

# **The Role of Information and Communication Technology (ICT) In Educational Research in Tertiary Institutions: A Case Study of Federal College of Education Obudu**

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**Abstract:** *The study investigates the role of ICT in educational research in higher institutions in Nigeria. A total of fifty (50) academic staff drawn at random from FCE, Obudu was used for the study. The collection of primary data was carried out using a four point-likert scale and structured questionnaire. A test re-test method was adopted in the pilot study using statistical mean and simple percentage for analyzing research questions. A simple percentage and statistical mean was used for data analysis and testing of research questions in the overall study. Based on the analyzed data, it was revealed that, ICT advances positively educational research in higher institutions in Nigeria; that Nigeria is economically viable to fully integrate and use ICT in education and research, and that ICT is expensive, but does not amount to its negligence in education and research.*

**Keyword:** *Role, Institutions, Research*

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## **I. Introduction**

Right from the origin, man is created powerful and formatted with the ability to exploit the universe which is richly endowed with all the solutions to the need of man. Consequence upon the fact that man is mortal, in most cases, he will embark on a journey or project and would not achieve his target or goal before he dies. How will we know where he had stopped? Of obvious fact, this poses a problem to initial research and development.

The measure taken to overcome this problem is the documentation of any discovery or project as well as progress into any venture that is hoped to be fruitful. As man advances in science and technology, so also were improved techniques and facilities used for storing and retracting information of the past by researchers, in order to come up with a better and improved way of living.

One of the most recent technologies used in research and most areas of human endeavor to facilitate efficiency and effectiveness is the Information and Communication Technology (ICT).

Education research is a systematic and scholarly application of the scientific method, interpreted its broadest sense to the solution of educational problem [1]. Educational research is concern with the application of systematic scientific procedures for investigation of problems in education. Before civilization, information were passed on from one person to the other and to generation unborn through tales and storytelling which were not very effective means of communication as information's are not store or documented, and can easily be lost or outfaced [2]. Progress was made gradually up to civilization where information are written as document for easy storage, backups and retrieval. Researchers now find it a bit better as they can begin from somewhere using the ideas and contributions of others as documented. Still with the improvements made, information is still been monopolized as the owner of the piece of work and close associates will be the ones to gain access to the work, what of those need the piece of work but are far off? This inhibits the rate of the growth and development of research in the entire system.

Progress is made when information documented are co-alesce into a stream of information through which many researchers can now source from. Man in his curious nature keeps on hand picking programs associated with research, studying and development and at the same time the way out. This has become a continuous process in as much as man has not fully understood and exploits the universe he belongs.

Since man is mortal and have very few days on earth, educational researchers are concern with the methods, resources as well as procedures that have to apply in order to make maximum utilization of man's stay [1]. [3], [1] summarized the major concern for educational research to include:

- i. Issues about the learner
- ii. Issues relating to the learning process
- iii. Issues relating to evolution of learning outcome

- iv. Discipline and order
- v. Curriculum development etc.

ICT is providing a better way into how things are done where research is not left out. ICT has today provided educational researchers with facilities and enabling environment to carry out research with excitement and motivation [4]. This is true as ICTs has improved education beyond broad-based curriculum that dwells more on theoretical perspectives to *facta non verba* (that is, action or deeds not words) [5]. Technology today has drastically reduce the burdens of educational researchers from moving distant in search for information or data by globalizing the entire universe that information generated at one part of the world can be accessed wherever in the world using specific technology. ICT have granted virtually every one the opportunity to take on research irrespective of your physical status, race, believes religion. Etc. [6] observe that ICT is a vital factor in the successful development of the educational sector and industry at large. They further supported that the most attractive tool and infrastructure for the younger generation to facilitate actual research into craftsmanship in business for local consumption and national development is the information and communication technology.

Despite the merits ICT had brought about, it is disheartening to notice that the celebrated ICT has been a myth to many organization and educational institutions of the under-developed world for which Nigeria is one. As a result, the issue of ICT is looked upon with flared eyes considering the negative factors of ICT as a condition for the bemoaning state of ICT in the system.

## **II. Research Objectives**

The essence of this research work is to sample out opinions from educationists and come up with a conclusive statement(s) if actually ICT is relevant to educational research taking federal college of education, Obudu as a case study.

The research also seeks to know;

- i. the extent ICT has affected educational research in Nigeria tertiary institutions
- ii. the economic viability of Nigeria educational sector to deploy ICT in educational research in full scale
- iii. if there are challenges associated with the deployment of ICT in educational research of the higher institutions in Nigeria.
- iv.

## **III. Research Questions**

The objective of this study gave rise to a number of questions such as;

- i. To what extent has ICT affected educational research of the higher institutions?
- ii. Is Nigeria economically viable to fully integrated and deploys ICT in full scale in educational research?
- iii. Has information and communication technology any set back that can hamper its integration and deployment in educational research of the higher institutions in Nigeria?

## **IV. Review Of Related Literature**

### **Theoretical Framework**

Theoretically, this study tries to X-ray the impact of ICT in educational research in higher institutions. ICT is providing a better ways of dealing and improving on education, industries, office management, vocational education, etc. in respect to the impact of ICT in today's society, it is observed that in general, technology is being presented as something new as it drive change in an increasing rate. ICT in its change drive is associated with modernization as it has change the way of living which made the technology to gain grand in almost all of human's activities. This idea is true as information and technology is often equated with being modern and holds cut a panacea in which the future is invariably better than the past. ICT is an integrated user-machine system for providing information for support operations, management and decision making functions in an organization making use of computer technology. ICT integrates the various technologies which are used in creation, acquisition, storage, manipulation, dissemination, retrieval and transmission of information by creating easy accessibility for researchers at various levels.

ICT as an effective tool for education and research of the millennium has three roles which are;

- i. Initiator Role: as initiator, ICT can be defined as an agent for change or change agent. ICT becomes an initiator as it enables researchers to recognize a powerful educational problem before even realizing or seeking the problem it may solve.
- ii. Enabler: As an enabler, ICT offers the ability or necessary assistance for education and research by providing an alternative ways of researching.
- iii. Facilitator: As a facilitator, ICT serves as machinery to make educational research work easier.

In view of the role of ICT as stated above, it can be observed that ICT has published large abstract information intended to renovate educational research by lifting mobility problems in research with the

introduction of wireless interfaces and MODEMs which enable subscribers to carry their phones wherever they go as well as accessing information from the net.

Digital libraries are constructed in various institutions of higher learning where researchers can easily lay hands on first class information. Miniaturization in electronic technology has continuously saw rise to the construction of very small but powerful components used for collection, collation, storage, transmission, etc of data and information. Example of such technology is the GSM which is so integrated with facilities that makes it function dramatically. The implication of this is that a researcher with the help of ICT has within him every resource needed for an effective research.

The internet is another aspect of ICT that is globalizing the entire universe. The internet has made it possible for students, researchers, and so on to disseminate information than ever before. [7] in support of the relevance of the internet in research pointed out that the internet makes research work for students easier and equally serves as an eye opener to them. [8] also supported that ICT offers a vast amount of resources that are otherwise not available in any one geographical location which foster and enhances various skills for teachers including research, critical thinking problem solving, etc.

Irrespective of the merits offered by ICT in research and other fields it applies, in an attempt for ICT to simplify the researcher's work, it creates room for bad research work and make the researcher lazy by providing poor information and degrade researchers morality by providing bad sites such as pornographic sites. [7] and [9] observed in their research work that ICT degrades the quality of research throwing people into the areas where the answers they find are low quality guess since the internet allows everybody to publish, as a result, finding high quality information may be difficult.

Also on the negative part of ICT in research, it can be seen that ICT facilities are expensive to afford, and costly in term of maintenance. Most at times, ICT is not reliable due to poor signals in the case of internet, network problems in the case of GSM, poor power supply and lack of improved technology especially in the case of developing and under-developed countries. ICT facilities in some cases are associated with health hazard (that is, emission of unhealthy substances form instruments used).

### **The Impact of ICT in Educational Research in Higher Institution**

Educational research is concern with issues of presenting teaching and learning with maximal flexibility and motivation in the side of both the instructors and the learners. Educational research is aimed at employing strategies that will find solution to educational problems as well as improving teaching and learning situations.

The technology that has come to effectively implement the above needs is ICT. Computer technology which is an aspect of ICT has presented teaching and learning with motivation and interest such that even the handicaps can participate effectively well. ICT is today acting as a facilitator, initiator and an enabler of educational research at all levels. This is true as ICT has helped to provide facilities such as the internet, GSM intranet, extranet, e-mail etc, which has made it possible that information can be spread round the world within a short while. This development saw rise to distance learning programme, the development of courseware which encourages individualized and mastery as well as improved research work. Obviously, ICT has change the attitudes of researchers as well as helping young scholars to grow and waxed stronger in educational research resulting in better and enhanced way of dealing with teaching and learning for the betterment of both the learners and the instructors or facilitators.

[10] observed that the overwhelming majority of students surveyed reported favorable attitudes to both attending college and doing their research work with satisfaction reaching ceiling level. In line with the above, [11] summarized the impact of ICT in education and research as follows;

- a) Encouragement and facilitation personalize learning
- b) Provision of project and technology for effective research and learning
- c) Provision of test validation
- d) The introduction of specific technology for effective research and learning

### **The Economic State of Nigeria in Welcoming and Integrating ICT in Educational Research in Higher Institution**

ICT is an expensive technology. To fully integrate and deploy ICT in a system requires advanced technology, training, maintenance of equipments and services etc which are costly. ICT need constant power supply, as a result need a standby power source which are all cost effective. Many companies, firms, institutions, organization in Nigeria do not integrate this technology in their transactions because of the cost required.

Nigeria like every other nations dare and strongly willed to integrate and implement ICT in every of her endeavors, but this is far fetch, then what could be the problem? A lot of efforts have been put in place to install ICT at least in education. Progress was made such as schoolnet programme, digital library, the internet

etc, but the achieved is far below expectation. These boils down to the cost involved the deployment of ICT. Do we now say Nigeria is not economically viable to integrate and deploy ICT in educational research? This conclusion will be hasty and prone to a number of criticisms. Nigeria is rich even richer to fully integrate and deploy ICT in every tiers of her endeavors, the major problem of Nigeria is mismanagement and the control of power by those who have no interest in educational development after all their children study over sea. Corruption and political instability constitute another factor, and the nature of Nigerians is another problem.

In support of the above view, [12] observed that the problem of implementing ICT in educational research and other areas in Nigeria is a policy problem and poor management and thus states that "Nigeria needs to formulate and implement policies that will be able to effectively utilize and manage its resources with the objective of attracting and sustaining development"

It is an obvious fact that Nigeria is technologically backward, while ICT works well with developed or advanced technology, so the state of Nigeria technology is also a problem of integration of ICT in education and research.

The integration of ICT in educational research cannot be easily done by an individual; government should be able to enforce this with the intension that it is one of the avenues for national development.

### **The Ineffectiveness of ICT in Educational Research**

While ICT raises the hope of people with fascinating and attractive services, it in turn becomes an instrument for trauma as one use the technology to commit crimes and lots of other atrocities. Today people lost their monies from banks for which they cannot account for. With GSM, crime is perpetrated as it becomes equally very easy for communication of criminal activities among criminals. Cyber crime is the order of the day to day, fraud and moral degradations has become the reward of the internet.

ICT demand so much to stay as it needs power and advanced technology to operate. How many of the educational researchers have the resources to feature well? Some at times, there are problems of poor network, poor access, breakdown, maintenance, etc which interferes and hampers information dissemination, thereby, slack research work. Some of the devices used in ICT have health hazard problems which adversely affects the health of the researcher.

In support of the views above, [7] observed that ICT with the help of wireless technology used in education and research had affected adversely the moral standards of researchers by providing them with bad sites were they obtain wrong ideas. [9] supported that ICT had made researchers lazy and cause them to publish bad research work.

The negative impact of ICT in research and education is more pronounced in the developing and the under-developed world.

### **Empirical Studies**

The application of ICT in education and research has been the urge of educators since the inception of the technology. The battle to integrate and sustain ICT in Nigeria has being a tag of war as most schools in Nigeria don't even have PCs let alone internet services not to talk of other advanced technology. [13] posits that in the secondary school syllabi, there appears to be no other ICT related subject such as computer science that is taught at the senior secondary school level by the 21<sup>st</sup> century when almost every human activities is being taken over by ICT. Ezeh in his lead paper presented at FCE, Obudu, May 12, 2009 pointed out the challenges of ICT at all levels of Nigeria education system is as follows;

- a. No agreed standard for computer literacy for students, lecturers, and education officers.
- b. No agreed standard for minimum physical provision for effective ICT development.
- c. Limited development of on-line educational resources including libraries
- d. Few ICT opportunities in teaching curricula and little development of ICT-based teaching and learning resources.
- e. Minimum development of skilled and affordable technical structures
- f. Limited ICT facilities among teachers, lecturers and even education officers and administrators
- g. Massive procurement of computer hardware especially by tertiary institutions without appropriate ICT deployment for efficient processing of their results and dissemination of their research activities to the outside world.

In Nigeria like other African countries, it has become a difficult thing to think of effective integration and deployment of ICT in education research since there is no solid ICT foundation from the lower ladder of educational system.

[11] in the quest to ensure adequate solution to problems of education and research, it was able to come up with a tentative observation from a research in England which aimed at; exploring schools and colleges to provide the exemplars of their ICT related activities in their educational activities. The result presented

identifies good practice and provide evidence of what can be done, rather than searching out what is not done. The outcome of the finding is summarized as follows;

- i. Learners often created presentations, developing research skills as well as ICT verbal presentational skills as ICT is enabling learners to have greater choices about how to present their work and what learning activities to undertake.
- ii. In project work, the ability to search the world of materials on the internet has made a significant change for all researchers.
- iii. In the colleges, ICT-rich work forms the bases of student's portfolios
- iv. ICT has made a considerable difference to the way in which information is readily available to individual teachers and enhanced the sharing of this information with other teachers and parents.
- v. Students are increasingly involved in establishing targets and in accessing achievement against them. This is developing in the context of the easy spread of information enabled by ICT.

[14] observed that the impact of ICT in educational research is not yet felt in Africa as she posits, "there is so much euphoria about ICT and how it is making a difference in the world order. Accompanying the excitement is the growing misconception in Africa and elsewhere that substantial benefits will accrue with ICT adoption and diffusion". Though Kabamba(2008), admits the fact that ICT in the Western World is driving positive changes in education and research as she states, there is no question about ICT, ICT has been, and continue to be, the back bone of globalization.

The Scottish executive invested significantly in a series of initiative design to support the introduction of New ICTs across Scotland. These initiatives focused on the provision of hardware, software and staff development programmes and were complemented by the development of curriculum guidelines setting out the executive expectations for the acquisition and development of skills across the school system. The survey came out with the following findings;

- a) Success rate was high for all stages on item that tested knowledge of the students.
- b) More students were using the internet for research in 2004.

## **V. Methodology**

### **Research Design**

The design of the study was survey research. This approach was adopted to enable the researcher to sample out the opinions of people from the targeted population on the relevance of ICT in educational research in higher institutions

The researcher randomly sample out 50 academic staff from the population of over 300 academic staff of Federal College of Education, Obudu.

The researcher designed a well structured fifteen (15) items questionnaire which was used for data collection. The items in the questionnaire were orderly arranged such that items one to five generates data that was used to analyze research question one, items six to ten for research question two and item eleven to fifteen for research question three. Fifty copies of the questionnaire were produced, and the researcher took the copies of the questionnaire to the school environment and served the first fifty academic staffs that were available in their offices on a fixed working day. The researcher followed up and ensured that all the questionnaires were dully completed and returned. Data were analyzed using simple percentage, and determination of cut off point based on the four point scale of measurement was used with nominal rating values of 4,3,2, and 1 for SA, A, D, and SD respectively.

### **Area of Study**

The research was conducted in Federal College of Education, Obudu in Obudu Local Government Area of Cross River State. Obudu is one of the Northern Cross River State Local Governments with its headquarter in Obudu sharing boundaries with Tsar in Benue State, Obanlikwu, Boki, Ogoja and Bekwarra all in the Northern part of Cross River.

The people of Obudu speak Bette as their general language, though; they still have many other languages. The area of study is Federal College of Education, Obudu in Obudu urban consisting of academic staff, non-academic staff and students. For efficiency and effectiveness, the researcher decided to make use of academic staff believing that they may have in one way or the other carry out educational research or may have studied publications on educational research that should have enough experiences to share or offer.

### **Population**

The population of study consisted of all academic staff of FCE, Obudu who may have in one way or the other engaged in educational research. As at the time of study, statistics from the registry shows that the population of academic staff in FCE, Obudu is 301 staff.

**Sample and Sampling Techniques**

The sample consisted of 50 academic staff selected randomly and independently from the targeted population. Each academic staff sampled received a maximum of one questionnaire with explanation on how to fill it from those who demanded for such. Random sampling technique was used to select the 50 academic staff. The researcher produced 50 questionnaires and divided them into five equal parts to have 10 questionnaires per a group. The method was such that each school in FCE, Obudu (i.e. School of Science, Education, Vocation, Arts and Social Science and Language) was assigned a group, which the researcher on a fixed working day took each group to the first 10 academic staff found in their offices of each school.

**Instrumentation**

To collect the primary data, a careful structured questionnaire was designed and administered by the researcher. The researcher distributed the questionnaires to fifty academic staff randomly selected from the five schools in FCE, Obudu. Some respondents filled and return back immediately, while other returned later but within the same day.

The measuring instrument used by the researcher for this study is a four-point likert-type questionnaire. The questionnaire was divided into two sections. Section “A” has to do with the respondent’s personal information, while section “B” was a fifteen items questionnaire used to elicit information on the role of ICT in educational research in higher institutions. The variables or items were divided into three groups beginning with item one to five for the first group, six to ten for the second group and eleven to fifteen for the third group. Each group one, two and three was used to analyzed research question one, two and three respectively.

The instrument was developed by firstly making list of phrases and words that are possible indicator of the variable involved in the study. Each response was given a degree of score which ranges from one to four as shown below;

Strongly Agreed	SA	4	Point
Agreed	A	3	Point
Disagreed	D	2	Point
Strongly Disagreed	SD	1	Point

**Method of Data Collection**

There were fifty copies of questionnaire made available and distributed to sampled academic staff of FCE, Obudu. They were advised to respond accurately and honestly to the questionnaire. The questionnaires were distributed face to face in a fixed working day to ten academic staff found in their offices in each of the five schools in FCE, Obudu. The researcher allowed the respondents to respond to the questionnaires which twenty two (22) copies were returned immediately and the left over twenty eight (28) copies were later collected within the same day.

**Method of Data Analysis**

Data collections were analyzed using simple percentage. Determination of cut off point based on the four point scale of measurement was used with nominal rating values 4,3,2 and 1;

SA	Strongly Agreed	4	
A	Agreed	3	
D	Disagreed		2
SD	Strongly Disagreed	1	

Total point is 10, while the mean point is  $\frac{10}{4} = 2.50$ .

The mean score for each item was determined by multiplying the frequency of each response option with the corresponding value of the response category and dividing by the number of respondents to each item.

From the above, the cut-off point for accepting a variable is 2.50 and above, while the collection of the total responses of Agreed plus that of Strongly Agreed, and the collection of the total responses of Disagreed and Strongly Disagreed was determined by percentages, whichever research question that has percentage of 50% and above forms the value for judgment represented mathematically as follows;

$$(A + SA)/(T1 + T2) \times 100/1 \text{ AND } (D + SD)/(T1 + T2) \times 100/1$$

Where;

- A - Agreed
- SA - Strongly Agreed
- T1 - Total Responses of A and SA
- D - Disagreed
- SD - Strongly Disagreed

T2 - Total Responses of D and SD

Research question one was determined by gathering the responses collected from the field using items one to five in the questionnaire. The research question was accepted if the positive responses have a percentage of 50% and above, otherwise rejected.

Items six to ten were used to analyze research question two using the formula above. A positive response of 50% and above represents acceptance otherwise rejected of the research question.

Similarly, items eleven to fifteen were used to analyze research question three and a 50% and above positive response was the criteria for accepting the research question.

## VI. Result Presentation And Summary Of Findings

### Presentation

Research question one states “**To what extent has ICT affected educational research of the higher institutions?**” The data in table 4.1 is used in answering this question. The table contains analysis of question items relating to research question 1.

**Table 4.1: The Impact of ICT in Education Research**

S/N	ITEM	SA	A	D	SD	TOTAL	Mean	RMK
1.	ICT has advanced positive impact in educational research.	37	13	-	-	50	3.74	Accepted
2.	ICT create room for easy access to valuable information.	34	16	-	-	50	3.68	Accepted
3.	With ICT, research is now timely and effective.	20	23	7	-	50	3.26	Accepted
4.	Digital libraries enhance effective research in higher institutions.	27	18	4	1	50	3.42	Accepted
5.	ICT encourages and motivates the spirit of research.	22	25	3	-	50	3.38	Accepted

Mean positive responses = 94.0% while mean negative responses = 6.0%

From the analysis, positive responses have average percentage of 94.0% at against 6.0%, the research question is therefore accepted. It follows from table 4.1 that, item one has the response of 37,13,0 and 0 for strongly agreed, Agreed, Disagreed and Strongly Disagreed respectively with a mean value of 3.74 which is above the cut-off point of 2.50. Item 1 is accepted that ICT has advance positive impact in educational research. Item 2 have a response of 34,16,0 and 0 for Strongly agreed, Agreed, Disagreed and Strongly Disagreed respectively with a mean value of 3.68. It is accepted therefore that ICT creates room for easy access to valuable information. Item 2 is accepted in item 3, 20 respondents Strongly Agreed, 23 Agreed, 7 Disagreed and none Strongly Disagreed with a mean value of 3.26. Item 3 is accepted, following that with ICT, research is timely and effective. In item 4, 27 respondents Strongly Agreed, 18 Agreed, 4 Disagreed and 1 strongly disagreed with a mean value of 3.42. Item 4 is accepted, following that digital libraries enhance effective research in higher institutions. Item 5 has a response of 22 strongly agreed, 25 agreed, 3 disagreed and none strongly disagreed with a mean of 3.38. Item 5 is therefore accepted that ICT encourages and motivates the spirit of research.

**Research Question 2 states “Is Nigeria economically viable to fully integrate and deploy ICT in full scale in educational research?”** Item 6,7,8,9 and 10 will be used in responding to this research question.

S/N	ITEM	SA	A	D	SD	TOTAL	Mean	RMK
6.	ICT is very expensive to be employed in research	7	20	20	3	50	2.62	Accepted
7.	Nigeria cannot afford to integrated ICT in education due to her economic state.	4	12	20	14	50	2.40	Rejected
8.	Researchers cannot afford ICT facilities.	4	19	18	9	50	2.36	Rejected
9.	Nigerian policy does not support full integration of ICT in education.	4	12	20	14	50	2.12	Rejected
10.	Every academic staff has ICT facilities within his or her reach.	-	4	16	30	50	1.48	Rejected

Mean positive responses = 33.60% while mean negative responses = 66.40%.

The average percentage for positive response is 33.60% while that of negative response is 66.40%. Research question 2 is therefore rejected. Item 6 have a response of 7, 20, 20 and 3 for strongly agreed, Agreed, Disagreed and Strongly Disagreed respectively with a mean of 2.62. It follows that ICT is expensive to be employed in research. Item 6 is accepted. Item 7 have 4 responses to Strongly Agreed, 12 to Agreed, 20 to Disagreed, and 14 to Strongly Disagreed with a mean of 2.40. Since 2.4 is below 2.50 which is the cut-off point, item 7 is rejected meaning that Nigeria is economically strongly enough to integrate ICT in education. Item 8 have a response of 4, 19, 18 and 9 for Strongly Agreed, Agreed, Disagreed and Strongly Disagreed respectively with a mean of 2.36. It follows that item 8 is rejected meaning that researcher can afford ICT facilities. Item 9

have 4 respondents who Strongly Agreed, 12 who Agreed, 20 who Disagreed and 14 who Strongly Disagreed with a mean of 2.12. Item 9 is rejected that Nigerian policy support full integration of ICT in education. Item 10 have a response of 0,4,16, and 30 for Strongly Agreed, Agreed, Disagreed and Strongly Disagreed respectively with a mean of 1.48. It follows that every academic staff lacks ICT facilities, hence item 10 is rejected.

**Research Question 3 states “Has ICT any set back that can hamper its integration and deployment in educational research of the higher institutions in Nigeria?”** the data in table 4.3 is used in responding to this research question.

**Table 4.3 Setback of ICT in Educational Research**

S/N	ITEM	SA	A	D	SD	TOTAL	Mean	RMK
11.	Internet has negative influence on the morality of researchers.	4	9	20	17	50	2.00	
12.	ICT encourages poor research work.	1	3	22	24	50	1.62	
13.	ICT facilities are not reliable	3	3	22	22	50	1.74	
14.	ICT is only affordable by the rich.	5	12	26	7	50	2.30	
15.	Most higher institutions lack ICT facilities	18	18	8	6	50	2.96	

Mean positive responses = 30.40% while mean negative responses = 69.60%. The negative mean response of table 4.3 favors research question 4, hence, a negative mean response of 69.60 accepts the research question. Item 11 have 4 responses to strongly agreed, 9 to agreed, 20 to disagreed, and 17 to strongly disagree with mean response of 2.00. Item 11 which states that internet has negative influence on the morality of researchers is rejected. Item 12 have a response of 1,3,22, and 24 for strongly agreed, agreed, disagreed and strongly disagreed respectively with a mean of 1.62. Item 12 is rejected meaning that ICT does not encourage poor research work. Item 13 have a response of 3 respondents for strongly agreed, 3 for agreed, 22 for disagreed, and 22 for strongly disagreed with a mean of 1.74. Item 13 is rejected meaning ICT facilities are reliable. Item 14 have 5 responses to strongly agreed, 12 responses to agreed, 26 responses to disagreed and 7 responses to strongly disagreed with a mean response of 2.30. Item 14 is rejected, that ICT is not only affordable by the rich. Item 15 have a response of 18,18,8 and 6 for strongly agreed, agreed, disagreed and strongly disagreed respectively with average of 2.96. Item 15 is therefore accepted that higher institutions lack ICT facilities.

## VII. Discussion of Findings

The analysis of item 1 to 5 relating to research question 1 which states that, “to what extent has ICT affected educational research of the higher institutions? Disclosed that ICT has advanced educational research in higher institutions greatly as it provides a better, effective and efficient ways for fast and reliable research with an average percentage positive response of 94.0%. This is in line with [5] that ICT is providing a better way into how things are done where research is not left out. [6] also is in consonance with this finding which they opines that, ICT have equally granted virtually every one the opportunity to take on research irrespective of your physical status, race, belief, religion, etc.

From the result above, it becomes imperative for Nigeria government to as a matter of necessarily fully integrate ICT in her educational sector for a better performance and result oriented education.

Analysis of research question 2 shows that, actually ICT facilities are expensive and it becomes difficult for researchers to acquire and use but that Nigeria government is economically viable to make the ICT facilities available and reachable by researchers, except that Nigeria lack the implementation of policies that integrates and implement ICT in education sufficiently. This agrees with the idea of [12] which observed that the problem of implementing ICT in education, research and other areas is a policy problem and poor management and states that “Nigeria needs to formulate and implement policies that will be able to effectively utilize and manage its resources with the objective of attracting and sustaining development”. From the analysis, a negative average response percentage of 66.40% in turn favors the research question, it therefore concludes that Nigeria is economically viable to fully integrate and use ICT in education and research.

From the analysis of table 4.3, it was discovered that the major setback of ICT in education in Nigeria is its lacking in institutions of learning. This is contrary to the ideas of [7], and [9] who assert that, ICT with the help of wireless technology used in education and research had affected adversely the moral standards of researchers by providing them with bad sites where they obtain bad ideas, and that ICT has made researchers lazy and cause them to publish bad research work. Actually, there is nothing existing or invented that has only advantages without disadvantages. I am supposing that it was based on this that few bad sites of ICT has been mentioned, but it’s wrong does not worth its negation in our educational system. A total average negative percentage response of 69.60% was an indication that ICT has no major setback that should discourage its integration and use in education and research.



## VIII. 7Conclusion

To be a strong, independent and developed nation is determined by the footing of such a nation in education. Since Nigeria is determined to become a developed nation one day, this is the right time to consolidate education and research with ICT. This will help to bring sustainable development. Based on the findings, the following conclusions were reached;

1. ICT is the vehicle for change in the entire system and should be deployed in Nigeria educational research effectively.
2. Education and research will achieve its true course when ICT is fully applied and
3. Researchers should endeavor to overcome the barrier of costs of implementing ICT in research as much as possible.

## References

- [1]. Gbera, G. A and Vihi, M. M. (2008). Education Research Methods at a Glance. Eddison Publishers, Katsina – Ala, Benue State.
- [2]. Tergema, L and Adejor, M. J. (2009). Introduction to Philosophy of Education (2<sup>nd</sup> ed). Selfers Academic press Ltd, Makurdi, Benue State.
- [3]. Adeyinka, C. O. (2008). The Study of Research and Development Management in Nigeria: manufacturing Industries, a case study. International Journal of Development Studies 3(3) pp34-39.
- [4]. Eneji, S. E. and Bassey, I. E. (2008). Computer as a Tool for Developing and Empowering a Nation. A case study of Nigeria International Journal of Development Studies (3)3 pp19 - 23.
- [5]. Agana, M. A. and Eneji, S. E (2008). Design of a carrier-centered curriculum for computer science undergraduate to promote patriotism, self-reliance and productivity in the 21<sup>st</sup> century. A paper presented at the 5<sup>th</sup> Annual National Conference of the Association Encouraging Qualitative Education in Nigeria (ASSEQEN) at Akwa-Ibom State College of Education Afaha-Nsit. 12<sup>th</sup> – 16<sup>th</sup> May, 2008.
- [6]. Atajeromavwo, E. J. and Konyeme, J. E. (2008). A Survey on the State of Information and Communication Technology (ICT) in Computer Science and Science Education Graduates’ Job Prospect and Challenges for Qualitative Education in Delta State. Journal of Qualitative Education in Nigeria (4)1 pp 124 – 129.
- [7]. Egwim, P.O. (2008), A Comparative Study of the Positive and Negative Effects of the Internet on Students in the Tertiary Institution. Unpublished project work submitted to department of computer science, FCE, Obudu.
- [8]. Jeffrey, W. and Walker, R.S. (1993). International Technology for Management. MGrow Hill, USA.
- [9]. <http://www.waado.org/nigerdelta/essays/NigerianEconomy/imfonNigeriaEconomy.html>
- [10]. Obele, R. C. (2008). The Relevance of Information Technology to Problem Solving in Telecommunication. Unpublished project work submitted to department of computer science, FCE, Obudu.
- [11]. Becta, (2007). Key Findings for Further Education Colleges Based on Evidence from the Evaluation of the ICT Test Bed Project. <http://www.evaluation.icctestbed.org.uk>
- [12]. ICT Test Bed (2007). The Role of ICT in Enhancing Teaching and Assessment. <http://www.evaluation.icctestbed.org.uk>
- [13]. IMF (2001). The State of the Nigeria Economy by IMF. <http://www.waado.org/nigerdelta/essays/NigerianEconomy/imfonNigeriaEconomy.html>
- [14]. Ezeh, D. N. (2009). Achieving vision 2020 through science, Technology and Mathematics Education.
- [15]. A Lead paper presented at Maiden National Conference of School of Science, FCE, Obudu. 11<sup>th</sup> – 15<sup>th</sup> May, 2009.
- [16]. Kabamba, J. M. (2008). Globalization a Disservice to Human Development in Africa. the impact of ICT. <http://www.ifla.org/iv/ifla74/index.htm>

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