The Role of Technology in Improving Adult Education Curriculum Development in Nigeria

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Abstract: The study investigates the role of technology in improving adult education curriculum Development in Nigeria. The design of the study adopted was descriptive survey design. The population of the study was all 60 adult instructors and all 168 adult learners in all the eight adult education centers in Jalingo urban. There was no sampling as the entire population was used for the study. The instrument adopted for the research was questionnaire which contains 20 structured items. The instrument was validated by three experts two from the Department of Adult Education and Extra-Mural Studies one from Measurement and Evaluation Unit, Science Education Department all in University of Nigeria, Nsukka. The reliability of the instrument was ascertained using test-retest method outside of area of the study. Using pearson moment correlation coefficient, a reliability co-efficient of 0.84 was obtained. This indicates that the instrument was reliable for the study. Mean statistics was used to analyze data in order to answer the research questions and t-test statistic was used to test the null hypotheses that guided the study. The Findings revealed that technology will help in the provision of independent learning, entrepreneurship skills among others. The study also revealed that technological materials are very expensive. Based on the findings, the study recommended among others that government, donor agencies and individuals should assist in providing technological materials (ICT) to enhanced teaching and learning processes.

Keywords: Technology, Adult Education and Curriculum Development

INTRODUCTION

Technology is a body of knowledge devoted to creating tools, processing actions and the extracting of materials. The term "Technology" is wide, and everyone has their way of understanding its meaning. We use technology to accomplish various tasks in our daily lives, in brief; we can describe technology as products and processes used to simplify our daily lives. We use technology to extend our abilities, making people the most crucial part of any technological system. Technology is also an application of science used to solve problems. But it is vital to know that technology and science are different subjects which work hand-in-hand to accomplish specific tasks or solve problems (useoftechnology.com2017).

In order words, technology refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes. It is also a science that involves systematic study or application of practical knowledge and skills which a society provides its members with those things needed or desired (Times, Sunday Times, 2016). It can further be defined as the application of scientific knowledge to the practical aims of human life or, as it is sometimes phrased, (Hubert, 2019).

However, there are difference between Technology and science. The different is that Technology develops and explains the human made world; it involves development, processing and management while science explains the natural world, and science refers to systematic methodology used to gather accurate information about shared reality. Technologies are of different types. These types are communication technology, constructive technology, assistive technology, medical technology, Business technology, information technology and educational technology among others.

Technology is a wonderful tool that can be used to assist adult instructors and learners or facilitators and adults' learners in the classroom or learning ground as the case may be. In fact, instructors should be encouraged to use technology to assist them in their role as facilitators (Szotak, 2000). This is important step towards integrating technology into the curriculum. However, the true integration of technology goes far beyond the role of assistant. Technology is changing at a rapid pace and causing more and more confusion on how to use it in an effective, integrated manner in schools or adults learning centers. It seems that there has been a focus on the physical machine when it comes to teaching with computers. In fact, the teaching has been teaching with computers. Learners spend many hours learning how to use software applications or computer science concepts. The question arises should learners be learning about computers or should you let learners learn with computers as they learning content related to curriculum objectives. The integration of technology should contribute to the teaching and learning in the classroom. Computers shouldn't be an add-on or used as a time filler. The computer should be a means for reaching the instructional objectives in the classroom. Therefore, the curriculum is place to start when integrating technology. The instructors, along with the curriculum should guide the integration of technology and not the computer (Randolph etal, 2000).

The integration of technology should serve to guide, expand and enhance learning objectives. It is understood that teachers and students do need to spend time learning the basics of using a computer. This is necessary in order to move to effectively integrating technology. Curriculum integration with the use of technology involves the infusion of technology as a tool to enhance the learning in a content area or multi-disciplinary setting. Technology enables adult learners to learn in ways not previously possible (Kelly et al 2000).

Effective integration of technology is achieved when learners are able to select technology tools to help them obtain information in a timely manner, analyze and synthesize the information, and present it professionally. The technology should become an integral part of how the classroom functions as accessible as all other classroom tool (ISTE, page 6). In this perspective, the instructors need to be trained and well equip with knowledge and skills on how to maintain manage the computers

(technology) whenever there is troubleshooting for necessary measures. Even though they are not expected to be technicians but they should be technical know-how in handling and manipulating the computers, electronics, among others. It is also important to note that administrative support should be set aside for the purpose of controlling managing the computers and others electronics that could be used to enhanced teaching and learning effectively.

It is obvious that if we expect instructors to integrate technology into the curriculum there needs to be a degree of familiarity with the computer. Teachers should strive for two goals when integrating technology. The first goal is to become a computer using instructor. It may be the producing materials to use in the classroom such as handouts, banners or newsletters. It may be using the computer to manage your students' marks or using software to strengthen a particular skill among others (Geisert&Futrell, 1995). Above all, it's important that instructors have a clear understanding of what technology can and can't do in the classroom. Computers can help instructors and learners find old information for example from the library of congress website (Valmont &Wepner, 2000, p.8).

For any effective teaching in the classroom, the curriculum guide must be consulted for a particular grade. Lessons are planned around a set of goals and objectives identified in the curriculum. A visual representation of quality instruction can be viewed below.

A computer can provide support and contribute in all of the four areas but the most important area to consider is the instructional purpose. Being able to identify and clearly state your teaching intent is a valuable first step in teaming up with computers to teach. The curriculum will serve as a guide and enable you to identify the goals and objectives your learners need to achieve. When you are developing a unit plan include an area for technological integration and list specific activities that you can do to support the objectives of the lesson and involve technology. The specific activities might involve accessing the internet, software application to enhance a skill or development of an end product using technology.

Ironically, as the world shifts towards a global knowledge economy, education is the gate way through which this is set to be achieved, the quality of higher education, is assessed through the backdrop of technology integration to enhanced performance and achievement. A suitable and sustainable technology should be used to electronically reach out to a large number of learners the general public with quality educational material, so as to address the issues of access to education with equity and quality. Technology has made search, storing, retrieval, transmission, gathering, dissemination and reception of knowledge easier, cheaper and faster. Technology is expected to completely change the way the curriculum is developed and delivered hence enhancing the quality of higher education through adult education.

Adult Education is a practice in which adults engage in systematic and sustained self-educating activities in order to gain new forms of knowledge, skills, attitudes, or values. It can mean any form of learning adults engage in beyond traditional schooling, encompassing basic literacy to personal fulfillment as lifelong learners. In particular, adult reflects a specific philosophy about learning and teaching based on the assumption that adults can and want to learn, that they are able and willing to take responsibility for that learning, and that the learning itself should respond to their needs in which their problems are tackled (World Bank, 2019).Adult education aims to provide education that will enable young as well as mature adults to improve or supplement their knowledge and skills within general subject (Kumar,2017). It also aims to enhance possibilities. Adult education is a practice in which adults engage in systematic and sustained self – educating activities in order to gain new form of knowledge, skills, attitudes or values. According to Mbah (2014), Adult education is the education provided for both men and women who for one reason or the other dropped out of the formal school system, or those who for the purpose of work and their engagements are unable to register for full time courses, abandoning in the process their work and family. According to Ebiye (2005), adult education is any kind of education designed for the illiterate population, the formal school drop outs, and the unskilled workers and carried on outside the formal school setting and this come about curriculum development.

This refers to all those processes and activities systematically undertaken by either on individual or an institution to come up with an educational programme. In some countries, curriculum development is not done centrally while in Kenya it is centralized and the body changed with the responsibility of developing the curriculum is the Kenya Institute of Curriculum Development (Kowino, 2013). It is the planning of learning opportunities intended to bring about changes in learners/students behaviours and assessment of the extent to which these changes have taken place. There are a number of processes involved in curriculum development exercise and they are according to the Kenya Institute of Curriculum Development (KICD): Policy decision, Need assessment among others. Curriculum development has a broard scope because it is not also about the school, the learners, and the teachers. It is also about the development of society in general. In today's knowledge economy, curriculum development plays a vital role in improving the economy of a country. It also provides answers or solutions to the worlds pressing conditions and problems, such as environment, politics, socio-economics, and other issues of poverty, climate change and sustainable development. There must be a chain of developmental process to develop a society. First the school curriculum, particularly in higher education, must be developed to preserve the country's national identity and to ensure its economy's growth and stability.

Thus, the president of a country must have a clear vision for his people and the country as well.

Curriculum is a plan for educating youths and adults, this plan is laid down so that a definite route to be taken by the process of education is chartered. For any curriculum to be effective, the organizers or planners must determine the sequence which includes concept related, inquiry related, and learning related and utilized factors (Ornstein and Hunkins, 2004).

Curriculum is considered as the 'heart' of any learning institution which means that schools or Universities cannot exist without a curriculum. With its importance in formal education, the curriculum has become a dynamic process due to the changes that occur in our society. Therefore, in its broadest sense, curriculum refers to the total learning experiences of individuals not only in school but society as well (Bilbao et al, 2008). Therefore, curriculum development is defined as planned, a purposeful, progressive and systematic process to create positive improvements in the educational system. Every time there are changes or development happening around the world, the school curricular is affected. There is the need to update them to address the society's needs. This when well-planned and developed well can lead to sustainable national development which of course leads to positive change.

Statement of the Problem

In Nigeria adult education suffers from low status. The low status accorded adult education in Nigeria accounts for a lot of misnomer in the programme. Adult education in Nigeria is seen as merely education for the stack illiterates' adults of the populace who lack opportunity for regular formal education in their childhood years. It is also treated as a remedial programme for those who dropped out of the regular formal school system. Adult education is therefore regarded as the educational programme for the unfortunate, the push outs and the left outs. The low status of adult education in Nigeria is responsible for lack of proper state control, standardization, and accreditation. This creates problems in the development of adult education curriculum. The present curriculum content of adult education in Nigeria is too narrow and does not make for functional literacy. Also there is no integration of technology for the improvement of adult education programmes. There is absence of vocational and technological content as well as other curriculum innovations such as entrepreneurship education among others which are indispensable for meaningful living and sustainable national development and transformation.

The adult populace forms the human resources for the development of any country. The few skilled and highly skilled adults are threatened by obsolesce due to rapid of and fast technological changes in the work environment (Eyibe, 2005). According to Anyanwu

(2010), Technology skills have not been mastered by many Nigerian adults and youths who ought to empty them in their day-to-day activities. This ugly scenario therefore calls for embedding technology in adult education curriculum development in Nigeria through the inclusion of technology in adult education programmes in Nigeria.

Purpose

The main purpose of this study was to ascertain the extent in which technology improve Adult Education Curriculum Development in Nigeria. Specifically, the study sought to:
• Find out the role of technology in improving adult education curriculum development in Nigeria.
• Find out the challenges facing the inclusion of technology in improving adult education curriculum development in Nigeria.

Research Questions

The following research questions guide the study:
• To what extent technology play vital role in improving adult education curriculum development in Nigeria.
• What are the challenges facing the inclusion/utilization of technology in improving adult education curriculum development in Nigeria?

Hypothesis

HO_1: There is no significant difference between the mean ratings of the extent technology play vital role in improving adult education curriculum development in Nigeria.

HO_2: There is no significant difference between the mean ratings of the challenges facing the utilization of technology in improving adult education curriculum development in Nigeria.

Method

The study adopted descriptive survey design. Descriptive survey design seeks to collect data that describes a study under investigation. According to Nworgu (2015) descriptive survey design seeks to document or describe what exist in present status of existence or absence of what is not in existence. According to Uzoagulu (2011) stated that descriptive survey research is suitable for describing the characteristics of a given population as they exist in their natural setting.

The population of the study was all 60 adult instructors and all 168 adult learners in all the eight adult education centers in Jalingo urban. There was no sampling as the entire population was used for the study. The instrument used for data collection was a researcher made questionnaire which was made up of 20 items. The first 10 items dealt on Role of Technology, while the second 10 items deal with the challenges facing the inclusion of technology in adult education curriculum development. The instrument was constructed on a 4point rating scale of Strongly Agree (4 points); Agree (3 points); Disagree (2 points); and Strongly Disagree (1 points). The instrument passed through face validation using three experts two from the Department of Adult Education and Extra Mural Studies and one from the Measurement and Evaluation Unit, Science Education Department all in University of Nigeria Nsukka. The reliability of the instrument was ascertained using test-retest method outside of area of the study. Using Pearson moment correlation coefficient, reliability co-efficient of 0.84 was obtained. This indicates that the instrument was reliable for the study. Mean statistics was used to analyze data in order to answer the research questions and t-text statistic was used to test the null hypotheses that guided the study. Two research assistant were trained and used to elicit information from the respondents by disseminating and retrieving the questionnaires

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Results

Table 1: Mean ratings of adult instructors and adult learners on the role of technology in improving adult education curriculum development in Nigeria

S/N	To what extent technology play vital role in improving adult education curriculum development in Nigeria		SD	Dec		SD	Dec
1	Technology will help adult learners to be independent learners	3.50	0.73	Accept	2.96	0.96	Accept
2	Technology will help adult learners acquire entrepreneurship skills	3.03	0.55	Accept	2.78	0.87	Accept
3	Technology offers information literacy to adult learners.	2.86	0.81	Accept	2.73	0.88	Accept
4	It will help adult learners develop their creative potentials.	2.73	0.90	Accept	2.71	0.72	Accept
5	Technology skills will make adult learners more effective and efficient in their various job trades.	3.16	0.69	Accept	2.99	0.92	Accept
6	It will motivate adult learners for life-long learning.	2.73	0.86	Accept	2.69	0.84	Accept
7	Technology will help keep adult learners constructively busy.	2.73	1.14	Accept	2.63	0.99	Accept
8	Adult equipped with technology skills will be in a better position to help their children/wards academically.	2.50	0.93	Accept	2.66	0.99	Accept
9	Technology will improve the social life of the adult learners.	2.83	0.87	Accept	2.84	0.88	Accept
10	Technology skills will improve the domestic life of the adult learners.	3.16	0.91	Accept	3.09	0.97	Accept

Dec = Decision

Table 1 above shows that all the items are highly rated by the respondents with scores ranging from 2.50 to 3.50. both respondents agree that inclusion of technology will help to: make adult learners independent learners acquire entrepreneurship skills, obtain information literacy, develop creative potentials of adult learners, make adult learners more effective and efficient in their various job/trades, motivate adult learners for life-long learning, help to keep adult learners constructively busy, help adult learners to be better equipped to assist their children/wards academically, improve the social life of the adult learners and improve the domestic life of the adult learners.

Table 2: Mean ratings of adult instructors and adult learners on challenges facing the inclusion/ utilization of technology in improving adult education curriculum development

S/N	What are the challenges facing the inclusion/ utilization of technology in improving adult education curriculum development in Nigeria.		SD	Dec		SD	Dec
11	Technology materials are usually very expensive.	2.73	0.94	Accept	2.81	0.85	Accept
12	There is the challenge of erratic power supply	2.93	0.90	Accept	2.81	0.84	Accept
13	Poor application of technology in the curriculum	2.56	0.77	Accept	2.69	0.86	Accept
14	Poor participations of learners in technological operation.	2.86	1.00	Accept	2.65	0.88	Accept
15	Supervisions of students are usually poor	2.93	0.94	Accept	2.80	0.87	Accept
16	Lack of technical know-how of the instructors	2.70	0.91	Accept	2.69	0.88	Accept
17	Poor storage / maintenance	3.06	0.78	Accept	2.79	0.88	Accept
18	Poor facilities	2.66	0.84	Accept	2.72	0.87	Accept
19	Bad weather/ climate	2.66	0.75	Accept	2.65	0.83	Accept
20	Inadequate trained personnel	2.60	0.85	Accept	2.74	0.87	Accept

Table 2 shows that all the adult instructors and adult learners agree that the items with the scores range from 2.56 to 3.06 are the challenges facing technology in .

improving adult education curriculum development in Nigeria

Table 3: summary of t-test analysis on the response of adult instructors and adult learners on the extent technology play vital role in improving adult education curriculum development in Nigeria

Subjects	N		SD	Df	T-cal	T-crit	Dec
Adult instructors	60	2.92	0.81				
Adult learners	168	2.81	0.90	166	1.69	1.96	NS

NS= Not Significant

Table 3: indicates that the calculated t-value of 1.69 is less than the critical value of 1.96. Therefore, hypothesis is accepted that there is no significant difference in the mean ratings of adult instructors and adult learners on the role of technology in improving adult education curriculum development in Nigeria.

Table 4: Summary of t-test analysis on the responses of adult instructors and adult learners on challenges facing the inclusion / utilization of technology in improving adult education curriculum development in Nigeria

Subjects	N		SD	Df	T-cal	T-crit	Dec
Adult instructors	60	2.80	0.90				
Adult learners	168	2.51	0.81	166	1.61	1.96	NS

Table 4: Shows that the calculated t-value of 0.61 is less than the critical value of 1.96, therefore the hypothesis is accepted. Hence, there is no significant difference in the mean responses of adult instructors and adult learners on challenges facing the technology in adult education curriculum development in Nigeria.

DISCUSSION OF FINDINGS

The finding in the table 1 revealed a lot of capacity building potentials that technology holds for the adult learners if included and integrated in adult education curriculum. The capacity building effect of technology includes; the provision of independent learning, entrepreneurship skill, literacy information, development, of creative potentials, improve careers, motivation for life-long learning, improve social life and domestic life. When all these are built into the adult learners through the use of technology, the country will have a formidable work force that will carry the country to greater heights. The result shows that technology can provide independent learning for the adult learners. It is generally believed that independent learning provides intrinsic motivation which sustains interest and retention in being. The finding agree with Mbah (2010) who observed that technology has a lot

of capacity building effects on the learner and that the utilization of technology (ICT) in learning helps students to work at their individual rates, and experiment further in their quest of new knowledge. She stressed that technology has come to salvage the inadequacies of conventional teaching methods.

Findings in table two indicates that technology or ICT materials are usually very expensive, erratic power supply, poor application of technology in the curriculum, poor participation of learners in technological operation or programmes, poor supervision of students/ learners. Lack of technical know-how of the instructors, poor storage condition and maintenance, poor facilities, bad weather/climate and inadequate trained personnel among others are challenges facing the inclusion and utilization of technologies in improving adult education curriculum development in Nigeria.

CONCLUSION

Integrating and embedding technology in the curriculum of adult education will holds a lot of capacity-building of adults to contribute effectively in national development.

RECOMMENDATION

Based on the findings, the following recommendations are made:

• Technology/ICT should be included or integrated in the curriculum development of adult education in Nigeria.

• There should be regular power supply in the centre of ICT (Technology) to enhance teaching and learning processes.

• Periodic seminars, workshop, conferences among others should be organized for instructors.

• Government, donor agencies, individuals among others should assist to equip institutions of learning with technological materials to ease learning.

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