

Digital Literacy and Its Implications for Sustainable Adult Education in the 21st Century.

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ABSTRACT

The twenty-first century has been transformed by the advancement in science and technology where different inventions have made teaching and learning more creative and digitalised than before. Different gadgets like iphones, ipads, lab tops, internet, visual, audios, e-boards, power point and so on are now becoming a veritable tool for effective teaching delivery and learning. An analog adult educator in this century may not function as expected due to new literacy skills needed. Ability to handle and operate these gadgets effectively by adult professionals for effective delivery of knowledge to adult client's demand being digitally literate for sustainable adult education in the 21st. This paper therefore examined the implications of digital literacy for sustainable adult education in the 21st century. The paper also explored the advantages and challenges of the 21st century digital literacy for sustainable adult education. In order to achieve sustainable adult education in this 21st century and beyond in which science and technology is advancing, all practitioners of adult education whether private, governmental and non-governmental organisations, facilitators, universities or institutions that offers adult education programmes should be digitally literate so as to be able to handle effectively the new technologies meant for improved delivery of teaching and learning.

Key words: Digital Literacy, Science and Technology, Sustainable Adult Education, 21st Century.

INTRODUCTION

The traditional system of education built on the past centuries was designed in the industrial age and is now out-dated, ineffective and inadequate to meet the needs of the society of the 21st century that has been transformed by information and communication technology. Reason is that, information and communication technology have transformed businesses (including teaching) and many other components of daily life, and many are equally relying on information and communication technology to help transform the nature of the school experience. In the past, education is more of banking system whereby the teacher is “Mr. Know-all and the learner know nothing” (Tabula Rasa), the curriculum is teacher-centred. Abdullah (2013) in his attempt to view Freire's perception of dialogue-based education posits that, banking education, as the most important theme of Freire's critical pedagogy is the process in which knowledge is directly transferred to students, the teacher is the sole distributor of knowledge, and the students the passive receiver of this knowledge. This system of education sees the learner as the object of the learning process, but not the subject. In this process, the knowledge is consumed without any criticism and the learners experienced a cultural alienation and become defenceless against cultural imperialism.

According to Freire in Alam (2013), those being educated through banking education are ignored at the first step and converted into empty containers to be filled by the educators (*Tabula rasa*). The reason why Freire calls this educational model as banking education is that it regards depositing in the learners as one of the most important purposes. Freire explains this in Abdullah as follows: “The learners are the depositories and

the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorise, and repeat. This is the “banking” concept of education, in which the scope of action allowed to the learners extends only as far as receiving, filing, and storing the deposits.”

Presently, the traditional system (teacher-centered) education has changed because of the 21st century which is learner-centred. The 21st Century is technology based that is more of information media, and telecommunication and so on. The skills learner acquired will be more of creativity and critical thinking. The learners has to be digital in advocacy and collaboration with others in solving societal problems. Therefore, the 21st century digital literacy is paramount for achieving sustainable adult education since adult education is learner-centred and solely concerned with problem solving in the society. Knowledge gained by adult learners is not for keep, but for immediate resolution to the problems encountered. Thus, 21st century is pragmatic; it is knowledge for use, but not knowledge for keep as in banking system of traditional teaching.

CONCEPT OF DIGITAL LITERACY AND SUSTAINABLE ADULT EDUCATION

Literacy concept has evolved in the 21st Century. The common definition of literacy from the traditional perspective is the ability to read, write and enumerate in any language. In this 21st century, literacy definition goes beyond that to include the use of digital tools due to the advancement in technology. To be successful in today’s digital world, literacy goes far beyond being able to read and write. The literacy of the 21st century and the future rests on the ability to decode and construct meaning from one’s constantly evolving environment. University of Illinois Library in Mishra and Koehler, (2006) define digital literacy as the ability to use digital technology, communication tools or network to locate, evaluate, use and create information. To be digitally literate will reflect the change in how information is processed, delivered, and received in today’s highly connected world. The working definition of literacy as agreed at the UNESCO Experts’ meeting held on June 2003 in Paris posits “literacy” as the ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts. This involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society (UNESCO in Andrea, 2011).

Education for All in Oyebamiji (2017: 358) defines literacy as:

A person is functionally literate when he can engage in all those activities in which literacy is required for effective functioning of his group and community and also for enabling him to continue to use reading, writing and calculation for his own and community development.

The description and definitions of literacy are widening and have broadened to include work-based and work-place literacy. In the international community today, the issue of defining literacy, as UNESCO (2006) observed, has gone beyond viewing the concept as a simple process of acquiring basic cognitive skills to using those skills in ways that contribute to socio-economic development, developing the capacity for socio awareness and crucial reflection as a basis for personal and social change.

UNESCO’s Information for All Programme (IFAP) in North California recognises the considerable effort being invested by many international organisations in “measuring the information society”, defining digital literacy as a life skill. UNESCO identifies indicators for the development of knowledge societies and integrates them with more established milestone systems for other important skill areas. In May 2007, the Education Council adopted conclusions on a coherent framework of 16 core indicators for monitoring progress towards the Lisbon objectives in education and training. There are many of them with direct relevance to digital literacy, i.e. Information and Communication Technology skills, civic skills, learning to learn skills, participation of adults in lifelong learning. High values in these targeted areas certainly require the development of digital competence.

Contemporary literacy demands and opportunities extend beyond the traditional practices of reading and writing to incorporate facilities with new genres of media and information technologies. Learners of adult education currently use a variety of tools and social media, including face book, twitter, video games, instant messaging, virtual worlds, wikis, and blogs to discuss issues and problems, to seek ideas and answers, as well as to entertain themselves.

Accordingly, Leu et al. as cited in Alam, (2013) argued that contemporary literacy is a didactic term since the forms and functions of literacy rapidly change as technologies for information and communication change. Digital literacy has given rise to digital literacy skills. Invariably, emerging technologies require new skills and strategies on the part of the user. For example, searching for information online requires new kinds of literacy skills. A facilitator/learner may be skilled with using search engines but lack the critical expertise for selecting reliable information from the vast number of links that are available.

In the same way that readers must acquire skills in navigating textual and graphic features of the traditional information textbook, readers must acquire sophisticated reading skills with online environments in order to be academically and professionally competitive. As a matter of economic development, it becomes obvious that facilitators/learners of all ages have the skills needed to navigate in this new literacy landscape. Successful facilitator/learners will be users of technologies that foster the creation of content and the sharing of information, thoughts, and ideas central to active and effective participation in society. An individual's ability to read, write, do mathematics, problem-solving, work as part of a team, think critically, and use information and communication technologies is essential to education and workforce preparation, employment success, as well as civic participation. Becoming digitally literate will not be an option; it will be a necessity (Punia, Jizah, Adzlian, & Kamisah, 2011)

Digital literacy should be understood as a wide-ranging set of practices that enable adult facilitators/learners to create, share, and understand meaning and knowledge in an increasingly digital age. Thus, digital literacy involves any number of digital "reading" and "writing" techniques across multiple media forms. These media include words, texts, visual displays, and motion graphics, audio, video, and multimodal forms.

A digitally literate adult that will be able to face the realities of the 21st Century knowledge economy must therefore be able to:

1. Possesses the variety of skills required to find, understand, evaluate, create and communicate digital information in a wide variety of formats;
2. Must be able to use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information;
3. Understand the relationship between technology, life-long learning, personal privacy and stewardship of information;
4. Uses these skills and the appropriate technology to communicate and collaborate with peers. Colleagues, family, and on occasion, the general public; and
5. Uses these skills to actively participate in civic society and contribute to vibrant, informed and engaged community (ALA Digital Literacy Task force, 2011).

Digital literacy therefore includes the ability to read and interpret media, to reproduce data and images through digital manipulation and to evaluate and apply new knowledge gained from digital environment. It implies fuller understanding and a rounder knowledge. A literate person should be aware of multiple information sources, the pros and cons of media forms, and the value and credibility of information.

A digitally literate person must be able to process diverse data source, and suggest macro relevance macro application of seemingly disparate ideas. Digital literacy is the ability to find, evaluate, utilise, share, and

create content using information techniques and the internet.

ADULT EDUCATION SUSTAINABILITY CONCEPT IN A DIGITAL AGE

Adult education as a concept is very broad in which literacy is just one of its components. The term adult education according to Okeke in Nzeneri, (2013) is an important facet of national education enterprise and a source of social, economic and political development of nations. It is worthy of note that this is the only type of education that gives people the second chance irrespective of their previous level of education to improve their lives, and to participate meaningfully in their social, economic, political and cultural activities. Many people have been inhibited by some socio-economic, political, cultural and natural factor from benefiting from the right to education.

Since adults in the society are the most affected by the above mentioned factors, Eheazu, (1998:15) stated that:

Adult education is given to adults to remedy their deficiencies.... These adults who now constitute the illiterate, unskilled, semi-skilled or semi-professional labour force required some specific functional training/vocational programmes to remedy not only their educational deficiencies but also meet the needs of their various occupations whether as farmers, artisans or employees of corporate/private organisations.

This type of education encompasses all forms of education whether formal, informal non- formal aspects of education. In addition, its ultimate goal is to develop a process by which members of a community may learn to work together to identify problems and to seek out solutions to such problems (Oyebamiji, 2013). He went further to state that, its role extend from traditional idea of teaching children to the broader concept of identifying the needs, problems and wants of a community, and development facilities for the improvement of the whole community (Howard and Voorhees in Oyebamiji, 2013).

The most acceptable definition of adult education which is relevant for national development was given by UNESCO in Oyebamiji (2013: 121):

The entire body of organised educational processes, whatever the content, level and methods, whether formal or otherwise, whether it prolong or replaces initial education in schools, colleges, and universities, as well as in apprenticeship whereby person regarded as adult by the society to which they belong develop their abilities, enrich their knowledge, improve their technical qualifications, or turn them in a new direction and bring about changes in their attitudes or behaviours in two-fold perspective of full-personal development and participation in balanced and developmental social, economic, and cultural development.

From the above definition, adult education accommodates all categories of learners whether those already in the formal school system, out of school early leavers and those who do not have the ability to see the four walls of the classroom. It is interesting to note that emphasis is laid on flexible rather than rigid procedure of educational provision.

The objectives of adult education as seen in Oyebamiji (2013) citing the National Policy on Education as follows:

1. To provide functional literacy education for adults who have never had the advantage of any formal education;
2. To provide functional and remedial education for those young people who prematurely dropped out of the formal school system;
3. To provide further education for different categories of completers of the formal education system in order to improve their basic knowledge and skills;

4. To provide in-service, on-the-job vocational and professional training for different categories of workers and professionals in order to improve their skills; and
5. To give the adult citizens of the country necessary aesthetic, cultural, and civic education for public enlightenment.

From the above stated objectives of adult education as contained in the National Policy on Education, the fulfilment of these objectives is paramount in order to attain all round sustainability for the 21st Century knowledge economy.

Ezimah (2016) and Sutton (2000) maintained that, the concept of sustainability among other things can be applied to:

1. social sustainability;
2. economic sustainability;
3. ecological sustainability; and
4. cultural sustainability.

Sustainability can be defined from different perspectives depending on the context with which it is being used. However, the report of the World Commission on Environment and Development (WCED) also known as the Brundtland Commission published in 1987 in Ezimah, (2016: 282) set the tone on sustainable development thus:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own 'needs' in particular the essential of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs.

However, the need of the future generations has to be understood based on information available at the present time. There is need to sustain adult education in order not to be obsolete and to ensure equity. That is to say, adult education should move from its present state of analog to digital generations. Adult education aims, objectives, principles, practices, curriculum and policies needs to be sustained for the future. Sustainable adult education can be seen as a transformative learning process that equips adult learners and facilitators in a formal, informal and non-formal system with the knowledge and ways of critical thinking in order to achieve economic prosperity and responsible citizenship while restoring the health of the living systems upon which our lives depends. Digital literacy is one of the key variables for the survival of the present day economy. All the spheres of life have gone digital, and to be illiterate in this century will be a serious disaster for our development.

Implications of digital literacy for sustainable adult education in the 21st Century.

The tremendous growth of new technological environment is considered as a driving force that transforms our world into an electronic global society as noted in (Anyikwa, 2016). The use of digital literacy is relevant in the promotion of sustainable adult education in the 21st century in that, adult education facilitators must be digitally oriented (that is, changing from analog facilitator) so as to teach learners using digital tools or devices such as iphones, ipads, lap tops, internet, visual, audios and so on. Since digital literacy has to do with the ability for adult facilitators/learners to use digital tools in the teaching and learning process, it could go beyond that with the inculcation of the three educational domains such as cognitive, affective and psychomotor. That is to say, how effective can the adult facilitators/learners handle these digital tools in every teaching and learning situation?

Adult education principles and practices had not included the use of digital literacy in its methods and

approaches in the past. However, the 21st century comes with exposure, technology, website, electronic usage. Therefore, it has become important that adult education policy and curriculum should include digital literacy methods and approaches.

Adam and Quick, (2012) are of the view that, digital literacy should be positioned as an entitlement for adult learners that supports their full participation in a society in which social, cultural, political and financial life are increasingly mediated by digital technologies. Although the creation of digital contents is becoming increasingly simple, personalisation of learning will require teachers to locate and utilise a variety of digital resources to meet the needs of every learner. The inculcation of digital literacy skills into the adult learners will make for sustainable adult education.

The advantages of 21st century digital literacy in promoting sustainable adult education cannot be over emphasised in the following ways:

1. it will help in designing curriculum that has content of the digital literacy.
2. assist in formulating policies of adult education (that is, policy statement for agencies involved in adult education programmes).
3. it will help in the area of manpower and training of facilitators.
4. it will help in the area of designing good quality instructional materials for adult learners.

Having seen the advantages of 21st century digital literacy, there are equally some challenges that is likely to be encountered such as:

1. electricity due to the irregularity of power supply most especially in Nigeria.
2. funding is also an issue of concern due to the fact that electronic gadgets are very expensive in this 21st
3. another challenge is in the area of technological-know-how which has to do with having facilitators that have knowledge to use those devices.

CONCLUSION AND RECOMMENDATIONS.

Since the society and the environment is more technologically based with the use of websites and internet and so on, adult education also need to move towards that line of change and help its learners now to become digitally literate as the 21st century is changing. Thus, the need for improved investment in adult education facilities especially in the digitisation of teaching learning process. This will involve constant training of adult facilitators through seminars, workshops and conferences for knowledge upgrade in the use of the new technologies for effective facilitation of adult learners to become digitally literate. The implication therefore is that, with the 21st century change, and for adult education to achieve its goals for sustainable development, all practitioners of adult education whether private, governmental and non-governmental organisations, lecturers, universities or institutions that offer adult education programmes should have a change of attitude and policy which makes for sustainability in the field of adult education.

The 21st century digital literacy becomes paramount in sustaining adult education in our contemporary time. In addition, all the stakeholders involved in planning and implementation of adult education programmes such as: Nigerian National Council for Adult Education (NNCAE), Universal Basic Education Commission (UBEC), – National Mass Education Commission (NMEC) and National Orientation Agency (NOA) should include digital literacy contents and endeavour to make efforts to provide the needed facilities(i.e. electronic gadgets that will facilitate the teaching of digital literacy for adult learners) in every adult education programmes in order to meet the adult learners need in this contemporary time without compromising the needs for future adults. Also of important is the need for our government at all levels to increase the budgetary allocation to education particularly adult education because adults need to be digitally literate,

they are the ones contributing to the nations gross domestic products. Thus, investing in digital literacy must be a task that must be done for improved productivity in the 21st century knowledge economy.

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