

Information and Communication Technology Utilization for Skill Acquisition among Adult Distance Learners in Enugu State, Nigeria

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Abstract

The main purpose of the study was to investigate issues relating to utilization of ICT by adult learners in distance education centres in Enugu State. Specifically the study determined various ICT resources available to the learners, ways ICT utilization facilitate skill acquisition and problems hindering the use of ICT. The study used descriptive survey research design. Three research questions and two null hypotheses guided the study. The population was 943 adult distance education learners in the area. A random sample size of 491 distance learners (195 males and 296 females) was drawn from six National Teachers Institute Centres in Enugu state. Data were collected through questionnaire. Data were analyzed using frequency, percentage, mean, standard deviation and t-test. Findings showed 13 ICT resources available, including mobile phones, computers, internet among others. Also 10 ways utilization of ICT facilitate skill acquisition were identified. These include independent learning; acquisition of competence in a short time. Other findings are 17 problems that hinder the use of ICT in facilitating skill acquisition. These include poor remuneration of instructors; inadequate ICT infrastructures and irregular electricity power supply. The study recommends that government should hasten full integration and use of ICT in the education programmes, provide adequate fund for education sector, especially for ICT, among others.

Keywords: Skill, Acquisition, ICT, Utilization, Adult, Distance, Learners.

Introduction

Access to knowledge and skills is enormously important if human capital development must be attained. Education and training must be all inclusive and reflect the vastly diversified nature of the economy as well as the various fields of manpower needs (Mishra, 2002). However

achieving all-inclusive education and training for all remains a challenge in many countries including Nigeria. Available data indicate that almost 60 per cent of youths between the ages of 15 and 17 are not in school coupled with the huge deficit of people relegated by the formal school system largely in operation due to different

circumstances like poverty, disability, illiteracy, occupation, location, age etc (UNESCO Institute for Statistics [UIS], 2019).

These categories of people that do not fit into the formal education system are clientele of Adult Education. According to International Standard Classification of Education (ISCED) (2011), Adult Education specifically targeted individuals who are adults by the society to which they belong, to improve their technical or professional qualifications, further develop their abilities, enrich their knowledge with the purpose to complete a level of formal education, or to acquire knowledge, skills and competencies in a new field or to refresh or update their knowledge in a particular field.

Distance education, also referred interchangeably as distance learning is not a new phenomenon. It evolved from correspondence study, open universities, tele-conferencing, networks and multimedia delivery to today's web-based technologies. This evolution is characterized by new teaching approaches, including the adjustment of instructional materials supported by different delivery media including the internet, which has developed into viable system for distance education (Passerini and Granger, 2000). New series of learning opportunities are therefore open for learners from diverse background and location.

Skill acquisition is the process and the means of providing an opportunity for people to make maximum

contribution to their self-development. It is a form of training by individuals or group of individuals that can lead to acquisition of knowledge for self-sustenance and geared towards instilling in individuals, the spirit of entrepreneurship needed for meaningful development (Douli, 2002; Idoko,2014). Skill acquisition training is an adult education programme which is design to impact various skills on the participants and meet immediate needs such as jobs, self - reliance and curb restiveness among youths (Teiboweri&Osusu, 2017). Efforts geared at building capacity and empowerment by various developing nations hinged on adult literacy and skill acquisition programmes (Olagbaju, 2020). According toUkwungwu&Oyedepo (2012), many artisans and petty traders had availed themselves the opportunity offer through this programme of distance education to improve their economic status, creating jobs and become self-fulfilled. The National Teachers Institute (NTI), has been the agency running this programme, making use of trained and qualified professionals from the tertiary institutions in the catchment area, as resource persons and instructors. The Nigeria Federal government through the NTI believed that the skills acquisition programme will help to enhance the economic status, and self esteem of the participants (the adult learners), through learning a skill or an additional vocation that can serve as a source of income generation. According to Ememe (2012), skill

acquisition by adult learners prepare and equip them to be self-employed as well as become employers of labour. They are therefore, equipped with knowledge that offer them opportunities to become creative and innovative, as to discover and explore novel ideas and business opportunities (Kaegon, 2009). Okolochaet *al.*, (2020) argued that much emphasis on academic excellence without quality and skilled trainers, with acute shortage of facilities and poor funding, are among the problems facing skill acquisition in Nigeria.

As many adults are unable to participate in on-campus education, ICT offers flexible learning platform that greatly enhance accessibility to education. Bandele (2006), described ICT as a revolution that involves the use of computers, internet and other telecommunication technologies in every aspect of human endeavour. In respect to education, ICT has enormous potential of transforming the education of developing countries (Mbachu, 2008). Reddi (2012), grouped the media used in education into two categories namely: synchronous and asynchronous media.

Okafor (2011), observed that one of the major challenges facing education in Nigeria is the gap between theory and practice, which makes effort in providing needed skills for her citizens to be far from being actualized. As a result, many graduates and non-graduates are helpless and roaming about the streets, regrettably due to lack of viable skills. This lack of basic skills needed for meaningful survival

has led to soaring unemployment rate, with our graduates becoming job seekers instead of job creators and the attendant frustrations, with the rising insecurity among other social vices (Okolochaet *al.*, 2002; Arogundade, 2011).

Information and Communication Technology (ICT) have come to make teaching and learning more practicable to learners especially, distance education learners and greatly facilitates knowledge and skills acquisition (World Bank, 2006; Abubakar, 2012; Bassey&Ofre, 2013). According to Obiefuna and Enwereuzo (2012), the use of ICT affects the way teachers teach and learners learn hence, integration and improve utilization of ICT would greatly facilitate knowledge and skills acquisition in adult distance education learners that can improve their economic status and open job creating opportunities.

Available ICT resources for education today include: faculty digital library; digital microteaching lab; computerize centres for educational technology; virtual labs, internet connected classrooms; videophone systems; teleconferencing devices; multimedia computers; multimedia projectors, educational robots and other artificial intelligent devices; as well as internet, intranet, e-mail, WhatsApp, Web-sites, YouTube, Computers and smart mobile phones. However, only a fraction of the educational institutions in Nigeria use ICT resources such as computers, computer laboratory, online library,

virtual classrooms, videophone systems and teleconferencing devices, educational robots, multimedia projectors and multimedia coursewares viz: CD-ROM, Flash drives and Diskettes (Nwana, 2008, Nwana, 2012).

According to Nwana (2012), the curriculum for e-learning can be presented online in the form of texts, visuals, sound, multicolour images, maps and graphics, using ready-made instructional packages and teacher developed instructional packages. The author observed that instructional communication devices such as laptops, desktops, pocket computers, note book computers and smart phones are becoming readily available to teachers and learners.

According to Akudolu (2012), for skill to be effectively transferred and acquired by learners, e-learning design must be based on: instructional objectives, learners' level of technical and theoretical knowledge and nature of multimedia systems available to the learners. The author opined that in a not so-rich technology environment like Nigeria, it would be better to adapt e-learning design to accommodate the available ICT facilities. The teacher/instructor can present learning content, assignment and assessment online via e-mail, WhatsApp and organize discussions via Skype software devices. As learners have access to multimedia facilities, especially computer with internet, other forms of e-learning design can be used to facilitate acquisition of knowledge and skills

(Akudolu, 2012; Okafor, 2016). The use of ICT such as distance education software application model can facilitate interaction between instructors and learners, speed up works as well as makes it interactive and users friendly (Faisal & Kisman, 2020).

The use of ICT to facilitate knowledge and skill acquisition among adult distance education learners in Nigeria is still at very low ebb (Education Trust Fund, 2006). Okoli and Egbunonu (2012), argued that Nigeria as many developing nations, need to surmount a number of teething obstacles that hinder full utilization of ICT in her educational system. Some of these hindrances they identified include: lack of adequate funding, insufficient teachers with necessary ICT skill, lack of trained and qualified computer personnel to operate and maintain the computers, lack of internet facility in many parts of the country, lack of other ICT infrastructures like broad-band, erratic electricity power supply; high cost of computers, mobile phones and other ICT devices.

Skill acquisition has been on-going for quite a while, for adult distance learners in Enugu State, in such areas as: decorative skills (interior & exterior); photography/video coverage; graphic design, web site design/coding; Microsoft Excel, Word and Power Point; cooking/baking/drinks making as well as skills in animal husbandry. In spite of the flexibility and vast opportunity provided by ICT for the

transformation and enhancement of all forms of education and skill acquisition, utilization of ICT, is still very low among adult distance learners in Enugu State. This study therefore, was carried out to investigate the ways ICT was utilized for skill acquisition among adult distance learners in Enugu State of Nigeria.

Purpose of the Study

The purpose of this study was to investigate issues relating to utilization of ICT for skill acquisition by adult learners in distance education centres in Enugu State. Specifically the study:

1. identified various ICT resources available for facilitating skill acquisition among adult distance education learners in Enugu State;
2. determined ways ICT facilitate skill acquisition among adult distance education learners in the state.
3. identified problems hindering the use of ICT for skill acquisition among adult distance education learners in the state.

Research Questions

1. What are the various ICT resources available for facilitating skill acquisition among adult distance education learners in Enugu State?
2. In what ways does ICT facilitate skill acquisition among adult distance education learners in Enugu State?
3. What are the problems hindering the use of ICT for skill acquisition

among adult distance education learners in Enugu State?

Hypotheses

1. There is no significant difference in the mean responses of male and female adult distance education learners on the ways ICT facilitate skill acquisition among distance education learners in Enugu State.
2. There is no significant difference in the mean responses of male and female adult distance education learners on the problems hindering the use of ICT for skill acquisition among distance education learners in Enugu State.

Methodology

Research Design: The descriptive survey research design was adopted for this study.

Area of the Study: The study was carried out in Enugu state of Nigeria. There are six educational zones in the state, with 11 National Teachers Institute (NTI), centres.

Population for the Study: The population for the study was 943 adult distance education learners from all the training centres in Enugu state.

Sample for the Study: The sample size for the study was 491 distance education learners, which was 52 per cent of the population and was made up of 195 males and 296 females. Cluster technique was used to select 6 training centers in the state. No sampling was carried out to select respondents as the entire 491 distance education learners from the 6 training centers selected were considered

manageable size and used for the study.

Instruments for Data Collection: A structured questionnaire designed by the researcher was the instrument used for data collection. The questionnaire consisted of two sections: I and II. Section I provided personal information of the respondents while section II was made up of three clusters addressing to the three specific objectives and research questions. Responses to items in the questionnaire were based on a Four-point rating scale, ranging from: To a great extent (TGE) (4 points), Somewhat (S) (3 points), Very little extent (VLE) (2 points), to Not at all (NA) (1 point) for question 2. While for research question 3, the rating scale ranges from: Strongly agree (SA) (4 points), Agree (A) (3 points), Disagree (D) (2 points), to Strongly Disagree (SD) (1 point). The instrument was duly validated by three experts (2 from the Department of Adult Education and Extra-mural Studies, University of Nigeria, Nsukka and 1 from the Department of Vocational Education, University of Nigeria, Nsukka). The instrument was subjected to a reliability analysis using Cronbach

Alpha. A reliability coefficient of 0.7 was established which signified very high reliability of the instrument.

Data Collection Methods: Four hundred and Ninety-one (491) copies of the questionnaire were distributed by hand, through the help of two trained research assistants. All the 491 copies were duly completed questionnaires and retrieved. There was hundred per cent return rate of the questionnaire.

Data Analysis Techniques: Data were analyzed using frequency, percentages, mean and standard deviation. A mean of 2.50 was used as the benchmark for decision making for each of the item. Thus any item with a mean score of 2.50 and above was considered agreed by the respondents, while below 2.50 was considered as disagreed by the respondents. t-test was used to test the hypotheses for differences among the mean responses of the male and female distance education learners at $P < 0.05$.

Results

The ICT Resources Available to Adult Distance Education Learners in Enugu State.

Table 1: Frequency and Percentage Responses on ICT Resources Available to Adult Distance Education Learners in Enugu State

S/N	ICT Resources available	Availability F (%)
1	Personal mobile phone	491 (100%)
2	Personal computer (desktop, laptop, notebook tablet)	353 (71.89%)
3	Own a multimedia courseware (CD-ROM, flash drive, diskette)	453 (92.26%)
4	Internet connection available	326 (66.40%)
5	Use e-mail	491 (100%)

6	Use WhatsApp	491 (100%)
7	Use Telegram	206 (41.96%)
8	Use YouTube	479 (97.56%)
9	Use Skype	368 (74.95%)
10	Use Videophone	343 (69.86%)
11	Use Online reference	491 (100%)
12	Use Teleconferencing Device	380 (77.40%)
13	Use Digital Library	209 (42.57%)
14	Use Computer Centre	0 (0%)
15	Use Educational Robot	0 (0%)

F = Frequency

Table 1 shows the frequency and percentage score on ICT available to distance education learners in Enugu State. Result on the table shows that 100% that is, all the 491 respondents had a mobile phone, used: e-mail, WhatsApp and online references. A good percentage of the respondents owned a multimedia courseware and used YouTube (92.26% and 97.56%) respectively, while a fairly good percentage of the respondents owned a computer, had internet connection

(71.89% and 66.40%) respectively, used Teleconferencing device, skype, videophone, (77.40%, 74.95% and 69.86%) respectively. A fair percentage (42.57% and 41.96%) of respondents used digital library and Telegram respectively. However, none of the respondents used computer centre nor used educational robot.

Ways ICT Facilitate Skill Acquisition among Adult Distance Education Learners in Enugu State.

Table 2: Mean and Standard Deviation Responses on Ways ICT Facilitate Skill Acquisition among Adult Distance Education Learners in Enugu State.

S/N	Ways ICT facilitates skill acquisition	X	SD	Decision
ICT facilitates:				
1	independent learning	3.97	0.81	Agree
2	learning of new skill	3.00	0.90	Agree
3	learning at individual pace	3.89	0.67	Agree
4	learners interest and attention	3.81	1.02	Agree
5	intellectual thinking	3.65	0.83	Agree
6	acquisition of competence in a short time	3.05	0.91	Agree
7	continuous improvement of skills and knowledge	3.06	0.95	Agree
8	access to unlimited learning resources	3.11	0.82	Agree
9	access to more illustrations for learning	3.92	0.85	Agree
10	access to clear pictures for practicals	3.84	1.01	Agree
11	problem solving	3.02	0.76	Agree
12	access to options readily available	3.97	0.87	Agree
13	access to learning new concepts	3.97	0.90	Agree
14	collaborative and interactive learning	3.04	0.93	Agree
15	acquisition of cognitive experience	3.01	0.82	Agree

$N = 491$, \bar{X} = Mean, SD = Standard Deviation

Table 2 shows the mean and standard deviation score on ways ICT facilitated skill acquisition among adult distance education learners in Enugu State. The table reveals that all items had mean scores above the benchmark of 2.50 implying that ICT facilitated skill acquisition in the distance education learners. The table shows that ICT facilitate: independent learning; learning of new skill; learning at individual pace; learners' interest and attention; intellectual thinking; acquisition of competence in a short time; and continuous improvement of skills and knowledge, all having their mean scores above the benchmark of

2.50. Table 2 also shows that the respondents agreed that ICT facilitate access to: unlimited learning resources; clear pictures for practicals; more illustrations in learning; and learning new concepts, as their mean scores were above the 2.50 benchmark. ICT also facilitates collaboration and interactive learning as well as acquisition of cognitive experience, with mean scores above 2.50 respectively.

Problems Hindering Effective Utilization of ICT among Adult Distance Education Learners in Enugu State.

Table 3: Mean Responses on Problems Hindering Effective Utilization of ICT among Adult Distance Education Learners in Enugu State

S/N	Problems hindering ICT utilization	\bar{X}	SD	Decision
1	Lack of knowledge of learners about ways in using computer and internet	3.09	1.02	Agree
2	Lack of skill of learners in the use of computer and internet	1.22	0.96	Disagree
3	Inadequate ICT infrastructures	2.56	0.83	Agree
4	Insufficient instructors	3.18	1.06	Agree
5	Poor remuneration of instructors			
6	Lack of skill of ICT instructors			
7	High cost of ICT products (phones, computers etc)	3.49	0.81	Agree
8	Irregular electricity power supply	3.42	0.79	Agree
9	Lack of access to necessary technology at the home base of learner	3.01	1.04	Agree
10	Erratic internet connectivity	3.14	0.97	Agree
11	Lack of adequate technical support	2.62	1.01	Agree
12	Problems associated with faulty ICT products/devices	2.52	1.04	Agree
13	Lack of qualified personnel to maintain faulty ICT products	2.56	0.98	Agree
14	Family pressure and demands on learners	1.91	0.96	Disagree
15	Low economic status of learners	1.79	0.88	Disagree
16	Lack of financial and other supports for learners	2.97	0.81	Agree
17	Poor funding of programme by government	3.50	0.80	Agree

N = 491, X = Mean, SD = Standard Deviation

Table 3 shows the problems hindering effective utilization of ICT among adult distance education learners in Enugu State. The table reveals that items 1, 3 to 5, 7 to 13 as well as 16 to 17 (lack of knowledge of learners in using computer and internet, inadequate ICT infrastructures, insufficient instructors among others), had mean scores above 2.50, signifying that the items were agreed by respondent as problems hindering ICT

utilization by adult distance education learners. However, items 2,6, 14 and 15 (lack of skill of learners in the use of computer and internet, lack of skill of ICT instructors, family pressure and demands on learners, as well as low income status of learners), had mean scores below 2.50, meaning that these items were not considered as problems hindering ICT utilization by adult distance education learners.

Table 4: t-test Analysis of Mean Responses of Male and Female Adult Distance Education Learners on Ways ICT Facilitates Skills Acquisition for Distance Education Learners.

Groups	N	X	SD	Df	t-cal	P-value	Decision
Male	195	2.86	0.83	489	1.31	0.19	Not rejected
Female	296	2.93	0.54				
Total	491						

N=Sample, X = Mean, SD = Standard deviation, df = Degree of freedom, t-cal = t-calculated and P-value = Probability value.

Table 4 shows that mean response for male respondents at 2.86 is lower than the mean response for female respondents at 2.93. However, the difference in mean responses between male and female respondents was not significant because the P-value (0.19) is greater than 0.05 level of significance.

Therefore, there was no significant difference in the mean responses of male and female respondents on the ways ICT facilitates skills acquisition among adult distance education learners. The null hypothesis was therefore, not rejected.

Table 5: t-test Analysis of the Mean Responses of Male and Female Distance Education Learners on the Problems Hindering Utilization of ICT among Adult Distance Education Learners.

Groups	N	X	SD	df	t-cal	P-value	Decision
Male	195	2.90	0.94	489	0.67	0.50	Not Rejected
Female	296	2.95	0.66				
Total	491						

N = Sample, X = Mean, SD = Standard deviation, df = Degree of freedom, t-cal = t-calculated

Table 5 shows that male respondents had lower mean response (2.90) relative to mean response of the female respondents (2.96). The difference in the mean response was not significant at 0.05 level of significance (P-value = 0.50 >0.05). Therefore, the null hypothesis was not rejected.

Discussion

The study identified some ICT resources available for facilitating skill acquisition among adult distance education learners in Enugu State. Respondents agreed that resources such as mobile phones, computer, e-mail, WhatsApp, online reference, multimedia courseware (CD-ROM, flash drive, diskette), internet connection were among the ICT resources available to adult distance education learners in the State (Table 1). This finding is in agreement with Obiefuna and Ewereuzo (2012) who observed that vast numbers of ICT resources are now available for educational use to facilitate knowledge and skill acquisition. Nwana (2012) found that ICT resources such as laptops, desktops, pocket computers and smart mobile phones are becoming readily available to teachers and learners. It is a known fact that almost everyone (including adult learners), now own a mobile phone that can be used and adapted for various applications. The extension of internet and other telecommunication networks to more areas of the communities has greatly helped in making these ICT resources available

to more people including the adult distance education learners as observed by (Passerini and Granger, 2000) who are of the view that increases in bandwidth technologies and worldwide access to interconnected networks enable the internet and worldwide web to develop into a viable delivery system for distance education and for acquisition of knowledge and skills. The respondents pointed out the lack of digital library, computing centre and educational robot resources which can be attributed to paucity of fund, in line with the view of Egboka (2012) who saw a great need for radical changes in educational budget in Nigeria.

The study also identified ways ICT utilization facilitated skill acquisition among adult distance learners in Enugu state. Respondents agreed that ICT utilization facilitated: independent learning; learning of new skill; learning at individual pace; facilitate learners interest and attention; intellectual thinking, among others (Table 2). This finding is in agreement with Obiefuna and Ewereuzo (2012) who stated that use of ICT greatly affect the way teachers teach and learners learn which in no small measure facilitates knowledge and skill acquisition in adult distance learners that can translate to improved economic status and open job creating opportunities. The use of ICT has revolutionized the education landscape, as it has successfully eliminated every form of barrier that

hinders teaching, learning and acquisition of knowledge and skills, as shown in the responses of the respondents. This is in agreement with (Abubakar,2012; Bassey&Ofre,2013), who asserted that ICT have come to make teaching and learning more accessible, flexible and practicable to learners especially, distance education learners.

Findings from the study revealed some of the problems hindering effective utilization of ICT among adult distance education learners in Enugu State. Respondents identified; lack of knowledge of learners about ways in using computer and internet; lack of trained and qualified personnel to operate and maintain computers; poor remuneration of instructors; inadequate ICT infrastructure; inadequate funding; irregular power supply; irregular internet connectivity and high cost of ICT products among the problems hindering effective utilization of ICT among adult distance education learners. This is in agreement with findings of Okoli&Egbonu (2012) that lack of adequate funding, lack of trained and qualified personnel to maintain ICT wares, inadequate infrastructure and high cost of ICT wares are some of the teething problems hindering full utilization of ICT in the education system that Nigeria need to surmount. Aheisibwe&Byamukama (2020) found that lack of knowledge on how to use computers, limited access to computer and accessories as well as irregular power supply, are problems

hindering utilization of ICT in Uganda. The issue of poor funding of education system is no doubt a major and primary factor among the problems hindering effective utilization of ICT among adult distance education learners. This is because many of the other problems identified by the respondents can all be addressed with better funding of the education system. This is in agreement with Egboka (2012) who saw a great need for radical changes in educational budget in Nigeria.

Conclusion

The goal of the nation to empower its teaming youths and citizens with viable skills can be realized if ICT is fully utilized for knowledge and skill acquisition. It is a common knowledge today, that utilization of ICT facilitates the actualization of every human endeavour, as this study revealed. The adoption and utilization of ICT resources facilitated skill acquisition among adult distance education learners in Enugu State. Some problems were identified, hindering the effective utilization of ICT for skill acquisitions among adult distance education learners. These problems can be tackled if priority is given to adequate funding of education especially, ICT in education as well as improvement in electricity power supply nationwide.

Recommendations

Government should:

1. encourage full utilization of ICT in the educational system, through

legislation and policy implementation.

2. provide adequate fund for the education sector especially for ICT.
3. bring down the cost of ICT wares as well as subsidies ICT wares for learners.
4. invest more in the provision of ICT infrastructures, to make ICT facilities available and accessible to all and improve electricity power supply nationwide.

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