

INFORMATION & COMMUNICATION TECHNOLOGY TOOLS FOR EFFECTIVE PERFORMANCE OF ADULT LEARNERS IN PORT HARCOURT METROPOLIS, RIVERS STATE.

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ABSTRACT

The study investigated Information & Communication Technology on Effective Performance of Adult Learners in Port Harcourt Metropolis, Rivers State. The study adopted a descriptive survey design, two research questions and one hypothesis guided the study. The population of the study comprised thirty five (35) adult learning facilitators and one thousand nine hundred and fifty five (1,955) adult learners in 35 adult learning centres in Port Harcourt Metropolis, Rivers State. The sample size for the study comprised thirty (35) facilitators and one hundred and ninety five (195) adult learners. The population of facilitators was used as a census due to its small size, while the simple random sampling technique was used to obtain the sample size of the adult learners which is a proportionate 10% of the total population of the adult learners. The instrument titled "Information & Communication Technology on Effective Performance of Adult Learners Questionnaire (ICTEPALQ)" was used for data collection. The ICTEPALQ questionnaire was structured using the four point Lickert rating scale response pattern of Very High Extent (VHE) = 4points, High Extent (HE)= 3points, Low Extent LE = 2points, and Very Low Extent (VLE) = 1point. The researcher employed the face and content validity methods and established a reliability of the instrument through the test-retest technique. The Pearson Product Moment Correlation Coefficient Statistics was used to arrive at a reliability index of 0.80. mean and standard deviation statistics were used to answer the research questions, while Z-test statistics was used to test the null hypothesis at 0.05 level of significance. The study among others revealed that the availability of audio visual materials in teaching the adult learners in the adult learning centres to a high extent enhanced the performance of learners. It was recommended among others that government and other non-governmental organizations should support the provision of modern, and adequate ICT tools such as audio-visual materials, projectors and internet facilities etc., for the enhancement of the acquisition of skills in adult learning centres in Port Harcourt Metropolis.

Keywords: Adult Education, Adult Learner, Information & Communication Technology.

INTRODUCTION

Education is faced with multiplicity of issues. These issues include access, quality, relevance, amongst others. Research in the field of education has the ultimate goal of adding value to the educational process of the nation. The National Policy on Education (FRN, 2004) describes education as an instrument for national development. It also recognizes the place of ICT in education, as Articles 101(a), 102(a) and 102(b) are predominantly concerned with ICT. Following the fact that education has become the bedrock of the development of the society.

Adult Education play a very crucial role in the development process of any society. It is widely recognized as a powerful tool for eradicating adult illiteracy, reducing poverty, and attaining the Sustainable Development Goals

(SDGs). It provides basic education and training opportunities to adults and out of school youths, aged fifteen years and above, who have either missed out on formal education in their childhood or for one reason or another, dropped out of school before attaining sustainable levels of literacy (Wanyama in Wami & Deekor, 2020).

The supposed target of every nation is to make life easy, cheap and comfortable for her citizens. It is this intention that drives nations into embarking on many activities some of which are political, economic, social, religious, cultural, technological, etc., to raise the capital base of the nation. As posited by Nzeneri (2014), the purpose of adult education centres on individual, group and societal needs, interest and aspirations. These educational needs and purposes border on the areas of liberating people from ignorance, poverty, malnutrition, poor health, idleness, social and economic ills and assist them to advance towards improvement of self and others.

The adult learner may be looked at the point of view of his functions or life activities and from the point of view of his educational needs which constitute forces for him to engage in adult education activities. An adult learner can be defined as anyone who consciously or unconsciously, formally, informally or non-formally engages him or herself in any adult educational programme(s) with an intent to solve life problems. The adult learner can be defined as one who desires more skills to enable him face life challenges to make him survive, gain better employment, be more productive, healthier, and happier; one who desires being a good citizen and a liberated or developed individual.

According to Kobani (2018), there are variations in literature concerning classification of instructional resources, media or materials as some authors call it. In her classification and use of instructional resources in adult education the following were discussed, audio media, visual media, audio-visual media, printed and non-printed media, and projected and non-projected media. In the cause of this study, we will be laying emphasis on the use of audio-visual and internet facilities as part of ICT materials to enhance learners' performance in Port Harcourt Metropolis. Stepping up to technology in Adult Education towards awareness of dissemination of quality instruction has become very imperative. It is meant to support adult educators in using ICT tools such as the digital media, audio-visual materials, and internet facilities in their working framework. Adult Education project focuses on building the ICT capacity of adult educators and adult learners in their specific occupational context. It is mainly focused on training and workplace practices and aims for impact on the awareness of strategic and operational inclusion of the potential of technology for learning by adult education provider organizations or adult centres. The study is carried out to help every adult educator and adult learner to use e-learning methods, tools, and techniques from the planning phase to the evaluation of participants' learning phase. Information & Communication Technology (ICT) is central to every human activity. It is quite unfortunate that not every one that has the privilege to access or relating with it possess the necessary skill and technical know-how to do so. For this reason, the use of Information and Communication technologies have been given a major set-back.

According to Igbojinwaekwu (2013), instructional materials are broad ranges of resources, which can be used to facilitate effective and efficient communication. One of such instructional materials is the audio-visual material. Audio-visual material is a type of instructional material that aids in making ideas or concepts clearer in instructional programmes but should not be regarded as a substitute for good teaching (Moronkola, 2012). Gbodi & Laleye (2006) posited that videotaped recorder is an audio-visual material useful for programming instruction on topics that are abstract and difficult to explain verbally. Audio-visual aids are most effective tools for developing flawless communication and interaction between student and content as well as student and teacher. These aids not only help to save the time of teacher but also help in developing and arousing curiosity, creativity and motivation. It emphasizes on the comprehension of knowledge and concept as well as keeps working on developing sound foundations for higher and further studies. According to Anzaku (2011), the term audio-visual materials is commonly used to refer to those instructional materials that may be used to convey meaning without complete dependence upon verbal symbols or language.

Ihejirika in Kobani (2018) opined that audio-visual media are those resources that rely on the sense of hearing and seeing for teaching and learning i.e., they have both aural and visual appeal. All together they include cinema film projector (16mm and 18mm sound film), video recordings, television and sound filmstrips as well as synchronized audio slides presentation. Visual aids are any devices which can be used to make the learning experience more real, more accurate and more active. Visual aids are tools that help to make an issue or lesson clearer or easier to understand and know (pictures, models, charts, maps, videos, slides, real objects etc.). Mkpa (2003) opined that people remember ten percent (10%) of what they hear, twenty percent of what they see, twenty percent of what they do, and fifty percent of what they hear, see and do, hence, management of learning resources is paramount in teaching and learning. Furthermore, while the importance of audio-visual aids cannot be overemphasized, it is

important to note that it draws attention of the participants, secure interest in the information being discussed, transmit information quickly and efficiently to a large number of people, explain facts, ideas and processes more clearly, illustratively and elaborately, facilitate the learnt information to be retained as memory, present information in an organized way and enhance the confidence level and enthusiasm of the facilitator. It is no doubt that with the objectives on the use of audio-visual materials in disseminating instruction to the adult learner, success will be guaranteed with an increased interest in enrollment.

In this Era of Technology, many colleges and universities have transformed their traditional classrooms into high-tech classrooms with the use of the Internet as the foundation of the transformation. In today's Internet era, it has become imperative that internet-based technology now plays a significant role in education, whereby it provides educators and facilitators with the opportunity to a wide range of instruction and learning opportunities. However, the internet and the World Wide Web (www) are providing students and teachers with a medium through which development information technology handling skills and the use of student-focused teaching paradigms can be a reality. The gap of the so-called "digital divide" between those who had access to advance technology and those who did not, which became an important topic of discussion among scholars in the late 1990s, is rapidly becoming faint. Technologies have become cheap and available to, not only the rich but to everyone, including the poor (Johnson, 2011; Day, Janus & Davis, 2005). Over the past decade, digital technologies have gone from being an optional tool for few to a required too for the majority (warshauer & Liaw 2010).

Following the importance of internet use in adult learning, adult learners are able to engage more fully with course content using different media and can interact with others in a way that makes learning more effective. On a more personal level, students may find learning and interacting online less intimidating than meeting other students and tutors face-to-face. People with disabilities, especially, may welcome the anonymity and lack of prejudice electronic communication allows.

Visual

aid is anything which either helps the students to see better using diagrams or pictures to explain an idea. Media are the teaching aids by which knowledge, information and ideas are

communicated . There are 3 different types of media which are used in teaching learning process, viz.

1. Visual materials: slides, overhead projectors, epidiascope, chalk boards, maps, models, posters, photographs etc.
2. Audio-visuals: television, video tape, computer, films etc.
3. Audio materials: radio, tape, language laboratory, sound distribution system sets etc.

Of these media, audio visuals aids are being used increasingly and widely to make the teaching learning process effective, interesting and impactful. Audio visual aids are instructional materials. Audio literally means 'hearing' and visual means that which is found by seeing. So, all such aids which endeavor to make the knowledge clear to us through our sense are called

audio visual aids .

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Specialties of using audio-visual aids

Audio-visual aids help to:

- a) Draw attention of the participants
- b) Secure interest in the information being discussed
- c) Transmit information quickly and efficiently to large number of people
- d) Explain facts, ideas and processes more clearly, illustratively and elaborately
- e) Facilitate the learnt information to be retained as memory

- f) Present information systemically in an organized way
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Every member of the society is directly or indirectly influenced by the activities rendered by Information & Communication Technology (ICT). The availability and use of Information & Communication Technology has proven very helpful especially in teaching and learning. Based on this, Information, Communication, Technology is believed to be the fulcrum upon which the educational parlance is hinged on, especially in the adult learning centres, and should be made available to fill the gap. Information and Communication Technology (ICT) is very key to an institution and learners that wish to improve on the standard of institution, learners and at the same time counting its achievements because of useful information, Communication, Technology employed.

Although Information and Communication Technology has several definitions and is multi-faceted depending on the nature of its use. For this study, Information & Communication Technology is used as an umbrella term that includes any Communication device or application, comprising radio, television, cellular phones, projectors, computer and network, hardware and software, satellite systems, as well as the various services and applications associated with them, such as video conferencing and distance learning. We refer to Information & Community Technology in the context of Information, Communication, Technology provision, policy and teacher factors that variously support teaching, learning and a range of activities in education.

It has been argued that Information & Communication Technology is a principal driver of economic development and social change worldwide (Kozma, 2005; Leech, 2008). In many countries, the need for economic and social development is used to justify investments in educational reform and in educational Information & Communication Technology. Another notable argument to this effect is by Kelles-Viitanen (2003) who referring to developing countries in general, commented that Information & Communication Technology plays a major role in all aspects of national life: in politics, in economic life, as well as in social and cultural development. She further argued that

Information & Communication Technology is rapidly transforming the way people do business, access Information and services, communicate with each other even entertain themselves.

Additionally, the world is being reduced to a global village using Information & Communication Technology thus, it promotes national development and better relationship with other nations. It also, refers to the electronic and Communication devices associated with human interactive materials that enable users to employ them for a whole range of teaching and learning, process.

Information & Communication Technology is the fusion of two technologies: they are Information Technology (IT) and Communication Technology (CT). Information, Communication, Technology embraces all technologies for manipulative Communication of information and encompasses any medium used to record Information such as: radio, television, etc., and Technology for Communication through voice and sound or images using microphone, camera, loudspeaker, telephone/mobile phones. According to Fari (2010), Information & Communication Technology facilities are described as all the facilities available for the identification, generation, processing, storage, packaging, preservation, conservation, and transfer of Information, regardless of time and distance constraints.

The National Policy on Education states that education is an instrument for effecting national development (FRN, 2004). It makes the incorporation of Information, Communication, Technology into teaching-learning process a vital instructional tool in fostering the national educational goals and development. To buttress this, Galenouch, Gordlier & Murphy (2004), opined that the development and role of Information & Communication Technology in educational sector is believed to set the pace for any form of innovation and changes that can ever happen to any nation. It was asserted by Albirini (2006) that the winds of change in today's education sector have made ICT to be programmed towards meeting the set educational goals.

Adult education manifesto in ICT on academic performance of the adult learner is an attempt to look at how ICT might be an element in a core of the common profile of an adult educator and learner. ICT competencies, after all, are important and (too) many adults, including adult educators and learners, are still struggling to come to grips with how ICTs can contribute to acquiring the knowledge and skills needed to exploit opportunities and to participate fully in society. Most adult learners are bread winners and as such embark on different economic activities making it a bit difficult for them to meet up with regular learning activities, this has led to poor academic performance of good number of them. ICT provide the adult learner the opportunity to embark on distance learning, carry out instructions and continues assessments in a more conducive manner. It is based on this premise, to increase the awareness and bring to fore the importance of ICT for adequate learning for adult learners that the researcher decided to carry out the study on adult education manifesto in ICT on academic performance of adult learners in Port Harcourt Metropolis.

Purpose of the Study

The purpose of this study is to investigate information & communication technology for effective performance of adult learners in Port Harcourt Metropolis, Rivers State. The specific objectives of the study include the following:

1. Investigate the influence of audio-visual materials on the effective performance of adult learners in Port Harcourt Metropolis of Rivers State.
2. Verify the availability of internet facilities in the adult education centers to influence the effective performance of adult learners in Port Harcourt metropolis of Rivers State.

Research Questions

1. To what extent has audio visual-materials influenced effective performance of adult learners in Port Harcourt Metropolis of Rivers State.
2. To what extent has the availability of internet facilities influenced the effective performance of adult learners in Port Harcourt Metropolis of Rivers State.

Hypotheses

Ho₁. There is no significant difference in the mean responses of facilitators and adult learners on the extent to which audio-materials influence performance of adult learners in Port Harcourt Metropolis of Rivers State.

Ho₂. There is no significant difference in the mean responses of adult learners and facilitators on the extent to which availability of internet facilities influence the performance of adult learners in Port Harcourt Metropolis of Rivers State.

Methodology

The study adopted the descriptive survey design with a population of one thousand nine hundred and fifty five (1,955) adult learners and thirty five (35) adult facilitators in thirty five (35) adult education centres in Port Harcourt Metropolis of Rivers State. The sample size for the study comprised one hundred and ninety five (195) adult learners and thirty five (35) adult facilities in thirty five (35) adult education centres in Port Harcourt Metropolis. The one hundred and ninety five (195) adult learners represented a proportionate 10% of the total population of adult learners in certain adult education centres in Port Harcourt Metropolis, while the thirty five (35) facilitators were used as a census. A validated 15-item questionnaire titled "Information & Communication Technology for Effective Performance of Adult Learners Questionnaire (ICTAPALQ)" developed by the researcher was used for data collection. The questionnaire was structured using the 4-point Likert rating response scale of Very High Extent (VHE) 4points, High Extent (HE) 3points, Low Extent (LE) 2points, and Very Low Extent (VLE) 1point. The reliability of the instrument was established through the test-retest technique. The responses were collated and analysed using the Pearson Product Moment Correlation Coefficient Statistics that yielded a reliability coefficient of 0.80 index. Two hundred and thirty (230) copies of questionnaire (195 adult learners and 35 adult facilitators) were administered to the respondents. Out of 230 copies administered, only 229 copies (194 adult learners and 35 adult facilitators) were correctly filled and retrieved, representing 99% retrieval rate.

Mean and standard deviation were used in answering the research questions, while the Z-test was used in testing the hypotheses at 0.05 level of significance. Decisions were based on the 4points response pattern of Very High Extent (VHE), High Extent (HE), Low Extent (LE), and Very Low Extent (VLE). Any value from 3.50 – 4.00 is regarded as VHE, 2.50 – 3.49 is regarded as HE, 1.50 – 2.49 is regarded as LE, and 0.50 – 1.49 is regarded as VLE. A null hypothesis is rejected if the calculated z-value is more than the critical z-value of 1.96 and accepted if the calculated z-value is less than the critical z-value of 1.96.

Results

The results obtained in this study after data analysis were presented and analyzed below.

Research Question 1: To what extent has audio visual-materials influenced effective performance of adult learners in Port Harcourt Metropolis of Rivers State?

Table 1: Extent to which audio visual-materials influence effective performance of adult learners in Port Harcourt Metropolis of Rivers State.

S/N	Items	Adult learners (N=195)		Remarks	Facilitators (N=35)		Decision
		\bar{X}_L	SD _L		\bar{X}_E	SD _F	
1	Audio visual materials enabled learn effectively.	3.29	0.89	High Extent	2.93	1.03	High Extent
2	I can learn from the comfort of my house or office with the use of my computer.	2.94	1.08	High Extent	2.70	1.05	High Extent
3	the disharmony between my parents. The projector makes learning easier and more interesting.	3.03	1.04	High Extent	2.57	1.08	High Extent
4	With the use of audio-visual materials understanding has become a lot easier.	2.91	1.07	High Extent	2.57	1.08	High Extent

5	Communication has become more effective with the use of audio-visual materials.	3.20	0.90	High Extent	2.56	1.08	High Extent
Grand Mean and SD		3.07	1.00		2.66	1.06	

Source: Field Survey, 2021

The data on table 1 revealed that item 1-5 have mean values that fell within the range of high extent. Therefore, with a grand mean of 3.07 for adult learners and 2.66 for adult facilitators, it was evident that both adult learners and adult facilitators agreed to high extent that audio-visual materials as ICT tools influenced the effective performance of adult learners in adult education centres in Port Harcourt Metropolis, Rivers State.

Research Question 2: To what extent has the availability of internet facilities influenced the effective performance of adult learners in adult education centres in Port Harcourt Metropolis, Rivers State?

Table 2: Extent to which availability of internet facilities has influenced the effective performance of adult learners in Port Metropolis, Rivers State.

S/N	Items	Adult Learners (N=195)			Facilitators (N=35)		Remarks
		\bar{X}_L	SD _L	Re marks	\bar{X}_E	SD _F	
6	Internet facilities have increased opportunities for learning in and beyond the classroom.	2.77	1.00	High Extent	2.87	0.98	High Extent
7	Teachers use online materials to prepare lesson and students to extend their range of learning.	2.89	1.08	High Extent	2.71	1.13	High Extent
8	It has opened doorways to a wealth of information for facilitators and learners.	2.97	1.07	High Extent	2.65	1.12	High Extent
9	Research has become easier with the use of google search engine.	2.94	1.03	High Extent	2.59	1.11	High Extent
10	I can now submit my assignments and homework online without physically going to school.	2.83	1.04	High Extent	2.64	1.19	High Extent
Grand Mean & SD		2.88	1.04		2.69	1.11	

Source: Field Survey, 2021

The data on table 2 revealed that item 6-10 have mean values that fell within the range of high extent. Therefore, with a grand mean of 2.88 for adult learners and 2.69 for adult facilitators, it was evident that both adult learners and adult facilitators agreed to high extent that availability of internet facilities as ICT tools influenced the effective performance of adult learners in adult education centres in Port Harcourt Metropolis, Rivers State.

Hypothesis 1: There is no significant difference in the mean responses between adult learners and facilitators on the extent to which audio-visual materials have influenced the effective performance of secondary school students in Port Harcourt Metropolis, Rivers State.

Table 3: Z-test analysis of difference in responses of adult learners and facilitators on the extent audio-visual materials influence effective performance of adult learners in Port Harcourt Metropolis, Rivers State.

Respondents	N	\bar{X}	SD	DF	Level of Significance	z-Cal.	z-Crit.	Decision
Teachers	35	3.07	1.00	227	0.05	1.21	± 1.96	HO ₁
Students	195	2.66	1.06					Accepted

Source: Field Survey, 2020

The data on table 3 showed that the z-test statistics calculated and used in testing the hypothesis stood at 1.21 while the critical z-value stood at 1.96, using 227 as degree of freedom at 0.05 level of significance. Since the calculated z-value is less than the critical z-value, hypothesis therefore, was accepted by the researcher.

Hypothesis 2: There is no significant difference in the mean responses between adult learners and facilitators on the extent to which internet facilities have influenced the effective performance of secondary school students in Port Harcourt Metropolis, Rivers State.

Table 4: Z-test analysis of difference in responses of adult learners and facilitators on extent to which internet facilities influence the effective Performance of adult learners in Port Harcourt Metropolis, Rivers State.

Respondents	N	\bar{X}	SD	DF	Level of Significance	z-Cal.	z-Crit.	Decision
Teachers	35	2.88	1.04	227	0.05	0.98	± 1.96	HO ₁
Students	195	2.69	1.11					Accepted

Source: Field Survey, 2020

The data on table 4 showed that the z-test statistics calculated and used in testing the hypothesis stood at 0.98 while the critical z-value stood at 1.96, using 227 as degree of freedom at 0.05 level of significance. Since the calculated z-value is greater than the critical z-value, hypothesis therefore, was accepted by the researcher.

Discussion of Findings

Results from Table 3 produced 1.21 z-test analysis of difference in responses between adult learners and facilitators on influence of audio-visual materials on effective performance of adult learners in adult education centres in Port Harcourt Metropolis of Rivers State. This implied that there is no significant difference in their mean responses. On the extent to which audio-visual materials have influenced effective performance of adult learners in adult education centres in Port Harcourt Metropolis in Rivers State. Results in Table 1 revealed that audio-visual materials have caused adult learners to be able to learn effectively; can learn from the comfort of their homes and offices; projector makes learning easier and more interesting; understanding has become easier, and communication has become more effective.

These findings are in agreement with Ihejirika in Kobani (2018) who opined that audio-visual media are those resources that rely on the sense of hearing and seeing for teaching and learning, i.e., they have both aural and visual appeal. All together they include: cinema film projection (16mm and 18mm sound film), video recordings, television and sound filmstrips as well as synchronized audio slides presentation. Igbojinwaekwu, (2013) supported the argument as he averred that instructional materials are broad ranges of resources, which can be used to facilitate effective and efficient communication. One of such instructional materials is the audio-visual material.

Results from Table 4 produced 0.98 z-test analysis of difference in responses between adult learners and facilitators on influence of internet facilities on effective performance of adult learners in adult education centres in Port Harcourt Metropolis of Rivers State. This implied that there is no significant difference in their mean responses. On the extent to which internet facilities have influenced effective performance of adult learners in adult education centres in Port Harcourt Metropolis in Rivers State. Results in Table 1 revealed internet facilities have increased opportunities of learning in and beyond the classroom, teachers use online materials to prepare lesson and students to extend their range of learning, it has opened doorways to a wealth of information, research has become easier with use of google search engine, and I can now submit my assignments and homework online without going to school.

These findings are in agreement with (Kozma, 2005; Leech, 2008) who argued that Information & Communication Technology is a principal driver of economic development and social change worldwide. In many countries, the need for economic and social development is used to justify investments in educational reform and in educational Information & Communication Technology. Another notable argument to this effect is by Kelles-Viitanen (2003) who referring to developing countries in general, commented that Information & Communication Technology plays a major role in all aspects of national life: in politics, in economic life, as well as in social and cultural development. She further argued that Information & Communication Technology is rapidly transforming the way people do business, access Information and services, communicate with each other even entertain themselves.

Conclusion

There is no doubt that audio-visual aids and internet materials as information and communication technology tools can aid process of teaching and learning as well enhances adult learners' performance. The introduction of ICT tools to education demand for retraining and reorientation of adult learners and facilitators demand for retraining and reorientation of learners and facilitators (facilitators and those involved in the teaching and learning process), this will call for effective utilization of the available ICT facilities which help in realization of learners needs. Information and Communication Technology will become a powerful tool in transforming several educational practices. Persistent application and development of ICT in the educational system will have a strong influence on teaching and learning as stated earlier as process, accessibility of education, motivating learners, creating a congenial learning environment, and improving performance of adult learners in Port Harcourt Metropolis, Rivers state in general and Nigeria at large.

Recommendations

Based on the findings of this study, the following recommendation were made.

1. There is need for the adult education centres to invest more in computers and related technology as means of not only solving accessibility problem but improving on the presence of the facilities especially computers in the classroom library and computer lab.
2. There is a need to maintain internet connection in the adult education centres and connect more computers to the internet. The centres should then liberalize accessibility of internet and e-mail in form of establishment of ICT resource centers where all software can be accessed, afforded or visit commercial ICT providers like internet cafe to access ICT facilities.
3. Training in ICT skills should not be limited to Micro-soft Office suits; the programme providers integrate other programs and packages as recommended by UNESCO (2013) curriculum for schools. Clearly a basic level of ICT skill must be achieved but this should be followed by an integrated approach to ICT and learning. The aim should be for embedding ICT firmly into the teaching and learning process so that it is no longer considered a separate and discrete element. Such changes may offer the potential to improve on teaching and learning using modern technology.

REFERNCES

- Albirini, A. A. (2006) Teacher's attitudes toward information and communication technologies: The case of Syrian EPL teachers. *Journal of Computers and Education*, 47, 373 – 398.doi: 101016/J. Compedu. 2004.10.013.
- Anzaku, F. C. (2011). Library experts speaks on audio-visual material. *A paper presented at the United Nations Educational Scientific and Cultural Organization (UNESCO). World day for audio-visual heritage Lafia.*

- Day, J., Janus, A. & Davis, J. (2005). *Computer and internet use in the United State*. Washington, D.C. US census bureau
- Fari, S. A. (2010). Application of ICTs in Information sharing among academics in Nigeria; UMYU. *Journal of Educational Research*, 2(1): 185 – 190.
- Federal Ministry of Education (2010). *National Policy on Information Technologies (ICT) in Education*.
- Federal Republic of Nigeria (2004). *National policy on education*. 4th edition. Lagos: NERDC – press
- Federal Republic of Nigeria (2004). *Nigeria National Policy for Information Technology (IT)*. (Online). <http://www.nitda.gov/docs/policy/ngitpolicy.pdf> (accessed January 20, 2020).
- Gbodi, E. B. & Lalaye, A. M. (2006). Effect of videotaped instruction in learning of integrated science. *Journal of research I curriculum and teaching*. 1(1), 10-19.
- Igbojinwaekwu, P. C. (2013). Impact of videotaped instruction on learning of mathematics at senior secondary school level. *Global academic group*, 3(1), 30-39.
- Johnson, M. (2011). *Adult learners and technology: how to deliver effective instruction and overcome barriers to learning*. A Publication of SON Jos State University.
- Kelles-Viitanen, A. (2003). *The role of ICT in poverty reduction*, pp 82-94. Retrieved from [http://www.etla.fi/feles/895 FES 03 1 role of ICT. PDF](http://www.etla.fi/feles/895/FES_03_1_role_of_ICT.PDF) (December. 15, 2020).
- Kobani, D. (2018). *Adult education: method and materials*. Published in Nigeria by University of Port Harcourt Press Ltd, University of Port Harcourt Post Office Box 50, University of Port Harcourt, Port Harcourt, Nigeria.
- Kozma, R. (2005). *ICT and education reform in development and developing countries*. Paris: OECD. Retrieved on 12 January 2021 from <http://download.intel.com/education/wsis/ICT-Education-Reform-Economic-Growth.pdf>.
- Mkpa, M. A. (2003). *Identification of the neglected but vital areas in the professional presentation of primary school teachers in Imo State, Nigeria*. Development of primary school teacher education.
- Moronkola, D. A. (2012). *School Educational Programme Ibadan*. Royal people Nigeria Ltd.
- Nzeneri, I. S. (2008). *Adult education, methods and materials*. Port Harcourt: University of Port Harcourt Press.
- UNESCO. (2013). *Information and Communication Technology in Education: a curriculum guide for schools and programs of Teacher development*. Division of Higher Education. Available on line at <http://unesco.org/images/0012/001295/129538e.pdf>.
- Wami, K. C. & Deekor, H. L. (2020). Adult education manifesto on peace and voter education for political emancipation in Rivers State, Nigeria. *Rivers State University Journal of Education (RSUJOE)*, ISSN:2735-9840, 2020, volume 27(182).

Warshauer, M. & Liaw, M. (2010). *Emerging technologies in adult literacy and language education*. National institute for literacy, Washington, DC 2006.

