NIGERIAN JOURNAL OF EDUCATIONAL FOUNDATIONS

ISSN 1116-0381
Volume 17, No.1 March, 2018

http://ejournals.unilorin.edu.ng/journals/index.php/nijef/issue/view/147

EDITORIAL BOARD

Prof. Bolanle O. Olawuyi	-	Editor-in Chief/ Chairman Editorial Board
Dr. R.W. Okunloye	-	Managing Editor
Dr. Mrs. M.B. Bello	-	Member
Dr. A. Saidu	-	Member
Dr. Dorcas S. Daramola	-	Member
Dr. Mrs. A.O. Aburime	-	Member
Dr. Mrs. E.O. Uyanne	-	Member

CONSULTING EDITORS

Prof. J.O.O Abiri
Prof. C.O Daramola
Prof. R.A. Lawal
Prof. A.G.A.S. Oladosu
Prof. O.E. Abdullhai
Prof. F.A.O. Olasehinde- Williams
Prof. A.A. Jekayinfa
Prof. H.O. Owolabi

TABLE OF CONTENTS

EDITORIAL ii

GENERAL INFORMATION AND NOTES TO CONTRIBUTORS iii

Information Behaviour of Crop Farmers in Ilorin Metropolis, Kwara State, Nigeria
Adewara J.O, Soyemi,O. D., Adeyi, M. A & Oyewumi, Fausat Ayobami 1

Assessment of the Utilization of Information and Communication Technology in Literacy Centres in Ibadan North, Oyo State
Olawumi, Abiodun Olufemi, Oladele, Jumoke Iyabode, & Noibi, Tajudeen Oluwafemi 13

Assessing Quality of Osun State Mathematics Multiple-choice Items Under 2-parameter Model of Item Response Theory
Ajeigbe, Taiwo Oluwafemi 27

The Status of Behavioral Objective on Secondary School Students' Performance in Biology Practical in Irepodun LGA Kwara State
Abidoye, Florence Omosholape 38

Effect Of Brain Friendly Instructional Strategy On Performance of Public Senior Secondary School Students in English Language in Ilorin, Nigeria
Olasehinde-Williams,F.A.O., Yahaya , L. A., Jimoh, L. A., Olajide, S. B., . Uyanne,E. O, Sanya E. O.& Owolabi.H. O 48

Primary School Pupils' Attitude Towards Science in Abeokuta South Local Government Area
Ola-Alani, Eniola. K 64

Historical Development of Primary Education in Nigeria From 1960 till Present: Implications for National Development
Oyelade, A. F. & Abolade, S. B. 75

Historical Development of Primary Education in New-bussa Local Government Area, Niger State, Nigeria: 1999-2011
Saidu, Abubakar , Agary Muritala & Lawal 89

Impact of Poverty on Academic Performance of Students in Secondary Schools in Ilorin South LGA, Kwara State
Aburime, Aminat Ozohu, Nafiu, Hakeem Ayodeji, & Nuhu, Muslimat Adebanke.....106

The Role and Character of Education for Good Citizenship
Oyetade, Oluwatoyese P. & Eunice M. Oyetade.....117

Principals' Instructional Supervision as a Correlate of Students' Academic Performance in Selected Secondary Schools in Edo State
Osamiro Emmanuel Osagiobare, Victor Ekwukoma & Evelyn Ofure Obozokhae.....126

Community Involvement in Childhood Education in Ilorin West Local Government Area, Kwara State
Agarry, Rachael Ojima.....135

Resources Allocation and Principal Leadership Performance in Secondary Schools in Ilorin Metropolis
Muritala, Abdulyaqin Tukur.....146

Teachers' Perception on Performance Appraisal in Ilorin West Local Government Area Secondary Schools, Kwara State
Lawal Abubakar; Abdulmumin & Olohundare, Kamaldeen Sulyman.....157

ASSESSMENT OF THE UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN LITERACY CENTRES IN IBADAN NORTH, OYO STATE

[1] OLAWUNI, A. O., [2] OLADELE, J. I. & [3]NOIBI, T. O.

[1]Department of Adult & Primary Education,
University of Ilorin, Ilorin, Kwara State.
[2]Department of Social Sciences Education,
University of Ilorin, Ilorin, Kwara State.
[3]Department of Adult & Primary Education,
Faculty of Education,
University of Ilorin, Ilorin, Kwara State
olawuniabbey@gmail.com or olawuni.ao@unilorin.edu.ng,
jumokeolorunlero@gmail.com or oladele.ji@unilorin.edu.ng
tajunoibi@yahoo.co.uk or noibi.to@unilorin.edu.ng

Abstract

The purpose of this study was to assess the utilization of information and communication technology in literacy centres in Ibadan North . The population of the study comprises of adult learners in all mass literacy centres and advance learning centres in Ibadan north. The correspondents were randomly selected in selected centres within the study area. And the total number of eighty-five adult learners were used for the study. The data gathering instrument was by questionnaire administered on a randomly sample of Ten Adult centres in Ibadan north. Data collected were analyzed using frequencies and percentages for research question one and mean rating statistics for research question two. The study showed that the use of ICT facilities improved the teaching and learning in adult centers, helps adults to learn at their own pace, extends a wide range of experiences to the pupils and helps to improve adult performances. The researcher proffers this as recommendation, adequate provision of ICT facilities, employment of efficient ICT personnel and periodical personnel training should be a top priority.

Keywords: Assessment, Information Communication Technology (ICT), Adult Learners, Literacy Centres and Utilization.

Introduction

Information and Communication Technology (ICT) have become an integral part of education all over the world. In order to transfer relevant information, skills, values, attitudes and knowledge to adult learners, it requires proper and effective communication. Teaching and learning is all about communication between the facilitators and the learner or between the learner and the learning materials which involves giving and receiving information, means of transferring information or lesson content to learner are of great importance (National Open University of Nigeria, 2012). Information and Communication Technology (ICT) refers to technologies that provide access to information through telecommunications. In the past few decades, information and communication technologies have produced society with a vast array of new communication capabilities. For example, people can communicate in real terms with others in different countries using technologies such as internet, voice over IP, and video conferencing. Social networking website like face-book allows the users from all over the world to ream in contact and communicate on a regular basis. Computer education was endorsed into Nigerian educational system in the late 1980s based on the recommendation of 32nd ministerial council on education in 1987 (FRN, 2004). The role of ICT in advancement of knowledge and skills necessary for the effective functioning of an individual in the modern world was further stressed the National Policy on Education (2004). Information and communication technology was defined as the use of computer and telecommunication systems in collecting, collation, analysis, processing and retrieval, transmitting and communicating difference forms of data which may include audio, visual and audio-visual format (Okafor, 2002). Communication is a process of conveying information between two or more mediums, individuals or organizations. Similarly, Ofodu (2007) sees ICT as electronic and computerized 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. In effect, ICT has reduced the barriers that characterized interrelationship in terms of space, time and learning activities.

Information and communication technology is an element in all our lives and has a central role to play in adult education. Nowadays ICT systems have shown that they offer great advancement for both facilitators and adult learners in various disciplines. The use of ICT empowers the facilitators to estimate necessary information on learning instructional materials through the internet. It becomes obvious that adult facilitators maximize ICT gain in their career through computer literacy skills acquisition (Akindolu, 2000). It is only computer literate facilitators and adult learners that can effectively use vast electronic information available in the world for teaching improvement (Okafor, 2006). Akindolu (2006) opined that if ICT is not inculcating in adult centres, it will reduce their potential and limit the level of impacting knowledge into the adult learners. With ICT resources utilization, teaching and learning can be carried out with or without physical or face to face contact as is hither to the case in the traditional approach ICT has tremendously and positively affected developments in all facets of human endeavor particularly in contemporary times. ICT resources utilization in teaching adults in Ilorin Metropolis will facilitate knowledge acquisition and dissemination by adults within and between various subjects. In this way, human input is reduced to barest minimum, with better and more effective performance. Acquiring these skills will however enable them to cope with and adapt to the challenges of the modern day educational system and world of work (Ngurukwem, 2006). Since the evolution of information and communication technologies (ICTs), giving and receiving information have not remained the same. ICT is gaining global recognition in the evolution of information dissemination (National Open University of Nigeria, 2012).

According to the United Nations Development Program (UNDP) in a UNESCO article (2008), ICT are defined as information handling tools- a varied set of goods, applications and services that are used to produce, store, distribute and exchange information. They include 'old' ICT of radio, television and telephone, and 'new' ICT of computer satellite and wireless technology and the internet. These different tools

are now able to work together and combine to form our 'networked world' – a massive infrastructure of inter connected telephone services standardized computing hardware, the internet, radio and television which reaches into every corner of the globe. Badmus (2004) defines ICT as an umbrella term that cover communication devices or applications that include computer, television radio, networks, satellites, video conferencing and learning. It is this researcher's view that, in adult education, adult learners therefore need to utilize these technologies for purposes of research lesson preparation, lesson delivery, assignment issuing and submission. The technology tends to improve sources and quality of information obtained, effectiveness and accuracy, which traditional methods did not have. Therefore, introducing ICT to teaching and learning give adult learners the opportunities to access information of their interest and interact with experts in other parts of the world. This will help to further develop their knowledge as well as make them gain new information. According to Slinger (2005), adult learning is more robust and their knowledge and understanding increase where ICTS are used. However, despite the benefits of ICT in teaching – learning process, facilitators and centres management are not interested in using ICT for instructional purposes. This has been attributed to many factors which include inadequate funds, poor condition of electricity, facilitators' incompetence and pervasive poverty in the society (Aja, 2013). It is based on thisthat the researcher sought to investigate the assessment of the utilization of ICT by adult learners in Ibadan North of Oyo State.

The importance of ICT has been recognized by educational institution worldwide. Watson (2001) asserts that ICT has influenced the way people function today, both personally and professionally, which demand change in the educational arena. Adult centres that train their adults in the yesterday's skills and outdated technologies are not meeting the needs of tomorrow world. Such adults will not fit into tomorrow's professional requirement. Effective use of ICT is crucial to countries that are progressing towards information or knowledge – based society. ICT for education identifies the development of information and communication technology especially for teaching learning purposes while ICTS in education includes the adoption of

basic elements of information and communication technologies in the teaching – learning process. ICT provides great flexibility in education to ensure that learners are able to access knowledge anytime and from anywhere. Education is not just teaching students based on prescribed syllabus in the four walls of a classroom, it has much border objectives, goals as well as other concepts. ICT is an answer to this concept. It helps deliver education anytime and from anywhere. It also affects the way knowledge is imparted and adult learning process since learning will be effective if only the strategies are learner-driven rather than being facilitators-driven. ICT is a powerful tool for promoting educational opportunities. It transforms the process of teaching and learning environment by including element of vitality to the learning milieu. Present day education system insists on research, critical thinking, and evaluation skill since adults have access to large variety of sources to get information. Hence, the learning environment provided should follow an effective application of knowledge that adults are required to master, in order to avoid the attained knowledge being passive, furthermore, facilitators need to encourage adult learners to be active learners so as to engage in active knowledge construction.

It has been discovered through series of observations that some literacy and adult centres do not make use of ICT facilities while teaching. The use of ICT facilities improves the teaching and learning in adult centres. There is inadequate provision of ICT facilities in adult centres and facilitators need to make use of them effectively when teaching. It is against this backdrop that the researcher wishes to assess the availability and utilization of Information and Communication Technology for adult learners in Ibadan North.

The objective of this study is to:

1. assess the available ICT devices in adult education centres in Ibadan North L.G.A.
2. find out the utilization of available ICT devices by adult facilitators in Ibadan North L.G.A.
3. find out the adequacy of personnel operating ICT devices in adult literacy centres in Ibadan North L.G.A.

Research questions

The following research questions were raised in the study:

1. What are the available ICT devices in adult centres in Ibadan North L.G.A?
2. How do adult instructors make use of the available ICT devices?
3. How adequate are the facilitators or personnel to operate the ICT devices in these adult centers?

Research hypotheses

1. There is no significant difference in adult facilitator utilization of ICT devices in Ibadan North L.G.A on the basis of gender.
2. There is no significant difference in adult facilitator utilization of ICT devices in Ibadan North L.G.A on the basis of qualification.
3. There is no significant difference in adult facilitator utilization of ICT devices in Ibadan North L.G.A on the basis of years of experience.

Methodology

This study adopted descriptive survey design. The population of the study consist of adult learners in all adult learning centres in Ibadan North L.G.A. All adult learners present in the learning centres were sampled for the study employing the use of convenience sample technique; due to the nature of learning centres attendance. A researcher designed questionnaire titled Adult Learners Opinions on ICT use in Ibadan north L.G.A was used for data collection. The questionnaire was divided into three parts of section A, B and C. Section 'A' comprises of items on the available ICT facilities in each centres, section 'B' gathered information about the attitude of adults towards the use of ICT facilities in adult centres and Section 'C' gathered information on adequacy of personnel to operate ICT devices. The questionnaire was measured on 4 items Likert scale of: Strongly Agree (1), Agree (2), Disagree (3) and Strongly Disagree (4) where respondents were required to ticking that

which best represent their views. The instrument was validated by the experts in the areas of Adult Education and Community Development and pilot study were conducted with selected adult learners who were not included in the study. A reliability index of 0.65 was obtained which was the premise on which the instrument was adjudged reliability. Research question one was answered with frequencies and percentages, while Research questions two and three were answered with mean rating statistics. Hypothesis one was tested using t – test statistics while hypotheses two and three were tested using analysis of variance (ANOVA) statistic, all at 0.05 level of significance. For the purpose of the study, one hundred questionnaires were administered; however, eighty-five questionnaires were properly filled and returned, a return rate of eighty-five percent (85%).

Results

Research Question One: What are the available ICT devices in literacy/adult centres in Ibadan North L.G.A?

Table 1: The available ICT devices in Literacy/Adult Centres in Ibadan North L.G.A

S/N	ICT RESOURCES	N	YES FREQUENCY (%)	NO FREQUENCY (%)	INTERPRETATION
1	Projectors	85	9(9.0)	91(91.0)	Not Available
2	Computer sets	85	83(83.0)	17(17.0)	Available
3	Radio (tape recorder)	85	40(40.0)	60(60.0)	Not Available
4	Television sets	85	27927.0)	73(73.0)	Not Available
5	Microphone	85	14(14.0)	86(86.0)	Not Available
6	Electronic notice board	85	4(4.0)	96(96.0)	Not Available
7	Modem	85	5(5.0)	95(95.0)	Not Available
8	Video recorder	85	0(0)	100(100.0)	Not Available
9	Satellite Dish	85	0(0)	100(100.0)	Not Available
10	USB cord/card reader	85	17(17.0)	83(83.0)	Not Available
11	UPS	85	24(24.0)	76(76.0)	Not Available
12	Digital camera	85	3(3.0)	97(97.0)	Not Available
13	White board	85	19(19.0)	81(81.0)	Not Available
14	Cell phone	85	28(28.0)	72(72.0)	Not Available

As shown on table 4, projectors, radio (tape recorder), television sets, microphone, electronic notice board, modem, video recorder, satellite dish, USB cord/card reader, UPS, digital camera, white board, cell phone were not available while computer sets were available.

Research Question Two: *How adequate are the personnel to operate the ICT devices in Literacy/Adult Centres in Ibadan North L.G.A?*

The instrument was measured on a 4 items Likert scale of: Strongly Agree (1), Agree (2), Disagree (3) and Strongly Disagree (4) with an average mean response of at least 2.5 being the bench mark for ascertaining adequacy.

Table 2: Mean Responses of Adequacy of Personnel to Operate ICT devices

S/N	Adequacy of Personnel to Operate ICT devices	N	MEAN RESPONSE	INTERPRETATION
1	There is adequate personnel to operate ICT devices in your schools	85	2.2100	Not adequate
2	There is development programme for ICT personnel in your school	85	1.9500	Not adequate
3	There is motivation for the use of ICT in your school	85	2.1212	Not adequate
4	Most of the ICT devices in your school are in good condition	85	1.8700	Not adequate
5	Most of the ICT devices in your school are of current standard	85	1.8300	Not adequate

As shown on Table 2; with a mean response of 2.21, 1.95, 2.12, 1.87, 1.83 and 1.96; all below 2.5 of the average means response, adult centres do not have adequate personnel to operate ICT device, there was no development programme for ICT personnel, there is no motivation for the use of ICT, the available ICT devices are not in good condition, and the available ICT devices are sub-standard respectively.

Research Question Three: How do adult learners make use of the available resources?

The instrument was measured on a 4 items Likert scale of: Strongly Agree (1), Agree (2), Disagree (3) and Strongly Disagree (4) with an average mean response of at least 2.5 being the bench mark for ascertaining usage.

Table 3: Mean response of how Adult learners make use of the available resources

S/N	ICT RESOURCE UTILIZTION	N	MEAN RESPONSE	RESPONSE INTERPRETATION
1	The use of ICT facilities improves the teaching and learning in adult centres	85	3.5612	Affirmative
2	The use of ICT facilities attracts adults attention	85	3.6392	Affirmative
3	The use of ICT facilities helps adults to learn at their own pace	85	3.1633	Affirmative
4	The use of ICT facilities extends a wide range of experiences to the adults	85	3.4687	Affirmative
5	Adults performance increase at the adoption of ICT facilities	85	3.2990	Affirmative
6	Adults get bored with the use of ICT facilities	85	1.8632	Non-affirmative
7	The use of ICT do not contribute to the success of adults in examination	85	1.7789	Non-affirmative
8	Most facilitators do not use ICT facilities while teaching	85	2.9479	Affirmative
9	The use of ICT facilities in teaching hamper the duration of other subjects on the timetable	85	2.5312	Affirmative
10	The use of ICT waste money, time and hence, it should be abolished	85	1.6495	Non-affirmative

's agreed that ICT facilities use improves the teaching and learning in adult learners, attracts adults' attention, helps adults to learn at their own pace, extends a wide range of experiences to the adults and helps to improve adults' performances. The respondents also observed that adults do not use ICT facilities while teaching and the use of ICT facilities in teaching also hamper the duration of other subjects on the timetable. Also as shown on the table, with a mean response of less than 2.50, adults do not get bored with the use of ICT facilities and the use of ICT contributes to the success of adults in examination and does not waste money and time.

Hypotheses Testing

Three null hypotheses were formulated in this study and tested at 0.05 level of significance. Hypothesis one was tested using t-test while hypotheses two and three were tested using ANOVA statistical analysis.

Ho_1: *There is no significant difference in adult learners* utilization of ICT devices in Ibadan North L.G.A on the basis of gender.

The data collected from the study was analyzed as shown on Table 4.

Table 4: t-test summary of the difference in adult learners Utilization of ICT devices in Ibadan north L.G.A on the basis of gender

Gender	N	Mean	Std. Deviation	df	Cal. T	p-value	Decision
Male	21	28.4762	2.33707				
Female	64	27.5625	3.10593	83	1.236	.220	Do not reject

As shown on table 4; the p-value: 0.22 is greater than sig value: 0.05 and so the decision is do not reject hypothesis one. This means that there is no significant *difference* in adult learners' utilization of ICT devices in Ibadan North L.G.A on the basis of gender.

H_{02}: *There is no significant difference in adult learners Utilization of ICT devices in Ibadan North L.G.A on the basis of qualification*

The data collected from the study was analyzed as shown on Table 5.

Table 5: Analysis of Variance Summary table on the difference in adult learners utilization of ICT devices in Ibadan north L.G.A on the basis of qualification

Source	Sum of Squares	df	Mean Square	F	p-value	Decision
Between Groups	3.793	2	1.897	.214	.808	Do not reject
Within Groups	726.395	82	8.858			
Total	730.188	84				

As shown on table 5; the p-value: 0.808 is greater than p- value: 0.05 and so the decision is to accept hypothesis two. This means that there is no significant difference in adult learners Utilization of ICT devices in Ibadan north L.G.A on the basis of qualification.

H_{03}: *There is no significant differences in adult learners Utilization of ICT devices in Ibadan north L.G.A on the basis of years of experience*

The data collected from the study was analyzed as shown in Table 6.

Table 6: Analysis of Variance Summary table on the difference in adult learners Utilization of ICT devices in Ibadan North L.G.A on the basis of qualification

Source	Sum of Squares	df	Mean Square	F	p-value	Decision
Between Groups	93.914	6	15.652	1.919	.088	Do not Reject
Within Groups	636.275	78	8.157			
Total	730.188	84				

As shown on table6; the p-value: 0.088 is greater than p- value: 0.05 and so the decision is to accept hypothesis three. This means that there is no significant difference in adult learners Utilization of ICT devices in Ibadan North L.G.A on the basis of years of experience.

Discussion of the Findings

Based on the data collected, analyzed and interpreted, the following findings are obtained. Finding revealed that only computer sets were available in many adult centres while projectors, radio (tape recorder), television sets, microphone, electronic notice board, modem, video recorder, satellite dish, USB cord/card reader, UPS, digital camera, white board, cell phone were not available. This is in line with Aja (2013) that many factors which include inadequate funds, poor condition of electricity, facilitators' incompetence and pervasive poverty in the society are challenges facing availability of ICT in most adult centres. Many adult education centres in Ibadan north L.G.A do not have adequate personnel to operate ICT device, there was no development programme for ICT personnel, while the available ICT devices are not in good condition, and are sub-standard. It becomes obvious that adult facilitators maximize ICT gain in their career through computer literacy skills acquisition (Akindolu, 2000). It is only computer literate facilitators and adult learners that can effectively use vast electronic information available in the world for teaching improvement (Okafor, 2006).

Adult facilitators agreed that ICT facilities use improves the teaching and learning in adult centres, attracts adult learners' attention, helps them to learn at their own pace, extends a wide range of experiences to improve their performances. This is line with Slinger (2005), and Okafor (2006) that learning is more robust and the knowledge and understanding of adult learners increases when ICT is used to teach them. This will give them the opportunities to use computer to improve their learning. Also adult facilitators also will maximize ICT gain in their careers through computer literacy skills that they acquired. This will help them to be competing with their counterparts at any level in the world. The respondents also observed that their facilitators do not use ICT facilities while teaching and the use of ICT facilities in teaching also extends the duration of other subjects on the timetable. This is in line with Akindolu (2006) opined that if ICT is not inculcating in adult centres, it will reduce their potential and limit the level of impacting knowledge into the adult learners. There is a finding that adult learners do not get bored with the use of ICT facilities and the use of ICT contributes to the success of adults' success and does not waste money and time. There was no significant difference in adult learners' utilization of ICT devices in Ilorin metropolis on the basis of gender, qualification as well as years of experience.

Recommendations

The following recommendations were made based on the findings of the study:

1. There should be adequate provision of ICT facilities in literacy/adult education centres, periodical personnel training should be a top priority and adequate maintenance of ICT facilities within centres should be encouraged.
2. There should be constant check and replacement among the regular routines in all the ICT centers, and upgrading to the latest standard of all the ICT devices.
3. Motivation should be given to the facilitators for the usage of the available ICT facilities. Culture of maintenance should be encouraged among all the users of ICT facilities especially the adults.

4. There should be the provision of library facilities as most of the learners think it will help them to study better.
5. Government should put in place policies that will guide the establishment of adult centres to have resources that are required for successfully implementation of the programme.

Conclusion

The study shows that adult centres in Ibadan North L.G.A do not have adequate personnel to operate ICT devices. This was confirmed through the responses gathered from the respondents. The study also showed that centres are poorly equipped with ICT facilities. This was so because few respondents indicated the presence of projectors, radio (tape recorder), television sets, microphone, electronic notice board, modem, video recorder, satellite dish, USB cord/card reader, UPS, digital camera, white board and cell phone. Those that are present were not sufficient enough. The study also shows that there is significant influence on adult success through the use of ICT facilities in adult centres within Ibadan North L.G.A. This may mean that ICT facilities have been of great help to both adults and teaching-learning processes in Ibadan North L.G.A.

References

Aja S.N (2013). Information and Communication Technology opportunities and challenges in the Nigerian Education system. *Qualitative Education,* 9(3).

Akele F.E. (2013). Information Communication Technology as Teaching and Learning space for teachers of English language in Schools. *Journal of Emerging trends in Educational Research and Policy Studies,* Vol 5(1), 100.

Angadi G.R (2014) "An Effective use of ICT as a Change Agent for Education". *Online International Interdisciplinary Research Journal,* 14,-516-528. SSN 2249-9098,

Badmus A. M (2004). Computer Instruction: An approach that expedites the system of Education. *Niger. J. Computer Literacy. Ibadan:* University of Ibadan.

Collins. A (1996),"Design Issues for Learning Environments". In S. Vosniadou (Ed), *International Perspectives on the design of technology – Supported Learning Environments*, Pp347 – 361.

Gannon D (2004). Information and Communication Technology (ICT) in the Primary Schools: *Guidelines for Teachers*.

Hadded B & Draxler T. (2012). Advantages of Information and Communication Technologies.

Homby as (2004). *Oxford Advanced Learners Dictionary*. New York: Oxford University Press.

National Open University of Nigeria (2012). Information and Communication Technology Course Guide.

Ngurukwem T.L (2006). Information Technology as instrument for Management Transformation

Ngwu, O. G., (2004). Assessment of Availability and Utilization of ICT resources in teaching in F.C.E. Eha-Amufu Enugu, Nigeria.

Oliver, R. (2000). Creating meaningful context for learning in web-based settings. Proceedings of Open Learning", *Brisbane: Learning Network Queensland*. PP 53 – 62.

Oluwaronbi, O (2012). ICT and Education in Nigeria. A seminar paper presented at the Department of Educational Technology, Obafemi Awolowo Univesity, Ife.

Plomp T. (2006) International ComparativeSurvey of Pedagogical Practices and ICT in Education

Slinger, M. (2005) The Impact and Role of ICT in the delivery of Education and Training in Africa

Ugwu, R.N. & Obegbulem, A.I (2014). Information and Communication Technology (ICT): Capacity building for staff personnel in Post Primary Schools for effective schools administration. *International Journal for Educational Research*, 11(1), 190-201.

Watson, O.M. (2001). Pedagogy before Technology: RE thinking the relationship between ICT and Teaching Education and Information Technologies 6(4).