

Assessment of Teachers' Utilization of Multi-Media Facilities for Effective Teaching and Learning of Basic Technology in Universal Basic Education (UBE) Schools in Rivers State

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Abstract

The study assessed of teachers' utilization of multi-media facilities for effective teaching and learning of basic technology in Universal Basic Education (UBE) schools in Rivers State of Nigeria. The population of the study comprised all the 661 teachers and 5478 students of all the twenty-four (24) Junior Secondary Schools (JSS) of UBE in Emohua Local Government Area of Rivers State of Nigeria.. A total of 260 respondents (180 students and 80teachers) was the sample of the study selected through systematic sampling technique. One research question was posed and one hypothesis formulated for this study. A structured questionnaire validated and with reliability coefficient of 0.91 was the instrument used for data collection. Data collected were analyzed using statistical mean to answer the research question while an inferential statistical tool of t-test was used to test the null hypothesis at 0.05 level of significance. The result revealed that computers are not used in teaching and learning process such as: records keeping of basic technology materials, Microsoft Word are not used to type Questions and other Documents, Microsoft Excel are not used to teach basic technology, Power Point are not used in Presenting my Lesson in basic technology, no Internet to get materials for teaching.. It was therefore recommended among others teachers that are not ICT compliance should be encouraged by the UBE school administrators to study further in order to meet up with new demand of ICT literate of teacher.

Keywords: Multi-media facilities, Basic Technology and UBE

Introduction

Education is the process of acquiring new values and skills for the purpose of effective functioning in the society. It involves a pedagogical process, which if carried out should lead to the maturing of the person who has received it, to the extent that he/she is in position to think and act meaningful and in relevant interaction with member of society to their mutual benefit. (Etuk, Ering & Ajake, 2012).In actualizing the above, the Federal Republic of Nigeria developed the National policy on Education in order to eradicate illiteracy at all levels of human existence and provide affordable education for all Nigerians irrespective of class, religion, ethnic origin of physical appearance. The policy was driven by a desire to eradicate poverty, increase indices of national policy, political consciousness and encourage issues of national interpretation.

In 2004, the National Policy on Education was revisited and revised. The 6-3-3-4 educational system which required that an average Nigerian child would spend a minimum of 6 years in primary school, 3 years in junior secondary school, 3 years in senior secondary school and a minimum of 4 years in the university was restructured to 9-3-4- system backed up by the Universal Basic Education (UBE). The 9-3-4 educational system requires a 9 years of basic education (which combines 6 years of primary education and 3 years of junior secondary education), 3 years of senior secondary and a minimum of 4 years in university education. The vision of the UBE is that at the end of 9 years of continues education every child should have acquired appropriate and relevant skills and values and be employable in order to contribute his/her quota to national development (Adepoju and Fabiyi, 2011).

Basic technology is one of the core subjects of pre-vocational subjects offered at the junior secondary schools level of the UBE in Nigeria. It is a preparatory core subjects of vocational and technical education. It comprises of areas such as carpentry, joinery, masonry, ma chining, fitting, metal fabrication, motor mechanics, automobile, technical drawing, electrical/electronics, and general works among others. (Datuba & Ekeyi, 2013).The basic technology course is meant to provide a holistic view of technology to students. The subject guidelines and contents have been carefully structured into a teaching sequence, which consists of clear explanations and descriptions of how results are obtained by using different tools, machines and materials. It is also a skill development course, which aimed at providing students with technical literacy for everyday life (Adeeye & Olabiyi, 2011). According to Federal Government of Nigeria (FGN) (2004), the objectives of basic technology are to:

- i. Provide pre-vocational orientation for further training in technology
- ii. Provide basic technological literacy for everyday life
- iii. Stimulate creativity

Looking critically at the objective stated above, it would be impossible to teach basic technology without standard workshop equipment and necessary tools to carry out practical activities in the schools. This is because the theory is minimal and largely consists of simple explanations or descriptions of how certain results are to be obtained with tools and equipment. However, for Nigerian students to be creative and sound in technology at the junior secondary schools level, standard workshop with multimedia facilities is fundamental (Derbyshire, 2003).

Consequently, Multimedia facilities have been viewed in different ways by different scholars. That is why Rodriguez and Wilson (2000) defined multimedia facilities as a set of activities which facilitate by electronic means the processing, transmission and display of information. ESCAP (2000) in its own definition defined multimedia facilities as techniques people use to share, distribute, gather information and to communicate through computers and computer networks. Marcelle (2000) described multimedia facilities as a complex varied set of goods, applications and services used for producing, distributing, processing, transforming information (including) telecoms, TV and radio broadcasting, hardware and software, computer services and electronic media. Ogunsola and Aboyade (2005) viewed multimedia facilities as a cluster of associated technologies defined by their functional usage in information access and communication of which one embodiment is the internet. Information and Communication Technology are computer based tools used by people to work with information and communication processing needs of an organization. It purview covers computer hardware, software, the network and other digital devices like video, audio, camera and so on which convert information (text, sound, motion etc) into digital form (Moursund & Bielefeldt, 1999). Information and Communication Technology as tools within the school

environment include use for school administration and management, teaching and learning of multimedia facilities related skills for enhancing the presentation of classroom work, teaching/learning receptive tasks, teaching/learning intellectual, thinking and problem solving skills, stimulating creativity and imagination, for research by teachers and students and as communication tool by teachers and students (Moursund & Bielefeldt, 1999 and Derbyshire, 2003).

The field of education has been affected by multimedia Facilities, which have undoubtedly affected teaching and research (Yusuf, 2005). As a result of this, developed nations have integrated multimedia facilities into their educational system. Adomi and Kpangban (2010) observed that there are developments in the Nigerian education sector which indicate some level of multimedia facilities application in secondary schools in Nigeria. They traced the introduction of computer education in secondary schools to 1988, when Nigeria government enacted a policy on computer education. The Federal Government of Nigeria (FGN) (2004) in the National Policy on education recognizes the prominent role of multimedia Facilities in the modern world and has integrated Multimedia facilities into education in Nigeria (Adomi & Kpangban, 2010). To actualize this goal, the document states that government will provide basic infrastructure and training at the primary school. At the junior secondary school, computer education is made a pre-vocational elective and is a vocational elective at the senior secondary school. The Federal Ministry of Education launched an multimedia facilities-driven project known as School Net, which was intended to equip all schools in Nigeria with computers and communication techniques. Under the School Net programme, MTN provided fully operational computer laboratories with 21 personal computers, VSAT interconnectivity, hand-on training in 24 secondary schools in Kaduna, Lagos, Enugu, Kwara, Rivers and the Federal Capital Territory Abuja. In all, over 49,524 pupils and 2,412 teachers were trained on how to use multimedia facilities (Abdul-Salaam, 2007). To adequately provide multimedia facilities to secondary schools, the Nigerian Federal Government commissioned a Mobile Internet Unit (MIU) which is operated by the Nigerian National Information Technology Development Agency (NITDA). The MIU is a locally-made bus that has been converted into a mobile training and cyber centre. Its interior has ten workstations, all networked and connected to the internet. The MIU is also equipped with printers, photocopiers and a number of multimedia facilities. Internet connectivity is provided via VSAT with a 1.2m dish mounted on the roof of the bus. It is also equipped with a small electric generator to ensure regular power supply. The MIU takes the internet to places, areas and various and secondary schools (Adomi & Kpangban, 2010). They added that the number of these buses is so small and as a result most rural schools are yet to benefit from this project.

In another dimension, successful integration of multimedia facilities in the school system depends largely on the availability and competence and the attitude of teachers towards the role of modern technologies in teaching and learning. In addition, research works have shown that most secondary schools have either insufficient or no multimedia facilities tools to cater for the ever increasing population of students in the schools and where they are available, they are by implication a matter of out-of-bounds to the students (Chattel, 2002). In affirmation of the above, Fakeye (2010) carried out a study in Ibadan and established that in most of schools covered in the study do not have computers, hence are not connected to the internet. He added those who have computers do not use them for teaching but solely for administrative purposes. In another study by Okwudishu (2005), he also found out that there are unavailability of some components of multimedia facilities in schools which hampers

teachers' use of multimedia facilities. Hence, lack of adequate search skills and of access points in the schools were reported as impediments restraining the use of internet by secondary school teachers (Adomi & Kpangban, 2010). More so, a survey carried out by Cirfat and Longshak (2003) revealed that only one school, out of ten has computer sets. It is worth noting that none of the ten schools has internet facility. Furthermore, Ozoji (2003) reported in a study that most of our secondary schools do not have software for the computer to function. According to Oyejola (2007), one of the unity schools has five computers against a population of 900 and no internet software was installed. Consequently, the facilities are grossly inadequate for any meaningful teaching or learning to take place. This makes the teachers in Nigerian secondary schools incompetent in basic computer operation and use of generic software whereas, they have positive attitude towards the use of computer in Nigerian secondary schools. Therefore, it is necessary for the present study to assess teachers' utilization of multi-media facilities for effective teaching and learning of basic technology in UBE schools in Rivers State.

Statement of the Problem

It is not uncommon to find that many establishments in Nigeria, including educational institutions, still keep records in files and tucked them away in filling cabinets where they accumulate dust. Many of these files are often eaten up by rodents and cockroaches thus rendering them irretrievable. A great deal of routine administrative work in government establishment is still done manually with the state and the Federal government showing little or no interest in embracing multimedia facilities. Thus, the prevailing conditions in the school management in Nigeria is disheartening and discouraging. It is observed that the country seems to be living in prehistoric times in the educational management while even developing countries in Africa such as South Africa, Kenya, Uganda and Tanzania are far ahead of Nigeria in Multimedia facilities. This means that despite Nigerians huge material resources and population endowment, she cannot be counted among progressive nations using multimedia facilities in educational management, as technology has become a critical tool for achieving success in education. This implies that teachers are still using the chalkboard and textbooks to dominate classroom activities in most secondary schools in Nigeria. Therefore, the problem of this study is.

Purpose of the Study

The purpose of the study was to assess teachers' utilization of multi-media facilities for effective teaching and learning of basic technology in UBE schools in Rivers State.

Research Question

One research question guided the study:

What is the extent of teachers' utilization of multi-media facilities for effective teaching and learning of basic technology in UBE schools in Rivers State?

Hypothesis

Also, one null hypothesis was tested at 0.05 level of significance:

There is no significance difference in the mean response of respondents on the extent of teachers' utilization of multi-media facilities for effective teaching and learning of basic technology in UBE schools in Rivers State.

Materials and Methods

The study employed descriptive survey design. The target population comprised all the 661 teachers and 5478 students of all the twenty-four (24) Junior Secondary Schools (JSS) of UBE in Emohua Local Government Area of Rivers State of Nigeria. Systematic random sampling technique was used by selecting randomly 80 teachers and 180 students making a total sample of 260 respondents in eight (8) UBE schools in Emohua Local Government Area of Rivers State, Nigeria. The instrument used for the collection of data was a structured questionnaire tagged ‘Assessment of Teachers’ Utilization of Multimedia Facilities in Teaching and Learning of Basic Technology in UBE Schools in Rivers State of Nigeria (ATUMFTLBTUBERSN)’ with 13 items on a 4-point scale of Strongly Agree (SA) =4, Agreed (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The instrument ‘ATUMFTLBTUBERSN’ was validated by three experts. The reliability of the instrument was ascertained using Cronbach Alpha reliability coefficient was used to determine the reliability of the instrument on the data collected through a pilot test on 50 respondents selected from indigenous and multinational firms operating in Rivers state who were not part of the sample of the study. The coefficient of reliability yielded a reliability coefficient of 0.91. This was believed to be high enough for the instrument used for the main study.

The researchers personally went to the schools to administer the 360 copies of the questionnaire. All were properly completed and retrieved on the spot. The statistical mean and standard deviation was used to analyze the data collected and answer the research question. An item with a calculated mean value equal or greater than 2.50 (2.50 – 4.00) was regarded as accepted, while the calculated mean of an item less than or equal to 2.49 (0 - 2.49) was regarded as not accepted. An inferential statistical tool of t-test was used to test the only null hypothesis at 5% level of confidence and appropriate degree of freedom respectively. It was decided that if the calculated value is less than the table value, the null hypotheses of no significant difference was not rejected and if the table value is greater than the calculated value, the null hypotheses were rejected.

Results

The results of the analysis of the study are presented in Tables 1 and 2 according to the research questions and hypothesis.

Table 1: Respondents’ Mean Score and Standard Deviation on the extent of teachers’ utilization of multi-media facilities for effective teaching and learning of basic technology in UBE schools in Rivers State

S/N	ITEMS	\bar{X}	SD	RMK
1.	I can boot the computer	2.61	1.109	Agreed
2.	Computers are used in teaching and learning process	2.67	1.267	Agreed
3.	Computers are used for records keeping of basic technology materials	2.53	0.972	Agreed
4.	I use Microsoft Word to type Questions and other Documents	2.54	1.155	Agreed
5.	I use Microsoft Excel to teach basic technology	2.15	0.749	Disagreed
6.	I use Power Point In Presenting my Lesson in basic technology	1.80	0.848	Disagreed
7.	I browse the Internet to get materials for teaching	2.51	0.998	Agreed
8.	I have an e-mail address to interact with my colleague to get information	2.25	0.936	Disagreed
9.	I can use a search engine such as google to search materials in basic technology	2.61	1.117	Agreed
10.	I use education software such as CAI for teaching basic technology	2.12	0.922	Disagreed

11.	I can use a scanner to copy images to enhance my presentation during teaching	2.25	0.904	Disagreed
12.	I can operate a printer that is connected to the Computer	2.45	0.936	Disagreed
13.	I can set up a multimedia projector	2.13	0.976	Disagreed

KEY: Avg. = Average mean of Lecturers (X_1), Instructors (X_2) and Technologists(X_3),
Sd. = Standard Deviation, Dec. = Decision,

Data in table 1 revealed that six items had mean value ranging within 2.53-3.49 and a standard deviation ranging within 0.972 which indicate that is within the real limit of numbers 2.50-3.49. The closed ranged of the standard deviation also indicate that the respondents were not too far from the mean and were close to one another in their responses. However, item 5, 6, 8, 10, 11, 12 and 13 had mean value ranging from 1.80-2.45 which indicate that the respondents disagree with the items as teachers' utilization of multimedia facilities for effective teaching and learning of basic technology in UBE schools.

Table 2: Analysis of variance on mean response of respondents on the extent of teachers' utilization of multi-media facilities for effective teaching and learning of basic technology in UBE schools in Rivers State

Respondents	N	\bar{X}	SD	P-value	DF	Standard Error	z-cal	z-crit	Remark
Teachers	80	2.26	0.74	0.05	258	0.09	-2.15	1.98	NS
Students	180	2.48	0.80						

KEY: NS = Not Significant

Result in table 2 revealed that z-cal (-2.15) is less than z-crit (± 1.98) which indicates that null hypothesis stated is not rejected. Therefore there is no significance difference in the mean ratings of teachers and students in the extent the teachers' utilization of multi-media facilities for effective teaching and learning of basic technology in UBE schools in Rivers State, Nigeria.

Discussion

The study revealed that computers are not used in teaching and learning process such as: records keeping of basic technology materials, Microsoft Word are not used to type Questions and other Documents, Microsoft Excel are not used to teach basic technology, Power Point are not used in Presenting my Lesson in basic technology, no Internet to get materials for teaching. More so, teachers do not use computers in the area of information dissemination such as: e-mail address to interact with my colleague, search engine such as google, education software such as Computer Aided Instruction (CAI), scanner are not used to copy images to enhance presentation during teaching, operate a printer that is connected to the Computer and set up a multimedia projector. This finding is in support of Dabesaki (2005) who submitted that there is lack of skilled manpower to manager available multimedia facilities in the UBE schools in Rivers State of Nigeria.

Conclusion and Recommendations:

If the educational sector of our schools throughout the state is to maintain maximum standards, it should be provided with adequate funds, infrastructural facilities in term of modern classrooms equipped with multimedia facilities which are connected to the internet and highly qualified personnel that can effectively, utilize these resources.

The study therefore recommends the followings among others: teachers that are not ICT compliance should be encouraged by the UBE school administrators to study further in order to meet up with new demand of ICT literate of teacher.

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