

## **INFORMATION COMMUNICATION TECHNOLOGY (ICT) AND PUBLIC PRIMARY SCHOOL MANAGEMENT IN ENUGU STATE, NIGERIA**

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### **Abstract**

*The study investigated the constraints and strategies for better utilization of ICT in the management of Public Primary Schools in Nsukka Local Government Area of Enugu State, Nigeria. The population comprised 236 headmasters and assistant headmasters from the 118 public primary schools. No sampling was done as the entire population was used for the study. The researchers designed a 24 item questionnaire titled 'ICT Constraints and Strategies for Better Utilization Questionnaire' (ICTCSQ) which was used for data collection. The instrument was face and content validated by experts from the Department of Educational Foundations, University of Nigeria, Nsukka. The reliability yielded an index of 0.78. Mean scores and standard deviation were used to answer the research questions while in testing the null hypothesis t-test was used at 0.05 level of probability. The findings of this study revealed that the Headmasters and the assistant headmasters of public primary schools in Nsukka LGA identified: non availability of computers, lack of capacity building opportunities for school managers, lack of funds to procure ICT tools, frequent breakdown of ICT tools, as constraints to ICT utilization in the management of schools in the area. They strongly agreed that if there is adequate supply of ICT tools by government and stakeholders, provision of alternative power supply like solar energy, constant ICT training/workshops for headmasters and other members of staff, availability of technicians for the maintenance and repair of damaged ICT tools as strategies that can be adopted for better utilization of ICT resources in the management of public primary schools in Nsukka Local Government Area of Enugu State, Nigeria. Based on the findings of the study some recommendations be made such as government and school based management committee to source fund to procure ICT tools for quality management functions and technicians/experts should be deployed in every education zone in the state.*

**Keywords:** Information Communication Technology (ICT), Public Primary School, Headmaster, School Management.

## **Introduction**

Information Communication Technology (ICT) has become within a very short time, one of the basic building blocks of modern society. According to Adu and Olatundum, (2013) Information Communication Technology (ICT) is a globally common innovation that has tremendously influenced development of all human endeavours. ICT according to Asiabaka, (2010), includes technologies and methods for storing, managing and processing information as well as communicating information. Rono, (2015), described ICT as scientific, technological and engineering discipline, and management technologies used in the handling of information, processing and application related to computers. Dornel (2016), described information technology as the processing and distribution of data using computer hardware and software, telecommunications, and digital electronics. Information Communication Technology (ICT) is a term that covers all forms of computer, communications equipment and software used to create, store, transmit, interpret, and manipulate information in its various formats (Kazi, Ahmad & Mosa 2012). According to James, Samuel and Ameh, (2015), ICT in the context of Education is the combination of technologies for collecting, storing, processing, communicating and delivery of information related to teaching and learning processes in the school. These technologies available today and those about to emerge, have the potential to transform the business of education (Ndem & Omiko 2012). However, what may be impeding the potential is our academic culture and traditions (Adeyemi & Olaleye 2010). ICT streamline administrative and reporting processes, help to provide the delivery vehicle for innovative instructional and staff development approaches. In the context of this study, Information Communication Technology (ICT) is the technology that provide access to information and communication for the improvement of quality education and learning outcome. ICT has many tools which help in facilitating information for achieving the efficient educational system. For developing countries, ICT has potentials for increasing access to and improving the relevance and quality of education at all levels in both public and private educational institutions.

Public primary schools are those schools owned by the government either at Federal, State or Local government. In Nsukka local government area there are a total of one hundred and eighteen public primary schools. The education system in Nigeria according to the National Policy on Education of the Federal Republic of Nigeria FRN,(2013)has been graded into different levels namely; preprimary, primary, secondary and tertiary levels. The increasing development of educational system at all levels brings greater demands on educational practitioners such as Headmasters and staff of

primary schools in their bid to move along with the information technology of this 21<sup>st</sup> century. As the world changes, information and knowledge change rapidly, teaching and learning process as well as the management of schools also have to change (James, Samuel & Ameh 2015). The purpose of teaching is primarily to assist the learner acquire the type of knowledge and skills that will produce desirable changes in him (Subair & Bada, 2014). This objective can be actualized if the teaching and learning process provide the enabling environment for the learner to think critically, analytically and consequently achieve the desired goals. These desired goals of education will enable the learner be an agent of change to him/herself, his/her community and society at large (Adeyemi & Olaleye 2010).

Primary level of education occupies a critical position in the educational system. According to the National Policy on Education (FRN, 2013), the objectives of primary education are:

- To inculcate permanent literacy, numeracy and the ability to communicate effectively,
- Lay a sound basis for scientific, critical and reflective thinking;
- Promote patriotism, fairness, understanding and national unity;
- Instill social, moral, norms and values in the child;
- Develop in the child the ability to adapt to changing environment; and
- Provide opportunities for the child to develop life manipulative skills that will enable the child function effectively in the society within the limits of the child's capability.

In pursuance of these objectives federal government of Nigeria stipulated that primary education shall be compulsory, free, universal and qualitative. The achievement of the above stated objectives is largely dependent on the extent the managers of primary education (Headmasters, assistant head masters & teachers) are capable of applying the operations (Subair & Bada, 2014). The headmaster does not work in isolation; he is in constant interaction with the State Universal Basic Education Board (SUBEB), Local Government Education Authority (LGEA) and the School Based Management Committee (SBMC) in carrying out his school management functions.

The headmaster is someone who is the leader of an entire community within the school (Wellington, 2013). He is responsible for managing the major functions/tasks and supervises all pupils and staff (tutorial and non tutorial) in a particular school. In Nigeria, headmasters head the primary schools (public and private). The headmaster delegates the assistant headmaster to some managerial functions in order to encourage professional

growth/development and as well as effectively achieve the common objectives of education in the school. The headmaster is the custodian and book (record) keeper in the school and takes action when it is necessary. According to Gura, (2004) individual centered leadership is no longer appropriate in educational environment. He went further to say that leadership stems from a shared vision involving the support of the whole school community. Recently stakeholders became involved in the management of the public primary schools in Enugu State under the umbrella of School Based Management Committee (SBMC), this committee as its name implies consist of members of the community where the school is situated, whether your ward is in the school or not but as long as you have interest in the improvement of education/desirable learning outcome you are involved. The executive members of this Committee are also involved in the management of the school. The headmasters of public primary schools are employed by the state government. They ensure that government regulations are adhered to and at the same time managing both human and material resources in the school. Managerial functions require largely technical and human skills. The process of educational management involves planning, organizing, directing, controlling and evaluating to accomplish predetermined objectives by the manager (Druker, 2011). For the purpose of this study managers of the public primary schools are the headmasters and the assistant headmasters.

However, the headmasters who are the managers of the public primary schools should see the need for them to change their professional practices to meet with the current demand of the high rate of development in ICT. If the school leaders perceive the use of ICT in their managerial activities, then they are more likely to have positive attitude towards the use of ICT in the school management functions (Langat, 2015).

ICT usage in school management is very vital especially for the school leaders in order to cope with changes in technology. This change with regards to Information Communication and technology demands effective communication network with other staff, students, parents and stakeholders (Asiabaka, 2010).He emphasized the use of phones (handsets) e-mail and whasapp will enhance this trend. The school managers need to use technological tools for personnel management skills and the preparation of school development plan (SDP).These Information Communication and Technology tools are used as means of disseminating information within and outside the school community to stakeholders and to education planners for effective achievement of educational goals (Ngwu, 2014).The use of information communication technology for the past twenty years has fundamentally changed the practices and procedures of nearly all forms of

endeavor within business and governance. Many changes have occurred in the last few years in the educational system and require teachers and school leaders to upgrade and refine their technology skills and knowledge (Adu&Olatundun 2013). Some of these changes are due to changes in educational policies related to the use of (ICT) in schools while others are due to developments in state of the act pedagogical and Managerial practices.

Many schools in Nigeria according to Adomi and Kpangban, (2010) especially the public schools (Primary and Secondary) are still low in information and communication technology application and usage. The ability to use computers and other ICT tools effectively has become an essential part of everyone's education. Skills such as book/record keeping, stock taking/inventory, clerical and administrative work now constitute a set of computerized practices that form the core information technology skills package. Might (2017), noted that schools have yet to extensively adopt ICT for teaching and learning and one of the greatest barriers to ICT usage in the schools is shortage of trained teachers in that skill. Babalua and Quvane (2017), suggested that school leaders and teachers need to be trained to become sufficiently competent to make personal use of computers, to make use of ICTs as a mind tool, to become master of a range of educational paradigms that use ICT, and also to become sufficiently competent to make use of ICT tools in schools.

### **Statement of the problem**

It has been observed that Nigeria as a country is yet to achieve the effective integration of ICT in the pedagogical process and management functions in primary school system. Public primary schools in Enugu State are not exceptional as little or no ICT resources can be found in virtually all the schools. The state of administration in public primary schools in Nsukka Local Government Area of Enugu state has been a source of concern to its educational stakeholders. It is often believe that the headmasters and the assistant headmasters are on the frontline of the battle to create an environment for quality education at this level. They work under difficult conditions and are often prepared for tasks they must undertake routinely which include; keeping accurate records of pupils' admission, continuous assessment, examination results, staff personnel, finances, library materials and a host of other inventories. All these records are still done manually, preserved in paper files, kept in wooden cupboards in the office of the headmasters. These documents are most often lost under the attack of termites especially when schools are on long vacations, this leads to perpetual loss of important school records. Even though by observation the primary school

managers appreciate the benefits of ICT and are willing to adopt the technology in the school management functions, however, it appears to be difficult by several constraints such as lack of funds to procure and sustain ICT resources, lack of staff with the appropriate skills, and no policies to support and guide the use of ICT especially in the management functions of the public primary schools. The problem of this study therefore, is to find out the constraints to ICT usage and identify possible strategies that can be adopted to ensure improvement in the use of ICT in the management of public primary schools in Nsukka Local Government Area of Enugu state.

Two research questions guided this study:

1. What are the constraints to ICT utilization in the management of Public Primary Schools in Nsukka Local Government Area of Enugu State?
2. What strategies can be adopted for better utilization of ICT in the management of Public Primary Schools in Nsukka Local Government Area of Enugu State?

It was also hypothesized that there is no significance difference between the mean scores of the headmasters and the assistant headmasters on the constraints of ICT usage in the management of Public primary schools in Nsukka Local Government Area of Enugu State.

### **Method:**

Descriptive survey design was adopted for the study. The population comprised of 236 headmasters and assistant headmasters from the 118 Public Primary Schools in the area of the study. No sampling was done as the entire population was used for the study. The researchers designed a 24 item questionnaire titled ‘‘ICT Constraints and Strategies for better utilization Questionnaire’’ (ICTCSQ) which was used for data collection. The instrument was divided into two sections: Section 1 for Bio-data information of the respondents and section 2 which contains two clusters A and B. Cluster A elicited information on the constraints of ICT usage in the management of Public Primary Schools in Nsukka Local Government Area while cluster B elicited information on the strategies to be adopted for better utilization of ICT in the management of Public Primary Schools in Nsukka Local Government Area. The response mode was a 4 point rating scale of strongly agree(SA)=4, agree(A)=3, disagreed(D)=2 and strongly disagree(SD)=1. The instrument was face and content validated by experts from the Department of Educational Foundations, University of Nigeria, Nsukka: two from the area of Educational Administration and Planning and one from Measurement and Evaluation. Their clarifications and remarks formed the basis for modification

of the questionnaire items. The instrument was trial tested on twenty headmasters and twenty assistant headmasters from Udeno Local Government Area of Enugu State (outside the area of the study),that enabled the researchers generate the data for computing the Internal consistency reliability of the instrument..The reliability yielded an index of 0.78 for the two clusters. This was high enough to consider the instrument reliable for the study. Three research assistants were used by the researchers in data collection. They were instructed on the proper method of filling the questionnaire items. Out of the 236 copies of questionnaire distributed 230 copies were completely filled and retrieved. Mean scores and standard deviation were used in answering the research questions while in testing the null hypothesis t-test was used at 0.05 level of probability. Items with mean rating of 2,50 and above were regarded as agreed .On the other hand, any item with a mean rating below 2.50 was regarded as disagree.

Results (1-1.44)=SD ; (1-45-2.44)=D ; (2.45-3.44) Agree;(3.45-4.00) Strongly agreed

**Table 1:** Mean analysis of the ratings of headmasters and assistant headmasters on the constraints to ICT utilization in the management of public primary schools

Item Statement	Group	N	Mean	Std. Deviation	Decision
1. Non availability of computers in public primary schools.	Headmasters	118	3.16	.92	Agree
	Assistant Headmasters	118	3.15	.83	Agree
2. Inadequate ICT tools in public primary schools.	Headmasters	118	2.89	1.06	Agree
	Assistant Headmasters	118	2.91	.95	Agree
3. Lack of ICT experts in the school system.	Headmasters	118	3.45	.75	Agree
	Assistant Headmasters	118	3.33	.81	Agree
4. Technophobia (Fear of Technology) on the part headmasters and assistant headmasters.	Headmasters	118	3.34	.80	Agree
	Assistant Headmasters	118	3.30	.75	Agree
5. Lack of capacity building opportunities for the school managers.	Headmasters	118	3.21	.81	Agree
	Assistant Headmasters	118	3.25	.75	Agree
6. Lack of interest in ICT utilization by the headmasters and assistant headmasters.	Headmasters	118	3.23	1.09	Agree
	Assistant Headmasters	118	2.87	1.28	Agree

7. Lack of funds to procure ICT tools.	Headmasters	118	3.01	.98	Agree
	Assistant Headmasters	118	2.75	.86	Agree
8. Insufficient funds to sustain ICT infrastructure.	Headmasters	118	2.79	.93	Agree
	Assistant Headmasters	118	2.78	.80	Agree
9. Constant power failure which damages ICT tools.	Headmasters	118	2.76	.93	Agree
	Assistant Headmasters	118	2.83	.91	Agree
10. High cost of ICT tools maintenance and repair.	Headmasters	118	2.80	1.05	Agree
	Assistant Headmasters	118	2.97	1.06	Agree
11. Lack of financial support from the Government .	Headmasters	118	3.39	.81	Agree
	Assistant Headmasters	118	3.27	.83	Agree
12. Unavailability of internet services.	Headmasters	118	3.43	.64	Agree
	Assistant Headmasters	118	3.29	.69	Agree
Overall Mean	Headmasters	118	2.89	.98	Agree
	Assistant	118	3.38	.22	Agree
	Headmasters				

Table 1 shows that the mean ratings of both headmasters and assistant headmasters on items 1 to 12 are more than 2.50 criterion mean. This indicates that both headmasters and assistant headmasters agree to the statements of items 1 to 12 as the constraints to ICT utilization in the management of public primary schools in Nsukka Local Government Area of Enugu State. However, the overall mean ratings of 2.89 and 3.38 for the headmasters and assistant headmasters indicate that assistant headmasters had higher mean rating than the headmasters.

**Table 2:** t-test analysis of the difference in the mean ratings of headmasters and assistant headmasters on the constraints to ICT utilization in the management of public primary schools

Group	Mean	SD	Df	T	P
Headmasters	2.89	.98			
Assistant Headmasters	3.38	.22	234	1.089	.180

Table 2 shows that there is no significant difference in the mean ratings of headmasters and assistant headmasters on the constraints to ICT utilization in the management of public primary schools in Nsukka L.G.A,  $t(234) = 1.089$ ,

$p = 0.180$ . This is for the fact that the probability value of 0.180 is greater than the 0.05 level of significance. The null hypothesis is therefore accepted.

**Table 3:** Mean analysis of the ratings of headmasters and assistant headmasters on the strategies that can be adopted for better utilization of ICT in the management of public primary schools

Item Statement	Group	N	Std.		Decision
			Mean	Deviation	
13. Government should supply adequate ICT tools to public primary schools.	Headmasters	118	3.16	.79	Agree
	Assistant Headmasters	118	3.08	.74	Agree
14. ICT training workshops and seminars should be organised for headmasters and other staff.	Headmasters	118	3.05	.68	Agree
	Assistant Headmasters	118	2.96	.58	Agree
15. Provision of standby generators in all schools in case of power failure.	Headmasters	118	2.71	.84	Agree
	Assistant Headmasters	118	2.73	.75	Agree
16. Solar energy system should be installed in the school to power the ICT tools.	Headmasters	118	2.83	.89	Agree
	Assistant Headmasters	118	2.83	.77	Agree
17. ICT maintenance unit should be available at education zone.	Headmasters	118	2.82	.80	Agree
	Assistant Headmasters	118	2.86	.62	Agree
18. Technicians/experts should be deployed for maintenance of damaged ICT tools in the local government area.	Headmasters	118	2.64	1.04	Agree
	Assistant Headmasters	118	2.75	.97	Agree
19. Headmasters and other members of staff should have appropriate ICT skills.	Headmasters	118	3.27	.91	Agree
	Assistant Headmasters	118	3.54	.71	Agree
20. Electricity supply should be constantly available.	Headmasters	118	3.14	.81	Agree
	Assistant Headmasters	118	3.33	.71	Agree
21. Headmasters and the assistant headmasters should develop interest in ICT operations.	Headmasters	118	3.25	.77	Agree
	Assistant Headmasters	118	2.96	.82	Agree
22. All records and report submissions to head quarters are usually in soft copies to encourage school managers' interest in ICT usage.	Headmasters	118	2.97	.91	Agree
	Assistant Headmasters	118	3.06	.90	Agree
Overall Mean	Headmasters	118	2.85	.70	Agree
	Assistant Headmasters	118	2.99	.54	Agree

Table 3 shows that the mean ratings of both headmasters and assistant headmasters on items 13 to 22 are more than 2.50 criterion mean. This indicates that both headmasters and assistant headmasters agree to the statements of items 13 to 22 as the strategies that can be adopted for better utilization of ICT in the management of public primary schools in Nsukka Local Government Area of Enugu State. However, the overall mean ratings of 2.85 and 2.99 for the headmasters and assistant headmasters indicate that assistant headmasters had higher mean rating than the headmasters.

**Table 4:** t-test analysis of the difference in the mean ratings of headmasters and assistant headmasters on the strategies that can be adopted for better utilization of ICT in the management of public primary schools

Group	Mean	SD	Df	T	p
Headmasters	2.85	.70			
Assistant Headmasters	2.99	.54	234	.709	.692

Table 4 shows that there is no significant difference in the mean ratings of headmasters and assistant headmasters on the strategies that can be adopted for better utilization of ICT in the management of public primary schools in Nsukka Local Government Area,  $t(234) = .709$ ,  $p = 0.692$ . This is for the fact that the probability value of 0.180 is greater than the 0.05 level of significance.

### Discussion of Findings

It was the opinion the Headmasters and the assistant headmasters of the public primary schools of Nsukka local Government Area (Table 1) that the statements of items 1-12 (1,2), non-availability of computers, inadequate ICT resources, lack of ICT experts in the school system, technophobia and lack of interest on the use of ICT tools. Lack of capacity building opportunities, lack of Funds to procure and sustain ICT tools, frequent power failure, and damage of ICT tools, lack of government support as well as internet services, all constitute the constraints to ICT usage in the management of public primary schools. This is evident in the findings of research question one with cluster mean scores of 2.89 and 3.38 for headmasters and the assistant headmasters respectively. This is so because the headmasters and assistant headmasters unanimously agreed that there are a number of constraints to the effective utilization of ICT resources in the management of public primary schools. The result is in agreement with the opinions Mungai (2010), Adeshina and Aliyu (2012), who in their studies identified constant power failure, high cost

of ICT equipment, non-availability of technicians, inadequate computers among others.

The analysis of hypothesis one in table three indicate that the probability value of 0.180 is greater than the 0.05 level of significance. Therefore, the null hypothesis was accepted. This means that there is no significant difference in the mean ratings of headmasters and assistant headmasters of public primary schools on the constraints to ICT utilization in the management of schools. This findings are in line with the findings of Adu and Olatundum (2013), James E., Samuel. O, and Ameh, E.(2015) who in their studies revealed that ICT resources can be better utilized in the management of public schools if all stakeholders' needs assessment analysis is conducted, development of teachers and school leaders ICT skills are constantly done and provision of adequate funds for procurement of these ICT tools among others.

### **Conclusion**

On the basis of the findings the following conclusions were drawn. The Headmasters and the assistant headmasters of the public primary schools of Nsukka Local Government Area agreed that ICT will be effectively utilized in the management of schools if Government supports the supply of ICT resources, provision of alternate power, regular training for school managers on acquisition of ICT skills and availability of internet services.

### **Recommendations**

Based on the findings of the study some recommendations were made as follows;

1. Government and school based management committee should source funds to procure ICT tools for quality management functions.
2. Technicians/experts should be deployed in every education zone in the state.
3. Headmasters and other staff should be empowered with ICT skills and knowledge among others.

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