

**UTILISATION OF INFORMATION COMMUNICATION TECHNOLOGY FOR TEACHING AND LEARNING IN SOME SELECTED SECONDARY SCHOOLS IN ZARIA LOCAL GOVERNMENT, AREA, KADUNA STATE, NIGERIA**

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**ABSTRACT**

*This study investigated the utilization of ICT for teaching and learning in some selected secondary school. Survey research method was adopted for the study. The population of the study comprised of teachers in the selected schools. Validity and reliability was also observed in the study. The recommendation is based on the finding of the study. The study exposes some lapses in the provision of computer in public secondary schools in Zaria Local Government Area. If the following recommendations are implemented, they will enhance a proper computer aided program for the teachers and students of Zaria Local Government Area. The government should focus greatly on the application of information and communication technology for teaching and learning across the state. More also training and retraining of the personnel in-charge of manipulating information and communication technology should regularly be observe*

**INTRODUCTION**

Information and communication technology comprises digital technologies such as computer and its accessories (Hardware and Software) communication technologies which include television, radio, telephone, network technologies which include internet and reprographic technologies which include camera, photocopies, printer, scanner.

ICT is the application of modern electronic technology for the creation and storage and meaningful and useful tract or data and to its transmission to users by various electronic means (Feather and Storages 2003). The international encyclopedia of information science (2003) defined ICT as the application of modern electronic and computing technology to creation and storage of fruit, date or informational to it transmission to user by communication media.

The application of ICT in education has improved the quality of teaching and learning, which led to globalization of information sharing among students and teachers.

Information technology plays an important role in every aspect of human life. Technology is an innovation by man in order to make environment a better place of living. Technology is of various types which are used in schools. The most common technology that is used in school environment is computer. Computer is an electronic device for storing and processing data, typically in binary form, according to instructions given to it in a variable program. It can also be seen as a device that can be instructed to carry out sequence of arithmetic or logical operations automatically via computer programming. Computer is an electronic machine that can solve different problems process data, store, retrieve and disseminate information. Computer has the ability to follow generalized sets of operations called programs. The programs enable computers to perform an extremely wide range of tasks in education, computer usage as an instructional material is generally agreed to be an important device which both teachers and learners can use to enhance the quality of instruction.

Computers are being used actively in educational institutions to improve the learning process. Teachers can use audio video aids through computer to prepare lesson plans and also used the Microsoft power point to prepare electronic presentations about their lectures. Integration of computers in secondary school will definitely improve Nigerian education system thereby giving students a better education that can enable them to compete favorably with products of other education systems all over the world. Results from various studies have shown that computer

usage facilitates teaching and learning activities when properly used. Most experts in the field of education agreed that, when properly used, information and communication technology hold great promise to improve teaching and learning in addition to shaping workforce opportunities. Poole (1996) cited in Aduwa-Ogiegbaen (2005) indicates that computer illiteracy is now regarded as the new illiteracy. This has actually gingered a new and strong desire to equip schools with computer facilities and qualified personnel necessary to produce technologically proficient and efficient students in developed countries of the world. There is no doubt that computer can aid the instructional process and facilitate students' learning. Despite the important of this technology for teaching and learning still some secondary school do not have or use computer for teaching and learning.

### **Statement of the Problem**

Computer plays important role in human life. It is almost impossible to imagine that someone can live without computer. Computer has become an electronic device that is use by individuals of every age. Computer seriously enhances teaching and learning and also makes school environment a very comfortable and desirable place of learning. Computer helps teachers to set test papers, frame questions for home assignment and store students record. Secondary school students are very much in need of technology in the process of teaching and learning, such as computer. Secondary school is that which last between five to six years. People who are between the age 12 and 16 years are required to attend this institution. The important of computer for teaching and learning cannot be over ratted and unfortunately, paucity of literature exist on evaluation on the extent of computer application for teaching and learning in some selected secondary schools in the area under investigation. Therefore, based on the above mentioned observation, the researcher investigated the application of computers in enhancing teaching and learning in some selected secondary schools and the constraints faced by teachers and learners in the efforts to use computers in classroom communication within Secondary Schools in Zaria L.G.A. Could it be attributed to lack of availability of computers? Or could it be that computers are not utilized for teaching and learning? Or could it be as a result of lack of knowledge of using computer by the teachers and students?

### **Research Questions**

The following research questions were asked in order to direct the study:

- i. What type of information technology is available for teaching and learning in the selected secondary schools in Zaria local Government area Kaduna State?
- ii. What is the extent of computer utilization in teaching and learning in the selected Public Secondary Schools in Zaria Local Government?
- iii. What are the challenges faced by the teachers and student in using computer for teaching and learning?

## **REVIEW OF RELATED LITERATURE**

### **Introduction**

In this section existing literature related to the study were reviewed. This is with a view to identify any knowledge gap into the area of study. To achieve this effectively, the review of related literature will be based on the following subtopics.

### **Secondary School Education in Nigeria**

Secondary school is that institution that came immediately after primary schools. The purpose of teaching is primarily to assist the learner acquire the type of knowledge and skill that will produce desirable change in him. Effecting desirable change can be actualized if the teaching and learning process provides the enabling environment for the learner to think critically and analytically and consequently, be an agent of change. Generally, the educational system is

subdivided into the primary, secondary and tertiary levels. The secondary level occupies a critical position in the educational system. According to FRN (2004, p.18), "secondary education is the education children receive after primary education and before the tertiary stage.

The national policy on education (1998) gave the following as objectives of secondary schools.

- To provide all primary school learners with the opportunity for education of a higher level.
- To offer diversified curriculum to cater for the differences in talents.
- To provide trained manpower in the applied science, technology, commerce.
- To develop and promote Nigeria languages, art and culture.
- To provide technical knowledge and vocational skills etc.

The broad goals of secondary education shall be to prepare the individual for useful living within the society and higher education". To achieve the stated goals, secondary education shall be of six years duration, given in two stages: - a junior secondary school stage and a senior secondary school stage; each shall be of three years duration.

### **ICT IN Education**

Information and communications technology refers to a systematic process of gathering, processing, storing, sending and retrieving of information through the print, broadcast, computing and telecommunications media (Onwuagboke, 2009 cited in Amuchie, 2015). Similarly, Achuonye (2002) sees information and communications technology as the collection, storage, processing dissemination and use of information. When ICT is mentioned, what readily come to mind is the computer and the Internet? These two are not the only components of ICT but have actually revolutionized the way we handle and disseminate information hence Ogunsola (2005) sees ICT as an electronically based system of information transmission, reception, processing and retrieval which has drastically changed the way we think, the way we live and the environment in which we live.

Ofodu (2007) describes the ICT as "electronic or communication devices assisted by human and interactive materials that can be used for a wide range of teaching and learning as well as for personal use". From these definitions, ICT could therefore be defined as processing and sharing of information using all kinds of electronic devices, an umbrella that includes all technologies for the manipulation and communication of information. The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning and research (Yusuf, 2005). A great deal of research has proven the benefits to the quality of education (Al-Ansari, 2006). ICTs have the potential to accelerate, enrich and deepen skills to motivate and engage students to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping school change (David and Tearle, 1999, Lanke and Coughlin, 1998, cited by Yusuf, 2005).

ICT is also seen as a key skill for learning different subject areas (Tanner: 2003 and Kennewell 2004). This identification of ICT as a skill for life informed its introduction in the school curriculum in the developed nations (Akudolu, 2007). ICT has three positions in the curriculum and these include learning about ICT, learning with ICT and learning through ICT. Learning about ICT refers to ICT concept as a subject of learning in the school curriculum while learning with ICT is concerned with the use of ICT as a medium to facilitate instruction (Akudolu, 2007). This view was also shared by Pelgrum and Law (2003). They maintain that "learning through ICT refers to the integration of ICT as an essential tool into a course/Curriculum, such that the teaching and learning of that course/curriculum is no longer possible without it". Despite that, most schools do not provide Information and communication technologies for teaching. ICT can be an instructional medium or a source for learning. It can also be integrated in the learning process so that learning takes place through the learner's interaction with the facilities. Therefore ICT in education is considered as discipline, resource and key skill. Within these three broad areas, ICT offers enormous benefits to the society. This is based on the fact that ICT education and in education is

concerned not only with equipping learners with knowledge and skills for the information age but also with boosting the economic and political status of the country (Akudolu, 2007).

### **Challenges to the Use of ICT in Secondary Schools**

In Nigeria, a formidable obstacle to the use of information and communication technology is infrastructure deficiencies. Computer equipment was made to function with other infrastructure such as electricity under "controlled conditions". For the past fifteen years Nigeria has been having difficulty providing stable and reliable electricity supply to every nook and cranny of the country without success. Currently, there is no part of the country, which can boast of electricity supply for 24 hours a day except probably areas where government officials live. When electricity supply is not stable and constant, it is difficult to keep high-tech equipment such as computers functioning, especially under extreme weather conditions as obtained in Nigeria. The high levels of dust during the dry seasons in Nigeria also make electronic equipment to have short live span.

In rural Nigeria most inhabitants do not have access to electricity, thereby denying rural secondary schools opportunity to benefit from the use of electronic equipment such as radio, television, video recorders and computers. The few internet access available in Nigeria is found in urban centers. These environmental realities are difficult to manage because of fans, sealed rooms, and stable electricity are lacking in many urban homes and rural areas.

### **Lack of skills**

Nigeria does not only lack information infrastructure, it also lacked the human skills and knowledge to fully integrate ICT into secondary education. To use information and communication technology (ICT) in secondary schools in Nigeria, the need for locally trained workers to install, maintain and support these systems cannot be over emphasized. There is acute shortage of trained personnel in application software operating systems network administration and local technicians to service and repair computer facilities. Those who are designated to use computers in Nigeria do not receive adequate training, at worst; do not receive any training at all (Okebukola, 1997 as cited in Aduwa- Ogiegbaen et al, 2005).

## **RESEARCH METHODOLOGY**

### **Research Methodology**

Research methodology is a science of studying how research is carried out. It is also is the systematic, theoretical analysis of the methods applied to a field of study. Research methodology is also a process in which the researcher follows to carry out the investigation and is categorized into qualitative quantitative and mixed method. In this study the researcher applied quantitative methodology. Quantitative methodology is the methodology of research is that type of research in which the researcher analyses data with the help of statistical and hopes the numbers will yield unbiased result that can be generalized to some larger population

### **Research Design**

The study adopted a survey research method. Survey research is quantitative research in nature which aims at collecting information from a sample of a given population. Baker (1999) observes that, "survey gives an in-depth analysis of the population/subject and the best research method to understand public opinion regarding any issue". Survey design was adopted because it is one of the most important area in social science research. It also provides high level of general capability in representing a large population.

### **Population of the Study**

Population is a well-defined collection of individuals or objects known to have similar characteristics and the entire entity of interest to the researcher (Ifidon, and Ifidon, 2007). Population is defined as any source of data that is useful for the research. It can be an animate

object provided is members of the target of the study. ( Akiuenzelo, 1993). The research population of this study is all secondary schools in Zaria Local Government Area. The study however focused on some selected Government Secondary Schools in Zaria Local Government.

### **Sample and Sampling Procedures**

Sample is the sub set or the group of population. It comprises some members selected from the population.(Mohammad, 2006) Sampling as opined by Aina (2002) is the selection of some units from a study's population of one's interest. In order words, it is a technique that allows researchers to make inferences about a population based on the nature of the sample. Sampling is necessary when the researcher is unable to investigate all the members of the target population (Ibrahim, 2014). The sampling technique applied for this study is the random sampling technique. Random sampling technique is a sampling technique that affords every individual members of a population an equal opportunity of being selected; this technique gives little or no room for bias. Four (4) Government secondary Schools were randomly selected out of the total of number of Government Schools in Zaria Local Government Area of Kaduna state. These schools are: Government Girls Secondary School (formerly WTC) Zaria, Government Secondary School (formerly Alhudahuda College) Zaria, Government Secondary School Kofar Kibo – Zaria, and Government Secondary School Kofar Kuyambana - Zaria.

### **Instrument for data collection**

Instrument for data collection refers to that tools which the researcher used to collect data in the study. The research instrument used in collecting data for this study is the close ended questionnaire. Questionnaire consists of set of questions presented to the respondents for answers; it can be used to collect a large amount of information at a low cost per respondent (Ibrahim, 2013).

### **Validity and Reliability**

In order to ensure accuracy of the instrument, the researcher used face and content validation by given to the supervisor and some expert in the field in order to make some corrections and observations to strengthen the instrument. And all the corrections and observations were incorporated in the final draft of the questionnaire.

### **Reliability**

To ensure the reliability of the instrument was established after conducting a pilot study within three weeks. This has help to reveal any difficulties to be encountered while administering the research instruments. The researcher carried out the pilot study at government Girls Secondary School Kawo - Kaduna, eight (8) questionnaires were used for the pilot study and the researcher used Split-half Reliability using Spearman Brown Formula. The reliability index was 0.72. This indicated that the instrument is highly reliable and can be used to collect data for the main study.

### **Procedure for Data Collection**

The researcher collected the data by herself using the questionnaire which was administered directly or hand to hand to the respondents who may provide the information that will be needed. Collection of the filled questionnaire will be done by the researcher.

### **Procedure for Data Analysis**

Data to be collected from respondents will be analyzed using simple percentage and frequency distribution table. Ibrahim (2003) highlighted that analysis of data is a processing of inspecting, cleaning, transforming and modeling data with the goal of highlighting useful information, suggesting conclusion and supporting decision making.

## RESULTS AND DISCUSSION

This section presented the data collected and analyze for the study, which were presented in a tabular form with their corresponding percentages and then interpreted in words. The findings of the study were presented below.

### Response Rate

A total number of Twenty (20) questionnaires were administered to respondents in each of the four (4) selected public secondary schools which give a total of Eighty (80) questionnaires used for the study. The questionnaire was divided into Two Sections: Section "A" elicited information on personal data of the respondents. Section "B" consisted of Eleven (11) items structured to elicit information on availability and utilization of computers in teaching and learning in selected secondary schools in Zaria Local Government Area of Kaduna State. Eighty (80) questionnaires were administered and a total of 75 were returned which gives 93.75% response rate. The response were analyzed and tabulated as shown in the following tables.

### Analysis of Research Questions

#### Are the available computers adequate for effective teaching and learning in the school?

| S/N | Response     | Frequency | Percentage |
|-----|--------------|-----------|------------|
| 1   | Adequate     | 0         | 0%         |
| 2   | Not Adequate | 51        | 68%        |
| 3   | Undecided    | 24        | 32%        |
|     | Total        | 75        | 100%       |

The table above reveals that 68% of the respondents agreed that the level of available computers in their schools is not adequate while 32% believed that the available computers are averagely adequate. The response indicates that effective learning will not be achievable with few available computers. This is an indication that the students are still lagging behind in the trend of changes in the world.

#### What is the Problem Associated with the Use of information and communication technology in your School?

| S/N | Response                      | Frequency | Percentage |
|-----|-------------------------------|-----------|------------|
| 1   | Irregular power supply        | 35        | 0%         |
| 2   | Inadequate government support | 20        | 68%        |
| 3   | Inadequate computer litrate   | 15        | 32%        |
| 4   | Inadequate maintenance        | 5         | 6.6%       |
|     | Total                         | 75        | 100%       |

Table 4.4.9 shows that 50% of the problem associated with the use of computer in teaching and learning in secondary schools in Zaria Local Government Area is due to irregular power supply. It further revealed that 26.6% of the problem is due to inadequate government support, 20% of the problem is due to inadequate computer literate teachers, and 5% of the problem is due to inadequate or poor maintenance.

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

### Introduction

This chapter presents the summary of the study and findings, conclusion was made and recommendations were made on the utilization of information technology for teaching and learning in some selected secondary schools in Zaria Local Government.

### **Summary of the Study**

This study is structured into five sections in order to effectively carry it out. Section one presents the background and purpose of the study, the statement of the problem and research questions formulated for the study. Three research questions were stated. Research methodology used in the study was also discussed. The population of this study comprised of all teaching staff in the four selected senior secondary schools within Zaria Local Government Area. A total of 75 respondents were used for this study. Statistical analysis and interpretation of the findings from the analyzed data were presented in chapter four and the last chapter contains summary of major findings, limitation of the study, conclusion and recommendation

### **Conclusions**

The data generated were presented and analyzed leading to the following conclusions;

1. It was found out that the computers in the selected public secondary schools were not adequate for teaching-learning process; also few computers were available in the school.
2. Only few computers are available and utilized for teaching and learning, similarly, even the available computers are not very well functioning to satisfy the need of the class environment which is teaching and learning.
3. Lack of constant power supply, maintenance culture, shortage of fund respectively.

### **Recommendations**

The recommendation is based on the finding of the study. The study exposes some lapses in the provision of computer in public secondary schools in Zaria Local Government Area. If the following recommendations are implemented, they will enhance a proper computer aided program for the teachers and students of Zaria Local Government Area.

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