



Influence of Information and Communication Technology on the Enhancement of Adult Learning in Private Literacy Centres in Port Harcourt Metropolis

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ABSTRACT

This study critically examined the influence of ICT on the enhancement of adult literacy programme in Port Harcourt Metropolis. To empirically address this issue, 2 research questions and 2 hypotheses were raised. The descriptive survey research design was adopted for the study with a total population of 719 adult learners, and a sample size of 432 drawn randomly which represents 60% of the total population of the study. The questionnaire was adopted as the research instrument for data collection in the study. The instrument was validated by experts in the field of Adult Education and Measurement and Evaluation. The mean and standard deviation was used to answer the research questions while the z test was used to test the hypotheses at 0.05 level of significance, and reliability coefficient of 0.86 was determined. The findings of the study revealed among other things that, computer, Interactive board, projector, and android mobile phone are very useful and enhanced the mastery of the reading abilities of adult learners in literacy centers in Port Harcourt Metropolis, Rivers State. Based on the findings of the study, it was recommended among others: Educational policy makers should formulate policies that will ensure that all literacy centers are fully equip with ICT gadgets so as to ensure the quality of knowledge and skills they would transfer to their students.

Keywords: Information and Communication Technology, Adult Literacy, Comprehension, Enhancement.

INTRODUCTION

Literacy is an indispensable foundation that enables young people and adults to engage in learning opportunities at all stages of the learning continuum (Chisenga, 2006). As an age-independent, context-bound and continuous process, the acquisition and development of literacy takes place both within and outside educational settings and throughout life. Increasingly, reading, writing, language and numeracy are viewed as part of a broader conception of key competencies, including ICT skills, which require sustained learning and updating.

Instead of being perceived as a stand-alone set of skills to be developed and completed in a short time frame, literacy and numeracy are increasingly seen as fundamental components of a complex set of foundational or basic skills. As a consequence, a number of UNESCO member states have included ICT skills, together with other essential skills, in their literacy definitions.

The term "Information and communication technologies "(ICTs) is defined as a diverse set of technological tools and resources used to communicate and create, disseminate, store, and manage information (Blurton 2007). ICTs encompass a range of rapidly evolving technologies and they include telecommunication technologies (telephony, cable, satellite, TV and radio, computer-mediated

conferencing, video conferencing) as well as digital technologies (computers, information networks (internet, World Wide Web, intranets and extranets) and software applications (Chisenga, 2006).

Different ICT technologies have been used already for decades to support adult education and learning. These include radio, television and audio and video cassettes. More recently digital ICTs such as computers, tablets, e-books, and mobile technology have spread at great speed and also found their way into the teaching and learning of literacy and numeracy skills. The large spectrum of ICTs, which can be applied to different contexts, includes satellite systems, network hardware and software as well as videoconferencing and electronic mail. Each one of these technologies opens up new possibilities to develop literacy skills from the safety of one's home and offers a virtually unrestricted access to learning materials (Kim, 2012).

After television, radio is the mass communication technology that reaches the widest audience throughout the globe. It is a low-cost but powerful tool, especially for reaching vulnerable populations in remote areas (UNESCO, 2013). Radio helps to preserve local cultures and languages while contributing to global understanding and promoting development, lifelong learning and cultural diversity. At the same time it supports life skills and adult basic education programmes. Very often, distant learning supported by ICTs is just a complement to face-to-face teaching, for example where the face-to-face teaching strategy is supplemented by a distance learning mode using radio, video-CDs and DVDs. And also newly literate people can be motivated to further develop their reading skills by combining this practice with the consumption of popular culture on TV.

The great potential of ICTs for learning in adult literacy cannot be overemphasized, as the growing use of mobile phones and personal computers, access to the internet, can attest to this. Mobile phones, tablets and personal computers are further extending their reach and offer a high value with regard to literacy teaching and learning, especially when an internet connection is available. Smart phones and tablets are the most recent generation of ICTs, and are outperforming other technologies, because of their independence from landlines and because they provide the opportunity to include interactive learning features.

The use of ICTs in adult literacy programmes is intended to support the acquisition of the three core competencies of an adult learner namely; reading, writing and numeracy skills (Bowers, 2014). Traditional classroom teaching and learning approaches are complemented by self-directed learning, where learners can practice and progress at their individual pace, at their own time, and in different places. These strategies contain also possibilities for learners to interact with each other and share the learning experience from different places.

ICT in literacy programmes offer creative solutions on how to overcome some learning difficulties. Most literacy centers in Port Harcourt metropolis are still far from a situation that would allow them to make optimal use of ICTs, and the aim of providing effective learning opportunities for everyone, anytime and anywhere is far from being fulfilled.

However, exploiting the potential of ICTs can never be an end in itself. Technologies are only tools, and not just tools but powerful ones, they have the potential to contribute to effective teaching and learning literacy and numeracy: enhancing access and outreach, motivating learners to engage or re-engage in learning, improving the quality of teaching and learning, and boosting the possibilities for lifelong learning. These factors motivate and retain students and promote faster learning.

Though, ICT has potential of making tremendous impact in the fight against adult illiteracy, the rate of adoption of ICT as a tool for teaching literacy has not been very encouraging. Against this backdrop it is now necessary to critically examine the influence of ICT on the enhancement of adult literacy programme in Port Harcourt metropolises.

Statement of the Problem

The illiteracy is an issue nations have grapples with at various stages of their development. According to the United Nations (2014), approximately 862 Million of the world population are illiterate. However, it is comforting to note that the problem is receiving attention from world authorities, such as the United

Nation General Assembly (2014) which identified ICT as one of the tools capable of rapidly developing the literacy programmes including adult literacy.

It is regrettable to note that despite the enormous benefit of the use of ICT in teaching and learning of adult literacy programme, the ICT tools are either not accepted, not available or even underutilized in most literacy centers in Port Harcourt Metropolis. It is obvious that previous adult literacy campaigns have not been very successful; this might be as a result of the neglect of the importance of ICT in teaching and learning activities. The United Nation General Assembly's conference in the current literacy campaign is based on the use of ICT as a literacy tool.

However, the influence of ICT as a literacy enabler will depend on the readiness of various stakeholders to adopt ICT as a tool for literacy. The non- usage of ICT teaching aids for adult literacy education in Rivers State is a major source of concern for this study. This have reduced the number of enrolment and increased the number of drop-out students in the literacy programme. The goal of ICT teaching aids is basically to attract learners' attention, interest and retention. It is believed that if these ICT tools are employed into adult literacy it will positively influence the development of the programme. Therefore it is necessary to critically examine the influence of ICT as a literacy enabler on the development of adult literacy programme.

Purpose of the Study

The purpose of the study was to investigate the influence of ICT towards promotion of Adult Education in Port Harcourt Metropolis. Specifically the objectives of the study are:

1. To determine the extent to computer enhances learners' interest in adult literacy centers in Port Harcourt metropolis.
2. To examine the extent to which the use of android smart phone enhances learners' comprehension in adult literacy centers in Port Harcourt metropolises.

Research Questions

1. To what extent does computer enhance learners' interest and attention in adult literacy centers in Port Harcourt metropolises?
2. To what extent does the use of android smart phones enhance learners' comprehension of subject matter in adult literacy centers in Port Harcourt metropolis?

Hypotheses

Ho₁. There is no significant difference in the mean rating of male and female adult learners on the use of computer enhances learners' interest in adult literacy centers in Port Harcourt metropolises.

Ho₂. There is no significant difference in the mean rating of male and female adult learners on the use of smart phones enhances learners' comprehension of subject matter in adult literacy centers in Port Harcourt metropolises.

Concept of Information and Communication Technology (ICT)

The term "Information and Communication Technologies "(ICTs) is defined as a diverse set of technological tools and resources used to communicate and create, disseminate, store, and manage information (Blurton, 2007). ICTs encompass a range of rapidly evolving technologies and they include telecommunication technologies (telephony, cable, satellite, TV and radio, computer-mediated conferencing, video conferencing) as well as digital technologies (computers, information networks (internet, World Wide Web, intranets and extranets) and software applications (Chisenga, 2006). This synchronizes with Haliso (2007), the key purpose of ICT in any institution is to provide quality service: access to relevant information, to computers, information networks and software applications. These technologies are making it possible for organizations to provide a variety of information services to clientele. All the functions and services that used to be provided manually can be provided now through the use of ICTs which can do things better and faster. To mention some of the opportunities presented by ICTs to the organizations, according to Haliso (2007), and Chisenga (2006), are: Organization of information for use, Capacity building, Management information system, Digital libraries, Resource sharing/document delivery.

Tertiary institutions are established to take care of the information need of students, lecturers, researchers and other community of scholars. Their mission is providing quality information service and knowledge products (print and electronic) to resident community of scholars. In order to function and provide timely information at a faster speed to lecturers, researchers and students, it would appear that administrators of academic staff realized the important role information and communication technologies (ICTs) play in their job performance and so made information and communication technologies (ICTs) available to their workforce.

Availability of Information and Communication Technology (ICT) Facilities for Adult Literacy Programme

The entire universe has been transformed to a global village through Information and communication Technology (ICT). Countries all over the world are at different stages of integrating ICT into everyday practices including Teaching and Learning of adult literacy. There is urgent need in developing countries to liberate teacher training programme from the old media and methods by embracing new teaching and learning technology. Teaching and learning all over the world has gone beyond the teacher standing in front of a group of students and disseminating information to them without their adequate participation. With the aid of ICT, teachers can take students beyond the traditional classroom limits, and ensure their adequate participation in teaching and learning process and create virtual environment to experiment and explore.

Amadi (2012) the findings which revealed that the use of ICT offers a wide array of choices and innovative ways that is now mostly absent in the traditional classroom. Olaluba (2006) asserted to the new information and communication technology is having a revolutionary impact on educational methodology globally. Nigeria cannot afford to be behind in the integration of Information and communication technology into her university education in the country.

Various ICT facilities are used in teaching-learning process. Some of these facilities identified by Avi (2007) includes Radio, television, optical fibers, satellite equipment, computers, digital multimedia, internet, ipod/M.P. 3, videos, virtual library, CD Rom, electronic notice board, slides, among others. The use of ICT facilities for teaching involves various methods which include systematized feedback system, computer based operational network, video conferencing, and audio conferencing, internet/worldwide websites, compact discs with only memory (CD Rom), camcorders and digital camera, multimedia, computer assisted instruction.

ICT is used in promoting equitable and sustainable development for present and future generation. Manila (2013) is of the opinion that the rapid pace of development in information and communication technology technologies and structures particularly the global internet has significant implications for social and economic development in countries. ICT facilities can both facilitate and reduce the costs of communication. Their availability does not always equate with accessibility due to poor design of information infrastructures, products and service and means for dissemination in relation to social and economic development variables.

ICT is used for development of new learning environment and builds a strong and effective information system. Lecturers use ICT to enrich curricula.

Information and Communication Technology (ICT) and Adult Literacy Programme

The right to education as recognised by the Universal Declaration of Human Rights includes the acquisition of literacy, numeracy and other basic skills as a foundation for lifelong learning. Lifelong learning is a central principle of the international post- 2015 education agenda. In its Position Paper on Education Post-2015, UNESCO proposes that flexible lifelong and life-wide learning opportunities should be provided through formal, non-formal and informal pathways, by harnessing the potential of ICTs to create a new culture of learning (UNESCO, 2014). UNESCO values the role of ICTs in providing universal access to education, equity in education, quality learning and teaching as well as teachers' professional development. If policies, technologies and capacities allow, education management, governance and administration can also be improved by means of ICTs.

Integrating ICT into Teaching and Learning of Adult Literacy

Fascinating and exciting new technologies, software and applications are appearing almost on a daily basis. However, exploiting the potential of ICTs can never be an end in itself. Technologies are only tools, if powerful ones. Chudgar, (2013) The ICTs has the potential to contribute to effective teaching and learning literacy and numeracy: enhancing access and outreach, motivating learners to engage or re-engage in learning, improving the quality of teaching and learning, and boosting the possibilities for lifelong learning. However, in order to make effective use of the potential of ICTs, many difficulties have to be overcome and some prerequisites must be met. These cover a wide spectrum including education policies and strategies; physical, hardware, and software infrastructures; human and financial resources; implementation modalities; and teaching and learning contents and methodologies.

MATERIALS AND METHODS

The study adopted a descriptive survey research design. The population of the study consisted of 719 adult learners, this comprised adult learners enrolled in 2018 academic session in adult literacy centres in Obio Akpor Local Government Area (349) and Port Harcourt City Local Government Area (370) of Rivers State. The sample size of the study was 432 which represent 60% of the population. The random sampling technique was adopted in selecting the sample size. The instrument for data collection was a questionnaire titled Influence of Information Communication Technology (ICT) on the Enhancement of Adult Learning Questionnaires (IICTEALQ). Instrument for Data Collection, the instrument was validated by two experts in the field of Adult education. The reliability of the instrument was determined using Test –retest method. A reliability coefficient of 0.86 was obtained showing the instrument was reliable. The instrument was administered on the respondents by the researchers. Some of the facilitators in the adult learning centres assisted in the administration of the instrument. A total of 423 copies of the questionnaire were properly completed and retrieved. The research questions were answered using mean and standard deviation while the hypotheses were tested using Z-test at 0.05 level of significance.

Research Question 1: *To what extent does the use of computer to enhance learners’ interest in learners in adult literacy centers in Port Harcourt metropolis?*

Table 1: Mean Responses on the Extent Computer Enhances Learners’ Interest in Adult Literacy Centers in Port Harcourt metropolis

S/N	Items	Obio-Akpor 206		Remarks	P H City 217		Remarks
		\bar{x}	SD		\bar{x}	SD	
1	The use of computer makes alphabet clearer for learners to write	3.85	0.42	VHE	3.73	0.38	VHE
2	The use of computer stimulates learners’ interest to write.	3.97	2.42	VHE	3.71	0.63	VHE
3	Computer enhances the study of symbol and what they represent.	3.73	0.61	VHE	3.86	0.48	VHE
4	Computer enhances the spelling vocabulary of learners.	3.76	1.55	VHE	3.73	0.36	HE
5	The use of computer enhances the familiarity with compound and complex words and these enhance the writing skills.	3.97	0.45	VHE	3.78	0.38	VHE
Grand mean/standard deviation		3.86	1.09		3.76	0.45	

Source: Field Work (2018).

Data from Table 4.1 above, revealed that items 1, 2, 3, 4, and 5, the male respondents in Obio/Akpor had a mean score ranging from (3.73 - 3.97) and a standard deviation score ranging from (0.36 – 0.49), with a grand mean/standard deviation of 3.86/1.09. Accordingly, items 1, 2, 3, 4, and 5, the respondents in Port

Harcourt city had a mean score of ranging from 3.71 – 3.86 and standard deviation of 0.36 - 0.63 with a grand mean/standard deviation of 3.76/0.45. This indicates that the use of computer makes alphabet clearer for learners to write, stimulates learners’ interest to write, enhances the study of symbol and what they represent, enhances the spelling vocabulary of learners, and enhances the familiarity with compound and complex words and these enhance the writing skills.

Research Question 2: *To what extent do android mobile phones enhance learners’ comprehension in adult literacy centers in Port Harcourt metropolises?*

Table 2: Mean Responses on the Extent does Android Mobile Phone Enhances Learners’ Comprehension in Adult Literacy Centers in Port Harcourt

S/ N	Items	Obio-Akpor 206		Remarks	P H City 217		Remarks
		\bar{x}	SD		\bar{x}	SD	
6	Android mobile phone enhances mobile instructional activities	3.94	0.31	VHE	3.75	0.49	VHE
7	Android mobile phone enhances remembering	3.87	0.75	VHE	3.97	0.51	VHE
8	Android mobile phone enhances comprehension	3.85	0.42	VHE	3.59	0.89	VHE
9	Android mobile phone gives a visual picture of the concept and enhances understanding	3.71	0.65	VHE	3.73	0.48	VHE
10	Android mobile phone promotes continuous learning activities	3.67	0.61	VHE	3.57	0.63	VHE
Grand mean/standard deviation		3.81	0.55		3.72	0.6	

Source: Field Work (2018).

Data from Table 2 above, revealed that items 6, 7, 8, 9, and 10, the male respondent had a mean score ranging from (3.67 - 3.94) and a standard deviation score ranging from (0.31 – 0.75), with a grand mean/standard deviation of 3.81/0.55. Accordingly, items 6, 7, 8, 9, and 10, the female respondent had a mean score of ranging from 3.57 – 3.97 and standard deviation of 0.48 - 0.89 with a grand mean/standard deviation of 3.72/0.6. This indicates that android mobile phone enhances mobile instructional activities; enhances remembering; enhances comprehension; gives a visual picture of the concept and enhances understanding; and promotes continuous learning activities

Test of Hypotheses

Hypothesis 1: There is no significant difference in the mean rating of adult learners in Port Harcourt and Obio/Akpor LGA on the use of computer to enhance learners’ interest in adult literacy centers in Port Harcourt metropolises.

Table 3: Z-test Rating on the Significant Difference in the Mean Rating of Adult Learners in PH and Obio/Akpor LGA on the use of Computer to Enhances Learners’ Interest in Adult Literacy Centers in Port Harcourt Metropolises

Category	N	\bar{x}	SD	DF	z-cal	z-cri	Decision
Male	206	3.86	1.09				
Female	217	3.76	0.45	601	1.22	± 1.96	H ₀ Accepted

N = 603; level of significance = 0.05

Source: Field Work (2018).

The data in Table 3 showed that the z-calculated value of 1.22 is less than z-critical value of ± 1.96 at 0.05 level of significance with 601 degree of freedom. The null hypothesis (H₀₂) is Accepted. This means that there is no significant difference in the mean rating of adult learners in Obio/Akpor and PH centres Local

Government Areas on the use of computer to sustain learners' interest in adult literacy centers in Rivers State.

The data in Table 3 shows that the z-calculated value of -1.25 is less than z-critical value of ± 1.96 at 0.05 level of significance with 601 degree of freedom.

Hypothesis 2: There is no significant difference in the mean rating of male and female adult learners on the use of smart phones enhance learners' comprehension in adult literacy centers in Port Harcourt metropolises.

Table 4.: Z-test rating on the significant difference in the mean rating of male and female adult learners on the use of smart phones enhances learners' comprehension in adult literacy centers in Port Harcourt metropolises.

CATEGORY	N	\bar{x}	SD	DF	z-cal	z-cri	DECISION
Male	138	3.68	0.46				H ₀ Accepted
Female	285	3.74	0.53	421	-1.25	± 1.96	

N = 423; level of significance = 0.05

Source: Field Work (2018).

The data in Table 4 shows that the z-calculated value of -1.25 is less than z-critical value of ± 1.96 at 0.05 level of significance with 601 degree of freedom.

DISCUSSION OF FINDINGS

The findings from research question one which investigated how the use of computer enhances learners' interest in adult literacy centers in Port Harcourt Metropolises revealed that to a very high extent to a very high extent computer as an instruction aids are very useful and enhance the mastering of the writing abilities of adult in learners junior secondary school. This finding agrees with Nsirim & Ozuru (2003) who pointed out that the use of information and communication technology will help students to hear, see and enhance understanding through this audio-visual media. Andrews (2004) reports several empirical studies that suggest a beneficial effect on print literacy of engagement with digital moving media. A number of these studies contribute to theory building about multimodality. He points out that engagement with the moving image is relevant to both writing and reading. He also finds that such engagement necessitates a more vigorous style of teaching than mere investments in hardware or software.

The findings from research question two which investigated the extent the use of android smart phone enhance comprehension in adult learners revealed that to a high extent android smart phone enhances comprehension in adult learners. This findings agrees with Amadi, (2012) pointed out that another major benefit of android smart phone in education is the change from the old methods of learning to a new and more interesting method. Android smart phone have increased classroom participation among students and thus improved their performance. As an agent of change, this technology is a new innovation in the education sector and has revolutionized education. Thus when seamlessly integrated into a subject matter, android smart phone would go a long way in helping to achieve education goals as well as transforming teaching and learning. When applied into education, android smart phone enhances the delivery and access to knowledge improves the curriculum: it produces richer earning outcome, it encourages critical thinking and offers unlimited means of achieving educational goals. The android smart phone has to a large extent helped teachers to consider their practice and empower their students.

Summary

Summary of Findings: The findings of the study were summarized thus:

1. The use of computer makes alphabet cleaner for leaners to write, stimulates leaners interests, improves their use of vocabularies and makes them familiar with difficult works
2. To a very high extent ICT teaching aids are also very useful and enhance the mastering of the writing abilities of adult learners in adult literacy centers.

3. To a very high extent ICT enhance the mastering of the mathematical abilities of adult in learners junior secondary school.
4. ICT attracts learner's attention, interest and retention, gives a visual picture of the concept and enhances understanding, promotes the right pronunciation of word and also their application and enhances clarity of instructional activities to a very high extent.

CONCLUSION

The study based on its findings, therefore concludes that ICT remains indispensable in the teaching and learning of literacy education and its great potential for learning in adult literacy cannot be overemphasized. ICT in literacy programmes is indeed a creative solution to overcome some learning difficulties. The ICT have potential to contribute to effective teaching and learning literacy and numeracy: enhancing access and outreach, motivating learners to engage or re-engage in learning, improving the quality of teaching and learning, and boosting the possibilities for lifelong learning. These factors motivate and retain students and promote faster learning.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Educational policy makers should formulate policies that will ensure that all literacy centers are fully equip with ICT gadgets so as to ensure the quality of knowledge and skills they would transfer to their students.
2. Adult literacy teachers should be made to undergo workshops and seminars aim at retraining them on the use of ICTs as this will help to integrate and utilize ICTs in adult literacy education.
3. Proprietors of private literacy centers should procure ICT teaching aids in the schools as this will enhance student's diction, spelling, attention, interest and retention abilities.
4. The curriculum adult literacy education should be review to incorporate the great potential of ICT in teaching and learning.

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