agreement among the respondents (students and the lecturers) on the factors responsible for poor utilization of computer facilities available for research in colleges of education.

**Hypothesis 1**

HO<sub>1</sub>: There is no significant difference between the mean responses of lecturers and students on the utilization of computer and its facilities for educational research in colleges of education.

Data for testing hypothesis HO<sub>1</sub> are presented in table 4.

**Table 4: T-test Analysis of the mean response of lecturers and students on the utilization of available computer facilities for educational research in colleges of education**

	Facilities	Students		Lecturers		Calculations/Decisions		
		X <sub>1</sub>	SD <sub>1</sub>	X <sub>2</sub>	SD <sub>2</sub>	t-cal	t-tab	Remarks
1	Desktop	2.22	1.20	3.60	0.35	7.71	2.01	S
2	Printer	1.65	1.18	3.13	0.40	8.12	2.01	S
3	Scanner	1.63	1.25	2.60	0.48	4.55	2.01	S
4	Internet	2.02	1.32	3.87	0.34	9.53	2.01	S
5	Projector	2.12	1.03	3.20	0.98	3.73	2.01	S
6	Photocopier	1.87	1.28	2.87	1.15	2.91	2.01	S
7	Computer Lab	2.13	1.05	2.80	1.11	2.09	2.01	S
8	Flash Drive	1.80	1.11	2.40	1.08	1.92	2.01	NS
9	Printing Paper	3.02	1.10	3.40	0.88	1.42	2.01	NS
10	Software Application	2.25	1.19	3.30	0.77	4.30	2.01	S

Data presented in table 4 shows that all the items had their t-calculated value greater than the t-table value of 2.01 (two tailed test) at 0.05 level of significance except for items 8 and 9. This indicated that there is a significance difference on the utilization of available computer facilities for educational research in the college of education. The data therefore showed that the null hypothesis (HO<sub>1</sub>) of the significant difference was not upheld for all the items except for item 8 and 9 which were accepted.

**Hypothesis 2**

There is no significant difference between the mean responses of lecturers and students on the factors responsible for poor utilization of available computer facilities in colleges of education for educational research.

Data for testing the hypothesis HO<sub>2</sub> are presented in table 5

**Table 5: T-test Analysis on the mean response of lecturers and students on factors responsible for poor utilization of available computer facilities in colleges of education for educational research**

	Factors	Students		Lecturers		Calculations/Decisions		
		X <sub>1</sub>	SD <sub>1</sub>	X <sub>2</sub>	SD <sub>2</sub>	t-cal	t-tab	Remarks
1	Persistent power failure	3.25	1.25	3.30	1.32	0.13	2.01	NS
2	Lack of awareness on the use of computer	3.75	1.44	3.50	1.41	0.62	2.01	NS
3	Negative attitude of staff	3.72	1.18	2.73	1.18	9.00	2.01	S
4	Inability of students to use computer facilities	3.38	1.09	4.33	0.87	3.58	2.01	S
5	Students prefer the easy way out	3.70	1.29	4.53	0.81	3.06	2.01	S
6	Lack of students interest in computer application	3.52	1.42	4.53	0.50	4.68	2.01	S
7	Students poor perception of computer	3.68	1.28	4.33	1.01	2.08	2.01	S
8	Malfunctioning of equipment	2.50	1.51	2.40	1.54	0.22	2.01	NS
9	Inability of students to harness printed information	3.83	1.20	3.93	1.24	0.29	2.01	NS
10	Inability of students to do research unaided	2.25	1.19	4.47	0.50	2.18	2.01	S
11	Slow internet connection	3.57	31.29	3.87	1.26	0.81	2.01	NS
12	Lack of appropriate search skill in students	3.603	1.41	4.30	0.79	2.62	2.01	S
13	Inferiority complex in students	3.63	1.14	4.00	0.89	1.37	2.01	NS

Data presented in table 5 shows that items 1,2,8,9,11 and 13 had their t-calculated value less than the t-table value of 2.01 (two tailed test) at 0.05 level of significance. This indicated that there was no significant difference in the mean ratings of the responses of the two groups. Moreso, items 3 – 7, 10 and 12 had their t-calculated values were greater than the t-table value of 2.01. This indicated that there is significant difference between the mean ratings of the two groups. The data therefore showed that the null hypothesis (HO<sub>2</sub>) of no significance difference was not upheld for items 3 – 7, 10 and 12.

**DISCUSSION**

The result of this study on the availability of computer facilities in the college of education showed that computer facilities are available for students use. This is in conformity with the views of Okoro (1989) in Wuru (2008) who posited that in many parts of the world, micro-computer had invaded the classroom and has recorded a positive impact on the learners. The available PCs in computer laboratory are, however, inadequate for meeting the needs of students.

Finally, the result of the study on the factors responsible for poor utilization of computer facilities in colleges of education showed that virtually all the factors highlighted in this study are responsible for the poor utilization of computer facilities in colleges of education by students. This is in line with the assertion of Okwudishu (2005) who asserts that lack of adequate search skill and inability to access or use internet by instructor and students are responsible for poor usage of computer in research. The study is also in agreement with the findings of Nwosu (2010), Shakeel (2011), Chisenga (2004) and Okiy (2005).

## RECOMMENDATION

The following recommendations were made;

- i.) There should be proper awareness on the importance of the ICT centers in schools, especially to new students. It should be made mandatory for every fresh student to undergo computer training.
- ii) Computer studies should be integrated into research curriculum for students to learn how to use the computer for research.
- iii) Electricity supply to every ICT center in schools should be separated from other areas of the school. This is to ensure that steady power is supplied regularly.

## CONCLUSION

Having reviewed related literature, it will be pertinent to conclude that computer plays very important role in educational research. It could be useful in conceptual phase, design phase, data collection phase, data analysis phase and research publication phase. The awareness and policies on the use of computers in school has made it possible for schools to have furnished computer laboratories for research work, teaching and school administration.

However, the availability of computer for research in schools today has not prevented students from using the old method of sourcing for information or contracting the process of sourcing for relevant information during research to computer operators outside their schools. This is as a result of persistent power failure, lack of appropriate search skill, negative attitude of staff of school ICT centers and so on.

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