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Availability and Utilization of ICT Resources in Teaching and Learning in Secondary Schools in Ardo-Kola and Jalingo, Taraba State

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Abstract
This paper is a survey which was designed to ascertain the various Information and Communication technology resources available for teaching and learning in the Secondary Schools in the two local government areas in Ardo kola and Jalingo Taraba state The population of the study is made up of all the. secondary school teachers and principals in all the forty Secondary Schools in A sample she of 264 respondents was selected for the study using stratified - random sampling technique. The instrument used for the collection of data was a set of researcher—made questionnaire. Data collected was analyzed using frequency counts and simple percentage it shows that the extent of availability of ICT resources in secondary schools in Ardokola and Jalingo is very low. The extent of utilization of ICT resources in teaching and learning is equally very low. ICT resources were not available in the schools for the use of teachers and students for learning activities. It was also found out that many factors were perceived by the teachers and principals as constraints to the effective utilization of ICTs in teaching and learning in secondary schools. They include; poor power supply. Lack of adequately trained teachers in the use of lCTs in teaching, high cost of computers and accessories among others. It was concluded that much has not been done by government in the area of provision of ICT resources for teaching and learning in this era of ICT based learning. The paper recommends governments', non-governmental organizations' and private individuals' intervention in the provision of needed ICT resources in the schools among others.

Introduction
Information and communications technology is as old as man. This is informed by the fact that man since creation has continually created ways and means of communicating with his fellow man. The development of gadgets which handle and transfer information in ways that marvels and was unthought-of in the history of man is as a result of mans quest to create better ways of handling information. The principal stock in trade of education is the transmission or transfer of information from the teacher to the learner. If there is any technological development that has a very great potential for development in education and can improve education quality, expand learning opportunities and make education accessible, it is the development in ICT.
Information and communication technology according to Ochoyi and Ukwumonu (2008) has the capacity to produce higher interactive potentials for users to develop individual intellectual and creative ability. It is as a result of the great advantages which ICT offers that Nigerian educational reforms stressed the importance of computer technology in Schools during the 32 ministerial council meeting of the National Council on Education in 1987 (FRN,2004). The role of 1CT in the advancement of knowledge and skills necessary for the effective functioning of an individual in the modern world was further stressed in the National policy on education. In the bid to integrate ICT into education in Nigeria for effective teaching and learning to take place, internet services in schools tagged school Net Nigeria was launched in September 2001. Eleven years after the launch, it is sad to note that many secondary schools in Ardokola and Jalingo may not have computer sets not to talk of Internet connectivity.

Information and Communication Technologies! Technology
These are information handling tools that are capable of being used to generate process, store and retrieve, distribute and exchange information. When these different tools work together, they combine to form a network which reaches any part of the globe. It has increasingly become the most powerful tool for participating in virtually every global activity such as global market, promoting political accountability, improving the delivery of basic services and enhancing local development opportunities (UNDP 2006).

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). 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 CT 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. ICT resources capable of being used in teaching and learning include but are not limited to the following; radio, radio-cassette recorders, televisions, computer, multi-media projectors, fax machines, optic fibers, CD- Rom, internet, electronic notice

boards, interactive white boards, slides and slide projectors, overhead projectors, video players and VCDs etc. Observation of the researchers during teaching practice supervision has shown that very many of these listed ICT resources if not all were not available in the secondary schools. It is worthy of note that the propensity to use ICTs in teaching and learning activities is highly determined by the availability of these resources in the schools. In a study that explored factors that influence classroom use of ICT in Sub -Saharan Africa (Hennessey et al. (2010), cited in Kiptalam and Rodriguess, (2011) reveal that the integration of technology into education is highly dependent on the availability and accessibility of the resources in schools. The case of secondary schools in Ardokola and Jalingo may not be different.

The Need for ICT Integration in Teaching and Learning in secondary Schools

An ICT driven learning environment is important for the Nigerian child. Over the years what dominated the classroom in Nigeria was principally the chalkboard and textbooks. Although radio/television and film have been used for educational purposes in many countries of the world, they have not been common features in the Nigerian classroom. In the areas where they were used, none has impacted on the educational process as the computer. While television and films appeal to the audio-visual faculties of users, the computer is capable of activating the sense of sight, hearing and touch of the user. It has the capacity to provide higher interactive potentials for users to develop their individual intellectual and creative ability. According to Shavinina (2001) the crux of ICT consists just in the development of human mental resources which allow people to both successfully apply the existing knowledge and produce new knowledge.

In a global economy that is ICY driven where almost every human activity is computer based, application for jobs, admissions, checking of results, buying and selling and even banking are now done online, the Nigerian student should be acquainted with ICTs to enable him cope in the society after school. Apple Computer (2002) states that students who use ICTs gain deeper rderstanding of complex topics and concepts and are more likely to recall information and use it to solve problems outside the classroom.

Most employers of labour today make the acquisition of ICT skills as a prerequisite for employment in their establishments. Various establishments, institutions and organizations find it expedient to train and retrain their staff to acquire or improve on their ICT knowledge and usage of ICT facilities (Adomi and Anie, 2006, cited in Adomi and Kpangban 2010). It therefore becomes necessary to introduce them to the basic ICT skills early to enable them eternalize them for future use.

Integration of ICTs in secondary school will definitely improve Nigerian education system there by giving students a better education that can enable them to compete favorably with products of other education systems all over the world. This will lead to the creation of a technologically advanced work force with the potential to improve military technology, telecommunication, media communication and skilled ICT professionals who will be well-equipped to solve ICT related problems where ever they find themselves (Goshit, 2006)

Integration of ICT in teaching at this level invariably will give rise to new instructional techniques. This makes the students to engage themselves in individualized learning. A situation that gives them access to tools that adjusts to their attention span and provides valuable and immediate feedback to literacy enhancement, which is currently not fully implemented in the Nigerian school system (Enuku, and Enuku, 1999 & 2000)

Statement of the problem:

The Federal Government of Nigeria in the National Policy on Education (FRN 2004) is mindful of the importance of information and communication technology in the world of today that is ICT driven hence its integration in the school curriculum at all levels of education in the country. The document states that government will provide the necessary ICT infrastructure and training needed in the secondary schools. Visits of the researcher to a number of secondary schools in the area of study on teaching practice supervision and indeed schools in other areas show that there is no significant sign that this lofty government policy has been implemented in a state that prides education as its' biggest industry. The study therefore seeks to establish the level of availability of ICT resources, their actual use and the constraints to their use in the teaching and learning situation.

Purpose of Study

The purpose of this survey was to examine the available id resources in secondary schools in Ardo kola and Jalingo view of finding out the level of availability, utilization and accessibility of these ICT resources to both students and teachers. It was also to find out the perceived challenges facing the integration of lCTs in the Secondary Schools in Ardokola and Jalingo.

Research Questions:

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

1. To what extent are information and Communications Technology resources available in Secondary Schools in

Ardo-kola and Jalingo
2. To what extent are these resources utilized in teaching and learning?
3. To what extent are these resources accessible to both teachers and students for teaching and learning?
4. What are the perceived challenges facing the effective integration of Information and communication Technology resources in teaching and learning?

Methodology

The descriptive survey research design was adopted for this study. The population for the study consisted of all the teachers and the principals of Secondary Schools in Ardo-kola and Jalingo.

A sample size of 264 respondents made up of 240 teachers and 24 Principals was randomly selected from the 1,025 teachers in the Secondary Schools in Ardo-kola and Jalingo.

A researcher-designed set of questionnaire was used to collect data for the study. The questionnaire was validated by the researcher's colleagues in Measurement and Evaluation in College of Education Zing.

The Cronbach Alpha was used to determine the reliability of the instrument. The reliability coefficient of the instruments was 0.85. The researchers personally administered the questionnaire to the respondents and collected them on the spot. Personal contacts were used as a follow up to ensure high rate of return. In all 224 questionnaires were returned and was used for the data analysis. Data was collated and analyzed using frequency counts and percentages.

RESULTS AND DISCUSSION

the results of the study are presented below:

Research Question 1:

To what extent are information and communications Technology resources available in Secondary Schools in Ardokola and Jalingo.

Table 1

Extent of availability of information and communication Technology resources in Secondary Schools in Ardokola and Jalingo.

S/N	Item	No.	V.G Ext	%	G. Ext	%	M Ext	%	P. Ext	%	V.P Ext	%
1	Desktop Computer	224	0	0	0	0	17	7.6	39	17.4	168	75
2	Laptop	224	0	0	0	0	0	0	0	0	224	100
3	Television	224	0	0	0	0	0	0	12	5.4	212	94.6
4	Video player	224	0	0	0	0	0	0	04	1.8	220	98.2
5	Radio (Tape recorder)	224	0	0	0	0	33	14.7	99	34.2	92	41
6	Digital camera	224	0	0	0	0	0	0	0	0	224	100
7	Printer	224	0	0	0	0	0	0	0	0	224	100
8	Multimedia Projector	224	0	0	0	0	0	0	0	0	224	100
9	Projector screen	224	0	0	0	0	0	0	0	0	224	100
10	Scanner	224	0	0	0	0	0	0	0	0	224	100
11	Photocopying Machine	224	0	0	0	0	0	0	0	24	10.7	89.3
12	Satellite disc	224	0	0	0	0	0	0	0	0	224	100
13	Fax Machine	224	0	0	0	0	0	0	0	0	224	100
14	Computer accessories	224	0	0	0	0	0	0	10	4.5	210	95.5
15	Internet	224	0	0	0	0	0	0	0	0	224	100
16	Interactive White Board	224	0	0	0	0	0	0	0	0	224	100
17	Electronic Notice Board	224	0	0	0	0	0	0	0	0	224	100

Source: field survey 2013

Data presented in table 1. Above shows that the seventeen ICT resources listed were available to a very poor extent. Only radio tape recorder received responses of up to 14.7% indicating availability at a moderate extent. This reveals that government has done little or nothing to provide the needed ICT resources for teaching in secondary schools in Ardokola and Jalingo Okwudishu (2005) discovered that unavailability of some ITC

components in the schools hampered teachers' use of ICTs. The teachers and students can only use the facilities if they are available in their in their school.

Research Question 2:
To what extent are these resources utilized in teaching and learning activities?
Table 2.
Extent of utilization of available Information and communication Technology in secondary schools.

S/N	Item	No.	V.G Ext	%	G. Ext	%	M Ext	%	P. Ext	%	V.P Ext	%
1	Desktop Computer	224	0	0	0	0	0	0	0	0	224	100
2	Laptop	224	0	0	0	0	0	0	0	0	224	100
3	Television	224	0	0	0	0	0	0	0	0	224	100
4	Video player	224	0	0	0	0	0	0	0	0	224	100
5	Radio (Tape recorder)	224	0	0	0	0	0	0	0	0	224	100
6	Digital camera	224	0	0	0	0	0	0	0	0	224	100
7	Printer	224	0	0	0	0	0	0	0	0	224	100
8	Multimedia Projector	224	0	0	0	0	0	0	0	0	224	100
9	Projector screen	224	0	0	0	0	0	0	0	0	224	100
10	Scanner	224	0	0	0	0	0	0	0	0	224	100
11	Photocopying Machine	224	0	0	0	0	0	0	0	0	224	100
12	Satellite disc	224	0	0	0	0	0	0	0	0	224	100
13	Fax Machine	224	0	0	0	0	0	0	0	0	224	100
14	Computer accessories	224	0	0	0	0	0	0	0	0	224	100
15	Internet	224	0	0	0	0	0	0	0	0	224	100
16	Interactive White Board	224	0	0	0	0	0	0	0	0	224	100
17	Electronic Notice Board	224	0	0	0	0	0	0	0	0	224	100

Source: field survey 2013

Data presented in table ii above shows very poor extent utilization of ICT resources in teaching in secondary schools in the area. This is because utilization is directly linked with availability hence the resources can only be utilized in teaching and learning if they are available.

Research Question 3:
To what extent are these resources accessible to both teachers and students for teaching and learning?

Table 3.
Extent of accessibility of Information and communication Technology resources in secondary schools in Ardokola and Jalingo.

S/N	Item	No.	V.G Ext	%	G. Ext	%	M Ext	%	L. Ext	%	V.P Ext	%
1	Desktop Computer	224	0	0	0	0	5	2.2	110	49.1	109	49
2	Laptop	224	0	0	0	0	0	0	0	0	224	100
3	Television	224	0	0	0	0	4	1.7	10	44	210	94
4	Video player	224	0	0	0	0	0	0	0	0	224	100
5	Radio (Tape recorder)	224	0	0	0	0	30	13.4	50	22.3	144	64.3
6	Digital camera	224	0	0	0	0	0	0	0	0	224	100
7	Printer	224	0	0	0	0					224	100
8	Multimedia Projector	224	0	0	0	0	0	0	0	0	224	100
9	Projector screen	224	0	0	0	0	0	0	0	0	224	100
10	Scanner	224	0	0	0	0	0	0	0	0	224	100
11	Photocopying Machine	224	0	0	0	0	20	9	25	11	179	80
12	Satellite disc	224	0	0	0	0	0	0	0	0	224	100
13	Fax Machine	224	0	0	0	0					224	100
14	Computer accessories	224	0	0		0	10	4.4	14	6.3	200	89
15	Internet	224	0	0	0	0	0	0	0	0	224	100
16	Interactive White Board	224	0	0	0	0	0	0	0	0	224	100
17	Electronic Notice Board	224	0	0	0	0	0	0	0	0	224	100

Source: field survey 2013

Data presented in table 3. Above indicates that the extent of accessibility of ICT resources for teaching and learning in the area under study is very poor. It is pertinent to note here that teachers and learners can only access resources if they are available. All the IC resources received responses of well over 80% accessibility at a very poor extent.

Research Question 4:
What are the perceived challenges facing the effective integration of Information and Communication Technology resources in teaching and learning?
Table iv.
Perceived challenges to effective integration of Information and Communication Technology in teaching and learning in secondary schools in Ardokola and Jalingo.

S/n	Items	No	Agree	%	Disagree	%
1	Poor Electric Power Supply	224	215	95.98	9	4.02
2	Lack of Knowledgeable ICT	224	200	89.29	24	10.71
3	Inadequacy trained teachers	224	190	84.82	30	15.18
4	High cost of ICT equipment and accessories	224	180	80.35	50	19.65
5	Lack of interest on the part of teachers and students	224	68	30.35	156	69.65
6	Insufficient funds	224	164	73.22	160	26.78
7	Governments' payment of lip-serve to education	224	177	79.01	47	20.99
8	Inability to replace broken-down equipment and facilities	224	140	62.5	84	37.5
9	Inadequate telephone services	224	155	69.2	69	30.8
10	Lack of adequate accommodation for ICT equipment	224	124	55.4	100	44.6

Source: Field Survey 2013

Data presented in table 4 above shows that the following factors were perceived by the teachers and Principals as challenges to the effective utilization of ICTs in teaching and learning in secondary schools in Ardo-Kola and Jalingo

Poor electric power supply received 96% rating indicating that it was a serious challenge. This is in tandem with the finding of Adomi (2005) which states that electricity failure has been a persistent problem militating against ICT application and use in Nigeria. In actual fact, most of the schools are not linked to the national power supply grid.

Lack of knowledgeable ICT support staff was rated 89.3% and inadequacy of trained teachers on the use of ICT received 85%. These support Goshit (2006) who reported inadequate manpower in schools as one of the major constraints of ICT application in schools. The pay package in secondary schools is not juicy and as such highly skilled ICT professionals are not attracted to the secondary school system. Serious efforts have not been made by government to train and retrain the teachers in the schools on how to integrate ICTs in teaching.

High cost of ICT equipment, materials and accessories received 80.4% rating

This is so because the government has not provided them in the schools. Their cost is so prohibitive that the teachers and students cannot afford them coupled with the high rate of internet subscription in Nigeria. The schools on their own cannot afford them given the paucity of funds in the schools. This does not differ from Adomi (2006) who reported high cost of ICT facilities as one of the major challenges to the application of ICTs in schools.

Insufficient funds received a rating of 73,22% indicating that it is one of the factors militating against the effective utilization of ICTs in secondary schools in Nigeria. Enakrire and Onyenenia, (2007) reported that the inability to use ICTs in teaching and learning in secondary schools may be as a result of insufficient funds.

Government's payment of lip service to implementation of ICT policies in education received 79% response. The fact that all the listed ICT facilities were rated available to a very poor extent is a pointer to the fact that they were not available in the schools. This being the case is a further indicator that government is only paying lip service to implementation of her ICT policies.

Inability to replace broken-down equipment and facilities was rated 63%. This is a constrain in that a system that cannot afford ICT facilities for the education of her future leaders in an ICT age will definitely not be able to replace broken down equipment and facilities.

Inadequate telephone services received 69.2%. It has been reported by Suit wood (2004) that more than 40 percent of the population of Africa is in areas not covered by telecom services. This being the case, school located uch areas will experience ICT connectivity problems. This is the case of schools in Ardo-kola and Jalingo community.

Lack of adequate accommodation for ICT equipment received 55.4% rating. In most of the schools used for the study, it was difficult to find accommodations that can conveniently be used to house ICT equipment and facilities.

CONCLUSION

The findings of this study have clearly shown that information and communications Technology resources were not available in the secondary schools in Ardo-kola and Jalingo. This makes them to lag behind in the utilization of ICT resources in teaching-learning process. The scenario was also responsible for the very poor extent of accessibility rating of all ICT resources as availability leads to accessibility.

Numerous were the perceived challenges facing the utilization of ICTs in teaching-learning process. They include; poor electric power supply, lack of knowledgeable ICT support staff, inadequacy of trained teachers in the use of lCTs, insufficient funds, high cost of ICT equipment, materials and accessories, government's payment of lip service to implementation of ICT policies, inadequate telephone services, inability to replace broken down equipment and facilities and lack for ICT equipment. There is no doubt that teachers and students in Ardo-Kola and Jalingo will have numerous amount of learning resources at their disposal if government lives up to its expectation in the implementation of her ICT policies.

In order to fit in to the new technology driven era, Nigerian schools and individuals should as a matter of necessity develop a culture that places high premium on information and communication technology.

RECOMMENDATION

The researchers therefore make the following recommendations.

The following recommendations are therefore made. The government should increase funding for the entire educational sector with emphasis on ICT; this will help improve the level of ICT facilities in the schools. There should also be continuous and periodic training of teachers on computer and ICT skills acquisition. This will help provide them with practical and functional knowledge needed for their day to day interaction with students in the classroom.

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