



AL-HIKMAH JOURNAL OF EDUCATION

VOLUME 1 No.2 DECEMBER, 2014

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AVAILABILITY AND LEVEL OF USE OF INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT IN THE UPPER BASIC SCHOOLS IN GWAGWALADA, ABUJA

O. Jekayinfa; A. Saidu; O. Jekayinfa and O. V. Olugbemi

Abstract

This research work investigated the availability and level of use of modern ICT in Upper Basic Schools in Gwagwalada, Federal Capital Territory (FCT), Abuja. A questionnaire was used for data collection. The data collected for this study was analysed using frequency counts and percentages. The reliability co-efficient was calculated to be 0.75. The finding of the study showed that modern ICT facilities are available in Upper Basic Schools in Gwagwalada, FCT, Abuja. Also, Modern ICT equipment is often used by the Basic Schools teachers in Gwagwalada. It was recommended that government should make enough fund available for the maintenance of ICT facilities in all the Basic Schools in Nigeria and Procure necessary equipment.

Keywords: *Equipment, ICT, Procurement*

Background to the Study

Throughout the world, many countries have introduced Information and Communication Technologies (ICT) into schools via different channels. Their use is underlined by necessity for improving quality in teaching and learning. Integrating ICT training into all levels of education and providing each student with access to ICT equipment and information sources were also among the objectives of the National Policy on Education (2004) as buttressed by Olafare (2011).

The distribution of educational software purchased for these schools was also completed in 2004. ICT classrooms are equipped with computers, printers, instructional software, electronic references, video players, overhead projectors and TV. It was hoped that teachers' use of technology in education would improve educational outcomes, increase technological skills and reduce anxiety when preparing lessons. Technological usage is an important indicator of teachers and learners preparedness to carry out their obligations of daily instructions. Woodrow (1992) asserted that any successful transformation in educational practice requires the development of positive user attitude toward new technology.

The development of teachers' positive attitudes toward ICT is very significant factor not only for increasing ICT integration but also for avoiding teachers' resistance to the use of ICT (Wang, 2002).

Nigeria has embarked on a concerted effort to join the league of industrialized nations in the acquisition, deployment, consumption and utilization of information and communication technology. (Bamidele, 2007). Without mincing words, information and communication technology (ICT) has become an indispensable tool of individual and national empowerment and development.

Information and communication technology has been found to be very useful in all aspects of human life: art, engineering, communication, medicine and a host of others. In the field of education, ICT has served as useful tool in administrative and instructional process and as a tool for effective teaching and learning (Yusuf, 1997). ICT facilities such as the computer performs multifunctional roles in teaching and learning processes at all levels. In fact, computer might also be used to handle extremely complex programmes that are necessary for individualized learning (Brown, 2011).

The use of ICT for instructional purpose includes Computer Assisted Instruction (CAI) and Computer-Based Test (CBT) where it is used to instruct students in various subject matters. Information and messages are presented to learners using the computer through an interactive process involving drill and practice, tutorials, games and simulation and also examine the students (Inihiianlahimi & Inihiianlahimi, 2008).

ICT presents unique opportunity for supporting creative learning (Brown, 2002) and extending learning beyond the teachers alone (Stankumxz, 2004). On the use of ICT for instructional purposes, important guidelines have been provided (Offorma, 2006); Giving people the opportunity to apply and develop their ICT capability through the use of ICT tools, to support their learning in all subjects (with exception of physical education at key stages 1&2); giving them the opportunity to develop their work by being taught to develop their ideas using ICT tools to amend and refine their work to enhance its quality and accuracy, exchanging and sharing information but directly through electronic media.

Nowadays, students are mature, using devices like computer and connecting to the internet for update of knowledge and information. As a result of the technological advancement that occurred in the last quarters of the 20th century, there has been a notable difference in the way knowledge is being introduced to students and the way knowledge is being received in the society. This has also made it difficult to teach the learners with the traditional method only (London, 2005, Olafare 2011).

The introduction of ICT into the Nigerian Basic school curriculum in 1988 and implementation in 1989 helped both teachers and learners develop themselves to a level in the use of computer (Yusuf & Yusuf 2009). The use of computer for graphics, presentation packages

ver-point. Corel and Word) during -seminar and workshop are common in tertiary institutions.

ording to Offorma (2006) the world has become a global village and Nigerians have to trained in the new devices and technologies to be able to follow the trends. The computers, met, e-mail, video conferencing, the web and the electronic whiteboard are valuable to learners and teachers. ICT can be used in classroom as a tool for teaching and testing S.

has been found to be effective for presenting an instructional programme (Bada & ewole & Ojedokun). ICT can be used to diversify, develop and improve the pedagogical ation of teaching and learning. The need for ICT utilization in Nigerian schools is in the ential of the instructional purposes and its utility value (McCormick, 1993).

T in secondary school was powered by School Net Nigeria (Offorma 2006) which a non-profit organization is created to address the use of ICT in Nigerian secondary schools with support of several government ministries. It is a initiative geared towards mobilizing geria's human and financial resources for the purpose of using ICT in education and eate learning communities of educators and learners to use ICT, to enhance education by pplementing, supporting, and coordinating ICT development projects in education.

ie Center for Teaching and Learning, Stanford University in 2011 concluded that information and communication technology facilities such as the computer, internet, and Multimedia hnnologies in the Basic schools can serve several important purposes such as allowing the udent to present more information more effectively. Multimedia presentations like a digital deo clip allows students to see and hear events that otherwise would only have been scribed in a lecture or textbook.

ome particular innovative uses of technology in the classroom can advance other pedagogical als, such as increasing participation and assessing students' understanding. Information and communication technology facilities can also be used in class time or sections to teach udents how to use a new technology may also be worthwhile, especially in introductory urses that require field-specific computer programme.

ie Federal Republic of Nigeria has no specific policy for ICT in education. The Ministry Education created its ICT department in February 2007. Several government agencies and other stakeholders in the private sector have initiated ICT-driven projects and programmes impact all levels of the educational sectors in Nigeria. Mobile technology and other modern T facilities like internet, computers have currently covered 60% of the national territory at the challenge is the lack of electric power and telecommunications infrastructure in a bstantial part of the country.

This phenomenon is prevalent nationwide and it constitutes the bottleneck to effective countrywide deployment of ICT in the education system in Nigeria and most especially secondary schools (Agyeman, 2007).

Nigeria started implementing its ICT policy in April 2001 after the Federal Executive Council approved it by establishing the National Information Technology Development Agency (NITDA), as the implementing body. The policy empowers NITDA to enter into strategic alliances and joint ventures and to collaborate with the private sector to realize the specifics of the country's vision of, "making Nigeria an IT capable country in Africa and a key player in the information society by the year 2005 through the use of IT as an engine for sustainable development and global competitiveness. Agyeman (2007) concluded that this vision is yet to be fulfilled as the outlined objectives of Nigeria's ICT policy such as

To ensure that ICT resources are readily available to promote efficient national development

- To guarantee that the country benefits maximally, and contribute meaningfully, by providing the global solutions to the challenges of the Information Age
- To empower Nigerians to participate in software and ICT development
- To encourage local production and manufacture of ICT components in a competitive manner
- To establish and develop ICT infrastructure and maximize its use nationwide
- To empower the youth with ICT skills and prepare them for global competitiveness
- To integrate ICT into the mainstream of education and training
- To create ICT awareness and ensure universal access in promoting ICT diffusion in all sectors of national life
- To create an enabling environment and facilitate private sector (national and multinational) investment in the ICT sector
- To encourage government and private sector joint venture collaboration
- To develop human capital with emphasis on creating and supporting a knowledge-based society
- To build a mass pool of ICT literate manpower using the NYSC, NDE, and other platforms as a train-the-trainer scheme for capacity-building, are not fully implemented in the country.

The future of a developing country relies on both the formal and informal educational institutions to impact knowledge and skills in the use of ICT facilities both in secondary school and tertiary education as this will avail the students the opportunity to acquire the necessary knowledge and skills for a brighter nation. The inclusion of information and communication technology (ICT) in secondary school curriculum in Nigeria has assisted the students in the acceleration of global integration and understanding. The recent trend use of information and communication technology in the educational sector has fast tracked the experience of computer and internet programme in the mind of Basic school students in Kwara state.

Purpose of the Study

The purpose of the study is to investigate the availability and level of use of modern ICT in selected Upper Basic Schools in Gwagwalada, FCT Abuja. Specifically the study will identify the number of available modern ICT equipment and the frequency of their usage by students and teachers in the selected Upper Basic schools in Gwagwalada, Abuja for learning process.

Research Questions

The following questions were considered to assist in carrying out this study;

1. Are modern ICT equipment available in Upper Basic Schools in Gwagwalada, Abuja?
2. What is the level of utilization of the available modern ICT equipment by the teachers in Upper Basic Schools in Gwagwalada, Abuja?

Methodology

The research design used was a descriptive type. Descriptive method describes, finds out and interprets event(s) and idea(s) the way they are without any external manipulation. A researcher- designed questionnaire was used in the study to obtain the necessary information from the respondents on the availability and level of use of the ICT equipment. The questionnaire was divided into two sections. Section A contained items on general background information of the respondents while section B contained items that were used to gather information on ICT equipment available in schools and the level of use of the ICT equipment.

The reliability of instrument was done by administering on 10 teachers that were not part of the selected schools. The reliability co-efficient was calculated to be 0.75.

The population for this study included the Upper Basic Schools in Gwagwalada, FCT Abuja that have ICT equipment available and also made use of the equipment. A total of 120 teachers were randomly selected for the study from ten Upper Basic Schools which were purposively selected from Gwagwalada metropolis (comprising private and public schools).

The schools were selected based on the focus of the study, That is, those that have ICT equipment available and are using them.

The data collected for the study was analyzed using frequency count and percentage

Data Presentation and Interpretation

The analysis was in line with the research questions earlier raised. The researcher investigated the availability and the level of utilization of modern ICT equipment in Gwagwalada, FCT Abuja.

Demographic Data

Table 1: Distribution of Teachers by Gender

Gender	Frequency	%
Male	78	65%
Female	42	35%
Total	120	100%

A total of 120 teachers participated in the study, 78 (65%) male teachers and 42 (35%) female teachers participated in the study to sum 120 students.

Table 2: Distribution of Teachers by Qualification

Gender	Frequency	%
B.Sc.	33	27.5%
B. Sc (Ed)	42	35%
HND	28	23.3%
M. Ed	12	10%
M. Sc.	5	4.16%
Total	120	100%

Table 2 shows that a total of 120 teachers participated in the study, 27.5% has B.Sc., 35% has B. Sc (Ed), 23.3% has HND, 10% has M. Ed and 4.16% has M. Sc. This shows that a higher percentage of the teachers has B. Sc (Ed), followed by B.Sc. and HND. A lower percentage of the teachers has a higher qualification of M. Ed and M. Sc.

Results

Research Question 1: Are modern ICT equipment available in Upper Basic Schools in Gwagwalada, FCT Abuja?

Table 3: Modern ICT Equipment Available in Upper Basic Schools in Gwagwalada, FCT Abuja

No	Modern Information Communication Technologies Equipment	Agree	Disagree
1.	Internet facilities	57.3%	42.7%
2.	Computer system	100%	0%
3.	Computer assisted instructional package	52.1%	47.9%
4.	Interactive CD-ROM	63.5%	36.5%
5.	Computer conferencing e.g e-mail	57.3%	42.7%
6.	Stand alone machine	25.5%	74.5%
7.	Multimedia	100%	0%
8.	Hypermedia	52%	48%
9.	Desktop video	100%	0%
10.	Virtual reality	10%	90%
11.	Audio conferencing	92%	8%
12.	Audio graphics	77%	33%
13.	Computer assisted learning	100%	0%
14.	Television	100%	0%
15.	Radio	100%	0%
16.	Mobile technology	100%	0%
	Total	74.16875	25.83125

Table 3 above shows that most of the modern ICT equipment are available as the teachers agreed that television, radio, mobile technology, computer assisted learning, desktop, multimedia and computer system are 100% available. Others also have higher percentage that is more than 50% except virtual reality which has 10% availability and stands alone with 25.5%. This shows that most of the modern ICT equipment are available in the schools.

Research Question 2: What is the level of utilization of modern ICT equipment by the teachers in Upper Basic Schools in Gwagwalada?

Table 4: Level of Utilization of Modern ICT Equipment by the Teachers in Upper Basic Schools in Gwagwalada, FCT Abuja?

S/No	Modern Information Communication Technologies Equipment	Agree	Disagree	Neutral
1.	Internet facilities	33%	37%	30%
2.	Computer system	72%	21%	7%
3.	Computer assisted instructional package	41%	20%	39%
4.	Interactive CD-ROM	20%	31%	49%
5.	Computer conferencing e.g e-mail	82%	9%	9%
6.	Stand alone machine	0%	27%	73%
7.	Multimedia	56%	24%	29%
8.	Hypermedia	21%	54%	25%
9.	Desktop video	87%	10%	3%
10.	Virtual reality	0%	0%	100%
11.	Audio conferencing	33.3%	33.3%	33.4%
12.	Audio graphics	21%	45%	44%
13.	Computer assisted learning	22%	47%	31%
14.	Television	100%	0%	0%
15.	Radio	100%	0%	0%
16.	Mobile technology	100%	0%	0%
	Total	46.70625	21.14375	32.15

Table 4 above shows that most of the modern ICT equipment like television, radio, mobile technology, computer assisted learning, desktop, multi-media and computer system are often used in schools. Others are seldom used except virtual reality, hypermedia and standalone machine which are not used at all and the teachers are neutral to its uses. This shows that most of the modern ICT equipment are used by the teachers in the schools for instructional purpose and self development.

Conclusions

The availability and uses of ICT equipment are very important. Teachers do use the ICT equipment effectively. It is concluded that if appropriate ICT equipment are better provided and teachers use them effectively, academic performance would be improved. The analysis shows that the availability and the use of ICT equipment guide, audio-visual aids and the use of ICT equipment give some positive impact on academic performance of students.

Recommendations

Based on these findings, the researcher recommended the following:

- (1) Government should make enough funds available for maintenance of ICT facilities in Basic schools in Nigeria and procure necessary equipment.
- (2) Teachers should facilitate various topics relevant to the use of ICT equipment to enhance better performance of students.
- (3) Students should also be encouraged to allow the use of ICT equipment regularly.

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