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Integration of Information and Communications Technologies into the Training of Adult Education Students in Tertiary Institutions, Abia State

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Abstract
The study was designed to assess the integration of Information and Communications Technology (ICT) driven curriculum in training of adult education students in tertiary institutions in Abia State. The specific objectives are to determine the extent of ICT integration into the training of adult education students in tertiary institutions in Abia State, examine the extent of integration of ICT in the sourcing of information by the adult education curriculum planners and find out the challenges hindering the integration of ICT into the training of adult education students in tertiary institutions in Abia State. The study was guided by three (3) research questions. The design of the study was a descriptive survey. A well-structured questionnaire was the instrument used for data collection which was validated by three experts. Cronbach's alpha was used to assess the reliability of the instrument. Reliability co-efficient of 0.802 was obtained which shows that the instrument is reliable. Data collected were analysed using frequency and mean which are descriptive statistics. The findings from the study revealed that the ICT integration into the training of adult education students in tertiary institutions are greatly through using different types of computers in projecting information and in note-taking during teaching, use of data projector in teaching, and using slide shows in elucidation of points during teaching. The challenges facing the integration of ICT are inadequate desktop, laptop and notebook computers, none availability of application and utility software, poor internet facilities, skeletal internet services, inadequate power supply and tertiary institutions are poorly funded. Based on the findings, it was concluded that since Adult Education is very vital in our society, it is pertinent to integrate Information and Communications Technologies (ICT's) religiously in curriculum planning and in training of adult education students in tertiary institutions in Abia State in a bid to get the best output from them. Based on the findings, it was recommended that Federal and State government should ensure proper funding of tertiary institutions in Abia State to enable them purchase and integrate ICTs into curriculum planning and training of their students. Adult educators should undertake a computer literacy programme and be made to be ICT compliant. They should also be properly motivated financially and otherwise.

Keywords: Integration, Information, Communications, Technologies, Curriculum, Training, Adult Education, Tertiary Institutions

Introduction

Adult education refers to the provision of instructed learning events for adults after earlier terminated or interrupted education within the regular education system. It is

characteristic that adult education is arranged and organized specifically with adults in mind (Fulah, 2003). The differences to education within the regular education system can be such as the time and modes of instruction. Adult education is defined on the basis of the organization providing education and training to adults (Jenny, 2001).

Adult education is instructional and related support services for adults who are not enrolled in the school. It is for adults who lack the educational foundation expected of a high school graduate. It is a form of education for adults whose inability to speak, read, and write the English Language, compute and solve problems constitutes a substantial impairment in their ability to obtain, retain and/or function on the job, in their family and in society commensurate with their real ability, to achieve their goals, and develop their knowledge and potential. This category of people is in need of a programme that helps them eliminate such inability and raise their level of education and self-sufficiency (Aback, 2000). Adults are taught in adult education classes by professionals known as adult educators. An adult educator is one who practices the profession of facilitating the learning of adults by applying the principles of androgogy. An adult education student is a student who studies adult education as a course in any institution in a bid to become a qualified adult educator after graduation. An adult education student is supposed to pass through some training to enable him/her qualify for the career.

Training is the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies (Frank, 2009). Training has specific goals of improving one's capability, capacity, and performance. It forms the core of apprenticeships and provides the backbone of content at institutes of technology (also known as technical colleges or polytechnics). In addition to the basic training required for a trade, occupation or profession, observers of the labour-market recognize as of 2008 the need to continue training beyond initial qualifications: to maintain, upgrade and update skills throughout working life (Sidney, 2002). People within many professions and occupations may refer to this sort of training as professional development. Training is usually more effective when ICTs driven curriculum are integrated.

I Didn't Get Anything on Processes of Integration

Integration is the act of bringing together smaller components into a single system that functions as one. In an ICT context, integration refers to the end result of a process that aims to stitch together different, often disparate, subsystems so that the data contained in each becomes part of a larger, more comprehensive system that, ideally, quickly and easily shares data when needed. This often requires that companies build a customized architecture or structure of applications to combine new or existing hardware, software and other communications.

The integration of Information and Communication Technology (ICT) driven curriculum, training methodologies in tertiary Adult Education may not be a new teaching method but it has added a new dimension to teaching and learning in Adult Education. Integration is the act or process of integrating; the state of becoming integrated; the bringing of people of different racial or ethnic groups into unrestricted and equal association, as in society or an organization; desegregation (Alako, 2006). Integration could be said to be a way of applying/introducing a particular concept or method to improve a system or an organizational activity, be it a company,

industry, educational institutions e.t.c. Such a concept or method could be necessary to the aim of such an organization to better their previous activities or mode of operations in a bid to obtain a better result or output.

Integrated Teaching refers to a way of connecting skills and knowledge from multiple sources and experiences or applying skills and practice in various settings. It simply means bridging connection between academic knowledge and practicals. Hence, there is need to integrate Information and Communication Technologies (ICTs) driven curriculum in training of adult education students in tertiary institutions in Abia State.

Information and Communication Technologies (ICTs) are defined as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information" (Brandford, 2008). ICT implies the technology which consists of electronic devices and associated human interactive materials that enable the user to employ them for a wide range of teaching - learning processes in addition to personal use (Clarlson, 1999). These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephone. ICT is that technology which uses the information to meet human need or purposes including processing and exchanging. Information and communications technology (ICT) in education is the processing of information and its communications facilities and features that variously support teaching, learning and a range of activities in education (Dowling, 2003). Anzalone (2001) opined that some ICT facilities like PowerPoint presentation packages, Data projector, Internet services can boost the academic achievement of students if applied in teaching and learning.

When these technologies are applied in the field of education, it is termed as ICT in education. The term too can be used to connotate the term Educational Technology, because it also uses any hardware and software approaches that can enhance better learning outcomes (Eric, 2004). In the era of technology, ICT mainly focuses on the infrastructure, devices and sources of communication technology and thus it is imperative to discuss about the use of ICT in education by focusing mainly on Computer based technology.

ICT in education is any educational technology that is applied in the educational process. It encompasses Hardware approach like use of machines and materials, Software approach like use of methodologies and strategies of teaching learning and Systems approach that uses the management technology that deals with the systematic organization of the hardware and the software (Johnson, 2006). It also includes different software packages for use in different departments of education; eg. library software, administration software, software related to managing the entire teaching learning process. Ogan (2006) stated that an appropriate use of PowerPoint can enhance the teaching and learning experience for both staff and students.

Information and communication technologies (ICTs) — which include radio and television, as well as newer digital technologies such as computers and the Internet have been proven as potentially powerful tools for educational change and reform (Jack, 2006). When used appropriately, different ICTs can help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping make teaching and learning into an active process connected to real life. ICT materials should be

readily available for integration into the training of adult education students. Eric (2004) suggested that ICT should be properly integrated to enable adult education students to source information at ease. Freire (2005) is of the view that It is important that lecturers and students acquired the needed skills for integration of ICT driven curriculum in the training of adult education students.

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There are also some challenges that seem to hinder the integration of ICT in the training of adult education students in the tertiary institutions. The identification of these challenges is necessary because it gives a clue to the factors that limit the integration of ICT into the training of adult education students. This further helps adult educators to source and provide solutions to such challenges for better integration of ICTs.

However, the training of adult education students in tertiary institutions in Abia State seems not to be based on ICT application; rather, the conventional or traditional method of education and training has been in vogue (Ugwuegbu, 2003). Adult education students in Michael Okpara University of Agriculture Umudike (MOUAU) which is in Abia State were however trained using the conventional method or the traditional method of training before the advent of Information and Communication Technology (ICT). The training of adult education students in tertiary institutions in Abia State seems not to be effective. This is so because according to Oyedeji (2008), “adult education students who should be trained in all round knowledge and skills for the society, are found to be trained in the conventional ways other professionals are trained” (P. 24). Furthermore, MOUAU seems to lack the necessary ICT equipment needed for the training of adult education students.

The most required ICT facility for training individuals for competence in the modern global labour market is the computer. The computer is a device which takes in information, stores the information, and gives out such information when needed with maximum accuracy. Computer devices systematically present information to the learner and elicit a response; they use reinforcement principles to promote appropriate responses. With computers, students can learn at their own pace, because the student interacts with the computer. It is believed by many to

be a more dynamic learning device. Furthermore, educational alternatives can be quickly selected to suit the student's capabilities, and performance can be monitored continuously. In the use of computer device for training adult education students, it has been noted by Ogan (2006), that as instruction proceeds, data are gathered for monitoring and improving performance of adult education students.

However, with the advent of ICT, many lecturers are advocating for the integration of ICT, especially computer in the training of individuals for human capital development, and as well as professional development for the Nigerian labour market. This is because ICT provides learning opportunities that is characterized by regular interaction of lecturer and learner irrespective of time or place, or both time and place; learning that is certified in some way by an institution or agency; the use of a variety of media, including print and electronic; two-way communications that allow learners and tutors to interact; the possibility of needed face-to-face meetings; and a specialized division of labour in the production and delivery of courses (Eric, 2004). Most instructors or lecturers, who are knowledgeable, capable, and skilled, can make use of ICT facilities in facilitating the training of adult education students. It is against this backdrop of opinions on the potentials of integrating ICT driven curriculum into training and the inability of the lecturer method to train effective adult education students that the researcher dimmed it fit to practically investigate the integration of ICT driven curriculum in training of training adult education students in tertiary institutions in Abia State.

Objectives of the Study

(i) determine the extent of ICT integration into the training of adult education students in tertiary institutions in Abia State.

(ii) examine the needed skills required by tertiary adult education students for integration of ICT into their training process.

(iii) find out the challenges hindering the integration of ICT into the training of adult education students in tertiary institutions in Abia State.

Research Questions

The following research questions guided the study

(i) To what extent has ICT been integrated into the training of adult education students in tertiary institutions in Abia State?
(ii) What are the needed skills required by tertiary adult education students for integration of ICT into training process?
(iii) What are the challenges militating against the integration of ICT into the training of adult education students in tertiary institutions in Abia State?

Methodology

Descriptive survey research design was used to carry out the study. According to Nworgu (2006) a survey research is one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire

group. This design was considered appropriate because it offered the researcher the opportunity of sampling the opinions of significant number of people from population of the study without any manipulation of the variable of the study.

The population of the study covered all the adult education students in tertiary institutions Abia state. Hence, the population of the study is 97 adult education students MOUAU, Abia State. Because of the manageable size of the population, the researcher used census sampling technique to select the entire population as the sample of the study. A sample is subset of population the researcher wants to study and where the population is small it can be studied entirely as sample (Denga and Ali, 1998). The researcher used a well-structured questionnaire titled Information Communication Technology Integration Questionnaire (ICTIQ) as the instrument for data collection which were validated by three experts in Adult Education, Curriculum planning and measurement and evaluation.

The reliability of the instrument was established with a trial test administered to 20 adult education students in Alvan Ikoku College of Education Owerri, Imo State. This was so because, these respondents in Owerri, Imo State have similar experience regarding the integration of ICT in adult education and they are not part of the study. The reliability of the instrument was determined by using Cronbach's Alpha. For the extent of ICT integration into the training of adult education students in tertiary institutions, the needed skills required by tertiary adult education students for integration of ICT into their training process and the challenges hindering the integration of ICT into the training of adult education students in tertiary institutions, the co-efficient alpha for the three sections were 0.857, 0.732 and 0.821 respectively, which gave overall reliability mean of 0.803. This shows that the instrument is highly reliable. Research questions were answered using frequency and mean. Based on the four-point rating scale, the total frequency was used to determine the mean for each item. The real limit of numbers was adopted to guide the interpretation of the calculated means as follows; a mean of 3.50 – 4.00 was accepted as a Very High Extent (VHE), 2.50 – 3.49 was accepted as High Extent (H E) while 1.50 – 2.49 was accepted as Low Extent (LE) and 0.05 – 1.49 was accepted as Very Low Extent (VLE).

Research Question 1: To what extent has ICT been integrated into the training of adult education students in tertiary institutions in Abia State?

Table 1: Extent of ICT Integration into the Training of Adult Education Students (n = 97)

S/N	Extent of ICT Integration into the Training of Adult Education Students	Total	Mean Score	Decision
1	Use of data projector in teaching.	277	**2.85**	**HE**
2	Powerpoint is used in presentation of information during instruction.	254	**2.61**	**HE**
3	Slide shows are used in elucidation of points during teaching.	264	**2.72**	**HE**
4	Video and audio clips are used to present instruction.	213	**2.19**	**LE**
5	Use of application software in teaching and storing of information during instruction.	189	**1.94**	**LE**

6	Different types of computers are used in projecting information and in note taking during teaching.	332	**3.42**	**HE**
7	Lectures are delivered online using internet.	190	**1.96**	**LE**
8	Online supervision of projects and theses (e – supervision)	251	**2.59**	**HE**
	Grand Mean		**2.54**	**HE**

Source: Field Survey, 2021

Table 1 shows the responses of the respondents in the research question 1 on the extent of ICT integration into the training of adult education students in tertiary institutions in Abia State. The respondents agreed to a high extent with item 1, 2, 3, 6and 8 with mean weight of 2.85, 2.61, 2.72, 3.42 and 2.59 as some of the extent of ICT integration into the training of adult education students in tertiary institutions in Abia State. They agreed to a low extent with item 4, 5 and 7 with mean weight of 2.19, 1.94 and 1.96 as some of the extent of ICT integration into the training of adult education students in tertiary institutions in Abia State. Therefore, it can be deduced from the analysis on the above table that the ICT integration into the training of adult education students in tertiary institutions are high through using different types of computers in projecting information and in note-taking during teaching, use of data projector in teaching, and using slide shows in elucidation of points during teaching.

Research Question 2: What are the needed skills required by tertiary adult education students for integration of ICT into training process?

Table 2: Needed skills required by students for integration of ICT (n = 97)

S/N	Needed skills required by tertiary adult education students for integration of ICT into their training process	Total	Mean	Remark
1	Skill for operating the computers.	343	**3.54**	Agree
2	Skill in designing and presentation of power points.	284	**2.93**	Agree
3	Skill for using e-mail.	288	**2.97**	Agree
4	Skill for operating the data projector.	274	**2.82**	Agree
5	Skill in making use of smart board.	258	**2.66**	Agree
6	Skill for browsing the internet	340	**3.51**	Agree
7	Skill for using search engines	343	**3.54**	Agree
8	Typing skill	363	**3.74**	Agree
9	Skill for using online social media	279	**2.88**	Agree
10	Skill for downloading information online	308	**3.18**	Agree
	Grand Mean		**3.18**	Agree

Source: Field Survey, 2021 *Criterion Mean = 2.5*

The table above shows the responses of the respondents in the research question 2 on the needed skills required by tertiary adult education students for integration of ICT into their training process. The respondents agreed that the skills required by the students are skill for operating the computers, skill in designing and presentation of power points, skill for using e-

mail, skill for operating the data projector, skill in making use of smart board, skill for browsing the internet, skill for using search engines, typing skill, skill for using online social media and skill for downloading information online.

Research Question 3: What are the challenges militating against the integration of ICT into the training of adult education students in tertiary institutions in Abia State?

Table 3: Challenges hindering the integration of ICT into the training of adult education students in tertiary institutions in Abia State (n = 97)

S/N	Challenges hindering the integration of ICT into the training of adult education students in tertiary institutions in Abia State	Total Score	Mean Score	Remark
1	There is no availability of desktop, laptop and notebook computers.	336	**3.46**	Agree
2	There is no availability of application and utility software	329	**3.39**	Agree
3	There is no availability of data projector	333	**3.43**	Agree
4	There is no availability of smart board.	331	**3.41**	Agree
5	There are poor internet facilities.	323	**3.33**	Agree
6	There are skeletal internet services.	323	**3.33**	Agree
7	Available ICT facilities are not properly maintained	313	**3.23**	Agree
8	There is inadequate power supply	310	**3.20**	Agree
	Grand Mean		**3.29**	Agree

Source: Field Survey, 2021 *Criterion Mean = 2.5*

The analysis on Table 3 which was carried out to find out the challenges hindering the integration of ICT into the training of adult education students in tertiary institutions in Abia State shows a grand mean of 3.29 which shows that the respondents accepted the items as the challenges to the integration of ICT. Specifically, the mean response of the items are (3.46, 3.39, 3.43, 3.41, 3.33, 3.33, 3.23, 3.20 > 2.5, respectively). Hence, the challenges are there is no availability of desktop, laptop and notebook computers, there is no availability of application and utility software, there is no availability of data projector, there is no availability of smart board, there are poor internet facilities, there are skeletal internet services, available ICT facilities are not properly maintained and there is inadequate power supply.

Discussion of Findings

Extent of ICT integration into the Training of Adult Education Students in Tertiary Institutions

It was discovered from the findings of this study that ICT is integrated into the training of adult education students in tertiary institutions in Abia State to a high extent in many ways like: use of data projector in teaching, use of PowerPoint in presentation of information during instruction. This finding agrees with the findings of Ogan (2006) who found out that an appropriate use of PowerPoint can enhance the teaching and learning experience for both staff

and students. Use of slide shows in elucidation of points during teaching, use of different types of computers in projecting information and in note taking during teaching, and online supervision of projects and theses (e-supervision).

Skills required by Tertiary Adult Education students for Integration of ICT into their training process.

The findings further revealed that the respondents agreed that there are needed skills required by tertiary adult education students for integration of ICT into their training process. They include: skill for operating the computers, skill for browsing the internet, skill for using search engines, and typing skill. They also agree to a great extent that there are needed skills required by tertiary adult education students for integration of ICT into their training process, which include: Skill in designing and presentation of power points, skill for using e-mail, skill for operating the data projector, skill in making use of smart board, skill for using online social media, and skill for downloading information online. This finding also agrees with the findings of Freire (2005) who asserted that it is important that lecturers and students acquired the needed skills for integration of ICT in the training of adult education students.

Challenges hindering the Integration of ICT into the training of Adult Education Students in Tertiary Institutions

Finally, the findings of the present study further show that the respondents agreed that there are challenges hindering the integration of ICT driven curriculum in the training of adult education students in tertiary institutions in Abia State. Those challenges include: there is no availability of desktop, laptop and notebook computers, there is no availability of application and utility software, data projector, smart board, there are poor internet facilities, there are skeletal internet services, available ICT facilities are not properly maintained, there is inadequate power supply, tertiary institutions are poorly funded, there is level of poverty and computer illiteracy among adult educators. This finding agrees with the findings of Frank (2009) who found out that poor funding of schools, poverty, and illiteracy are some of the problems affecting the use of ICT facilities for teaching and learning in educational institutions.

Conclusion

Based on the findings, it can be concluded that ICT is integrated to a high extent into the training of adult education students in tertiary institutions in Abia State. There are some needed skills required by tertiary adult education students for integration of ICT into their training process. There are many challenges hindering the integration of ICT into the training of adult education students in tertiary institutions in Abia State.

Recommendations

Based on the findings, the researcher made the following recommendations:

1. The University authorities should provide adequate internet facilities and make internet services efficient. Available ICT facilities should be properly maintained. The University

authorities should provide adequate power supply and make a standby alternative power supply available in case of eventual power outage.

2. Federal and State government should ensure proper funding of tertiary institutions in Abia State to enable them purchase and integrate ICTs into the training of their students. Adult educators should undertake a computer literacy programme and be made to be ICT compliant. They should also be properly motivated financially and otherwise.

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