ENHANCING LITERACY EDUCATION AND SKILLS DEVELOPMENT THROUGH THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN NIGERIA

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Abstract

The continued demand for literacy education and skills development in Nigeria occasioned by the astronomical increase in the population of the country, its attendant effects on the conventional education delivery mechanisms, low-level accessibility challenges to skills development and technological advancement of the 21st-century call for urgent attention for quick intervention to address factors impeding sustainable development of the country. The lack of access to basic literacy education and skills development has greatly affected peoples' potential to contribute meaningfully to the growth and development of the country. This problem thereby affects the accelerated development of the country and deprived people inclusive education opportunities most notably, those geographically disadvantaged. Hence, this paper seeks to make a case for literacy education and skills development enhancement through the use of ICTs vis-a-vis the growing demand for literacy and skills development in the country. It also examined the prospects inherent in ICTs at enhancing literacy and skills development and perceived challenges in the adoption and utilization of ICTs to strengthen literacy and skills development in Nigeria.

Keywords: Literacy Education, Information and Communication Technologies, Skills Development, Sustainable Development, Nigeria

Introduction

In the past few decades, the world has experienced remarkable and incremental growth in information communication technologies which include computers, internet, telephony, and broadcasting technologies such as radio and television. Generally, ICTs is defined as a diverse set of technological gears and resources to communicate, create, store, disseminate and manage information. While ICTs have become a catchword attracting it to be interpreted and defined in different ways among scholars, its impact on the individual, community and the global world cannot be underestimated. ICTs has significantly transformed the world from a "post-industrial" to "information" society where individual

and collective survival is based on the ability to access, search, use, create and exchange information and a critical component of this information society is education (Osterwalder, n.d.; Bahrini & Qaffas, 2019; Meenakshi, 2013).

Information communication technologies have demonstrated its potentials to contribute towards the attainment of universal education worldwide through opening full access to education and training and set a better condition for lifelong learning. Specifically, ICTs has the potential to extend learning to people who are underserved and provide educational opportunities to learners whose physical presence in class is hampered as a result of work and family responsibilities, geographically disadvantaged or those with health issues and other limitations. It has also been observed to serve as an essential tool that can improve competency level where there is need to upgrade skills to increase one's prospect of having a better chance in the workplace or to gain additional knowledge to remain relevant in this ever dynamic world. Equally, ICTs present the opportunity for on-the-job training for working-class people who require to upgrade their knowledge without necessarily leaving their jobs and those who need entry-level skills to either be functional or be more employable in the labour market (Joshi, Meza, Costa, Perin, Trout, & Rayamajih, 2013).

However, despite the numerous potentials inherent in the use of ICTs at enhancing educational delivery and improve skills for survival in the 21st century, there has been a continued demand for literacy education and skills development in Nigeria as a more substantial portion of the country's population lacks basic skills of reading and writing and the majority of people who fall between the working age in the country do not have necessary required skills to be employable, and this tends to limit their capacity to be fully productive and contribute meaningfully towards the economic growth of the country. This situation is worsened by the rapidly changing global economy that increasingly requires workers to be innovative, flexible and adaptive to fast-advancing digital technology transforming ways, in which works are done and how people live and learn which are opening skills gaps and lifelong learning needs (UNESCO. 2018).

Foundational skills such as literacy skills equip its beneficiary with critical scaffolding, which is prerequisite for numeracy, problem-solving, and socio-economic skills and as such, helping people to acquire these skills makes a good economic sense as those who lack them are forced into unemployment or are restricted to unstable low-wage jobs that offer little career mobility or growth. Also, as those who don't have these skills grow older, they may become increasingly susceptible to job losses and different labour market shocks. The implication of this on national development is devastating as low skills reduce the productivity of the labour force, and this makes investment less attractive for investors and reduces transfer of technological know-how. Equally, low skills spread poverty and inequality because the investment will be stalled and economic growth impeded in a country that does not have skilled workforce to manage and sustain the economy (World Bank Group, 2017).

As a result of the astronomical growth in Nigeria's population with its attendant effects on the conventional education delivery mechanisms coupled with low-level accessibility challenges to skills development in this era of technological advancement of the 21st century, therefore, calls for urgent attention to address factors impeding the quick sustainable development of the country. The lack of access to basic literacy education and skills development has greatly affected peoples' potential to contribute meaningfully to the

growth and development of the country, thereby holding the key to accelerated development of the country. Also, it is shutting people out of inclusive education opportunities most notably, those geographically disadvantaged. Hence, this paper seeks to make a case for literacy education and skills development enhancement through the use of ICTs vis-a-vis the growing demand for literacy and skills development in the country. Equally, prospects inherent in ICTs at enhancing literacy and skills development and perceived challenges that may inhibit the adoption and utilization of ICTs from enhancing literacy and skills development in Nigeria were examined.

Conceptual Clarification

Literacy Education

The concept of literacy has continued to be evolving, and this has made the term to be subjected to different meanings and interpretation by various scholars and literacy practitioners. Traditionally, the word literacy is associated with the ability to read and write. Still, in the contemporary world, its definitions have been extended to include acquisition of skills relevant for survival in society. According to Encyclopedia of African-American Culture and History (2006), literacy refers to the process by which an individual expands his knowledge of reading and writing to enhance his thinking and learning for the sole aim of understanding himself and the world. Generally, literacy tends to be defined within the context of personal, social and cultural values of individual and society. UNESCO (2004), defines literacy as the ability to identify, understand, interpret, create, communicate and compute using printed and written text associated with varying contexts. It further emphasized that literacy involves a variety of learning activities that enable individuals to achieve their goals, develop their knowledge and the potential to participate in community activities and broader society actively. In other words, any learning opportunity that empowers learners with necessary skills and expertise to cope with daily challenges and difficulties in their respective endeavour could be seen as literacy (Itasanmi, Ojedeji and Adelore, 2019).

Literacy education is, therefore, the act of inculcating literacy skills to individuals, communities and the world at large using different delivery methods and medium. The primary task of literacy education is to educate or re-train people to improve on the knowledge and skills acquired in the traditional line of education. It also increases people's awareness to adopt modern techniques and practices which can penetrate people's areas of emotions, attitude and values for overall wellbeing and sustainable development of the country. Literacy education can be seen from two perspectives: firstly as a type of education that equip people with a set of elementary reading and writing skills known as 'basic literacy' and the second as education that inculcates a broader set of skills termed 'functional literacy'. The first form of literacy education sees a literate person as someone who can read and write a short statement about his/her daily living, basing judgment on account of the literacy skills achievements exhibited by the individuals. On the other hand, the second form of literacy education emphasizes the mastery of knowledge and skills that are needed by an individual to be fully functional in the society and cope with daily developmental challenges (Sarumi, 2004).

Skill Development

Skills as a concept have become one of the most important terms in the 21st century most notably in the education sector as it has become evident that the number of years

spent on education acquisition does not necessarily translate into more learning, skills development or economic growth. Hence, the emphasis is now more placed on skill-based education or learning. Skills refer to the ability to perform or get a job done in a proper manner. In other words, it is "an ability and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carryout complex activities or job functions involving ideas (cognitive skills), things (technical skills), and/or people (interpersonal skills)" (Business Dictionary n.d.). Unlike knowledge that refers to the way people recognize, understand and remember information, skills emphasise the manner people choose, use and apply knowledge in varying context. Skills are characterised by its multidimensional or interrelated nature as it can be cognitive, socio-emotional or technical in nature as well as being either basic order or higher-order skills. It is cross-disciplinary and transversal as the same skills can be taught and acquired across many disciplines and developed during different human developmental periods and yet remain relevant in a broad range of activities over time (Villasenor, 2018). According to Business Dictionary (n.d.), skills is "An ability and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carryout complex activities or job functions involving ideas (cognitive skills), things (technical skills), or people (interpersonal skills)." The World Bank Group (2017), categorized skills into three and these include cognitive skills comprising of literacy and numeracy skills that enable people to understand complex ideas, adapt effectively to their environment and learn from experiences and reasons. The second category is called Socio-emotional skills which refers to an individual's ability to navigate interpersonal and social engagements effectively, including leadership, teamwork, self-control and grit. The third category of skills according to the group is technical skills which comprise acquired knowledge, experience, expertise and interactions needed to carry out a specific task including the mastery of the materials, tools and techniques involved in the job.

Skills development, therefore, refers to the acquisition of hands-on practice competencies, knowledge, attitudes required as an entry qualification to perform a trade or maintain relevance in the labour market. It is the process through which learners and workers acquire the relevant skills required for a job or range of jobs in a given occupation area. In other words, it is seen as the development of work-related skills or competencies relevant to the workforce (UNESCO-UNEVOC, 2014)

Information and Communication Technologies

The concept of information and communication technology was drawn from the term information technology, and it does not have a universal definition. Information and communication technologies refer to the use of technology that supports information gathering, processing, storing, retrieval, manipulation, transmission and or receiving information electronically in a digital format. Such technology includes but not limited to computers, television, phones, internet etc. According to Tamilselvan, Sivakumar and Sevukan (2012), information and communication technologies is the use of information to meet the needs of people or purpose including reference to the use of contemporary devices like the internet. It is defined as a sort of set of activities which facilitate information processing, transmission and display through electronic means. In other words, it is seen as devices people deploy to share, distribute, and gather information and to communicate through arrays of computer networks. In essence, ICTs represent a collection of associated technologies defined by their functional usage in information

access and communication, and a key component of it is internet (Ogunsola and Aboyade, 2005). Gokhe (n.d.), opined that the definition of ICTs largely depends on the local culture and the type of ICTs available and how it is configured and managed. It was stated that the understanding, management and configuration of the available ICTs might affect the way the concept is being defined from:

A collection of tools and devices used for particular tasks, e.g., publishing, course delivery, transaction processing.

An organized set of equipment (like a 'workshop') for working on information and communication.

Components of integrated arrangements of devices, tools, services and practices that enable information to be collected, processed, stored and shared with others

Components in a comprehensive system of people, information and devices that enables learning, problem-solving and higher-order collaborative thinking, that are, ICT as key elements underpinning a (sharable) workspace. (p.1)

The use of ICTs is divided into two broad categories. The first category is those ICTs that largely depend on traditional telecommunications networks, including the internet to facilitate on-demand communications that provide information access to users based on their needs and convenience. In contrast, the second category of ICTs fall in the category of automated systems where information is processed and decisions are taken based on existing criteria without human intervention at the time of decision making. The second category can either be a passive system or an embedded ICT in a more extensive system, e.g. sensor-based technologies/networks (Tongia, Subrahmanian, & Arunachalam, 2005).

The Growing Needs for Literacy and Skills Development in Nigeria

Nigeria is the most populous nation in Africa, with over two hundred (200) million population occupying approximately 923,768 square kilometres of surface area. The country is ranked seven in the list of most populous countries in the world and the only E-9 country in Sub-Saharan Africa (World Population Review, 2019). A huge diversity characterizes Nigeria population in terms of ethnicity, religion and language as over 400 languages and dialects are spoken, though, majority of the people communicate in the three main languages of Hausa, Igbo and Yoruba, but English is the official language. A more substantial proportion of Nigeria's population lives in rural areas, and poverty is highly endemic among the people (UNESCO (Nigeria) (n.d.). It is estimated that out of the over 200 million population, about 60 million Nigerians or 30% of the population lack literacy skills of reading and writing coupled with the fact that about 10.5 million school-aged 5-14 years children are out of school. Although primary education is officially free and made compulsory in the country (Adedigba, 2017; UNICEF, n.d.). The problem of out-of-school children is more worrisome in the northern part of the country where the net attendance rate is 53% most especially in north-east and north-west where more than half of girls are not in school. This education deprivation is attributed to various factors, including economic barriers, insurgency, and socio-cultural norms and practices that inhibit formal education acquisition most especially for girls in the north (UNICEF, n.d.). Also, statistics given by the Federal Ministry of Education as quoted in UNESCO (2012) revealed that only 500,000 out of the 40 million illiterate adults in the county enrolled in adult literacy classes and about 3.5 million nomadic school-aged children, only 450,000 have access to any form of schooling.

Compounding the issue of the surge in demand for literacy and skills development in Nigeria is the challenge of millions of drop-outs at different transition stage of the education ladder in the country. It is estimated that approximately one-quarter of pupils drop out of elementary schools (World Educational Services, 2019). Millions of secondary school leavers find it challenging to access tertiary education and even those that had the opportunity to acquire higher education find it difficult to be gainfully employed due to skill gaps and mismatch with what is required in the labour market. Other factors that have led to the high level of unemployment is the slow rate of economic growth and rapid technological advancement which is affecting people's livelihood most especially the young people, women and disadvantaged groups in the country (UNESCO, 2018). It is estimated that unemployment rate in Nigeria increased from 22.7% in the second quarter of 2018 to 23.10% in the third quarter of 2018 and this is partially due to people not having the skills needed by the employers of labour for formal employment (Uddin and Uddin, 2013; Trading Economics, 2019). This unemployment has forced many into militancy, violent crimes, kidnappings restiveness and socially delinquent behaviour that has made life unbearable to individuals and the country at large. Unless this situation is urgently addressed through effective technical and vocational education, entrepreneurial and employability skills and other skills which are consistent with the real labour market demand, the country may find it challenging to achieve the Sustainable Development Goals (Ajufo, 2013).

Prospects in ICTs at Enhancing Literacy and Skills Development

The growing improvement and use of information and communication technologies most notably the internet and ICT-based tools have opened up unprecedented learning opportunities for people who have been excluded from the formal school system, or people who want to learn with a substantial degree of flexibility. This has helped to achieve higher education access and success (UNESCO, 2006). Generally, ICTs is hugely influencing every aspect of education from teaching and learning to assessment and evaluation. It improves the effectiveness of education provision and aids literacy movements as well as enhancing the scope of education by facilitating mobile learning and inclusive education (Tikam, 2013). Specifically, ICTs has been observed to have the potential to support literacy skills development and acquisition in two different ways: firstly, the capabilities inherent in ICTs can enhance the development and acquisition of cognitive and basic literacy skills. Secondly, ICTs can serve as a veritable instrument to support literacy skills acquisition at a distance most especially in places where instructor and other required resources for adequate literacy provision are not available due to location or scarce resources. Available evidence on the use of ICTs to enhance literacy acquisition shows that it is a potent instrument to widen learners' access and participation in literacy programmes and provide a flexible learning opportunity as well as lifelong learning opportunities (Adelore and Itasanmi, 2016). UNESCO (2006) outlined five ways in which ICT can enhance literacy, and these are:

1. Enhancing Learning: literacy skills can be acquired through the use of ICT-based tools such as radio, television, mobile phones, etc. For instance, the combination of the use of radio with printed learning materials can make learning more meaningful and exciting to learners. Also, the opportunity that ICTs afford facilitators and instructional developers to enhance learning materials with the combination of audio and visual materials make learning more effective compared to visual materials alone. Through this,

vocabulary and sentence construction skills and information processing and memory of learners could be enhanced.

2. Widening access to Literacy education: based on the ever-growing population, low carrying capacity of the formal school system and geographical location as well as socio-cultural factors, access to literacy education becomes a problem. Still, with the help of ICTs, many of these barriers can be conquered. For instance, with the use of ICTs such as radio, television, phones and internet, the geographical restriction is displaced as distance learning can be facilitated with the ICTs and as such, literacy education is extended to people who live in areas that are difficult to reach.

3. Local content creation: since literacy education is dependent on prevailing culture and needs of a particular society, the use of ICTs can make available learning content developed in other parts of the world available in indigenous language on locally-relevant subjects. This can enhance the rapid and cost-effective creation and distribution of socially, culturally and linguistically appropriate learning content required for sustainable survival of that particular society.

4. Professional development of literacy facilitators: teachers and facilitators alike are critical stakeholders in creating a literate society, their level of qualification and exposure to best practices in their areas are essential to quality teaching and learner motivation. In developing countries (Nigeria inclusive) where there is an acute shortage of trained literacy facilitators and the little available are thinly distributed mainly for the provision of non-formal literacy education, ICTs can be used as a useful and affordable tool to help in professional training of more literacy facilitators. They can help upgrade the knowledge of the few available facilitators over long distances, thereby making in-service training affordable and easier for facilitators working in remote areas.

5. Literacy-conducive environment creation: For literacy to be well engendered in society, written learning materials must be made available and very much accessible to all as continuous contact with written materials can help reinforce and promote the development of literacy skills. ICTs can be used to make learning materials readily available and very accessible, and this can make written information part of their daily life. For instance, the use of short message service (SMS) technology which allows people to use their dial pads to type and send text-based messages through mobile phone could encourage the development and use of literacy skills of reading and writing. This serves as a means by which written material and literacy skills can become a part of their daily life.

Also, ICTs have been seen as a tool that can equip or accelerate the skill development of people as it is the foundation for the knowledge economy. Through ICTs, people can acquire the required skills that will meet the demand of today's skilled, ICT-driven labour force, which is the hallmark of a country’s transition to a knowledge economy. Also, low skilled workers can have access to and opportunity to upgrade their skills at low cost through online technical and vocational training irrespective of their location. Equally, ICTs can facilitate job-skills training and provide employment opportunities for disadvantaged groups such as people living with disabilities as a deaf person can use a mobile phone. A blind person can access websites through assistive technologies. A well-embedded school curriculum with information communication technologies, graduates, can acquire digital literacy skills that will increase the chances of their employability as any graduate in this 21st century who lacks such skills will find it difficult to perform everyday tasks that arise in the workplace or society. Such graduate is at risk of exclusion (Asian Development Bank, 2017). Furthermore, as Nigeria is presently advocating for acquisition of technical skills to

reduce employment rate, integration of ICTs into technical and vocational education could improve both the quality and relevance as well as increase access to it thereby enhancing the delivery and modernization of vocational training both now and in the future. Though, the use of ICTs cannot replace hands-on-practice and assessment of technical and vocational skills development but may provide a valuable supplement to the theoretical and conceptual aspect of it (Clarke, and Palmer, 2011).

Therefore, it can be concluded that information and communication technologies have the following prospect at enhancing literacy and skills development in the following ways:

1. Enhance access to literacy and skills development: through the use of ICTs, it is evidenced that learning and training opportunities are being opened to individuals and groups of people who are constrained from acquiring such due to location, time, resources and other impeding factors and individuals can now learn at their pace and space. For instance, through open and distance learning mode of learning (a case of the National Open University of Nigeria), a lot of people have acquired one form of skills or the other, and this has significantly absorbed millions of people who may not have had such access to education.
2. Raising Quality: through ICTs, conventional teaching and learning process is enhanced as there is ample opportunity to interact with a wide array of materials and have a better exposure to the latest information on the subject matter thereby improving the quality of training and students as well as the quality of the educational system.
3. Cost reduction: ICTs provide a cost-effective way in both provision and access to educational opportunities because, in consideration of building more physical infrastructure, the cost of savings to be realized from sharing resources and the societal price in term of not providing access to educational opportunities, ICT as a means of enabling teaching and learning becomes a veritable option at a lesser cost.
4. Equity: ICTs provide an equal opportunity for all to access literacy education and skills development irrespective of gender, location, disabilities or social status.

Perceived Challenges in the full Utilization of ICTs to enhance literacy and skills development in Nigeria

The poor condition of infrastructure: Poor state of infrastructure in the country has been one of the main factors that have the potential to inhibit ICT utilization in Nigeria, and this poses a significant challenge to full use of ICTs to enhance literacy and skills development in the country. The absence of electric power supply in most parts of the country even when the country has every means to provide the uninterrupted power supply. Unfortunately, most of the ICT-based tools heavily rely on power to function. Also, the poor state of the internet and other telecommunication infrastructure in the country is nothing to write home about, and all these make the use of ICTs very frustrating to people (Alabi, 2016). The deplorable state of infrastructure especially in Federal Universities has become worrisome. This is coupled with the challenge of COVID-19 which has really exposed the inadequacies of Nigeria health sector. For instance, the Nigeria Centre for Decease Control (NCDC) has recommended forty student per lecture room to prevent the spread of corona virus, whereas there is no significant commitment on the part of the government to provide more classrooms at various campuses where students cramp in hundreds to receive lectures.

Increase in the digital divide: it is perceived that using ICTs to enhance literacy and skills development could lead to further marginalization of those who are already underserved and or disadvantaged. For instance, it is believed that women generally have less access to ICTs and fewer opportunities for ICT-related training compared to men due to illiteracy, time constraints, mobility issue and poverty (Ogbomo, 2011). Alternative, we can say, there is a generalization that…… Also, there is a tendency that ICTs may widen the existing gap in terms of economic, social, cultural and geographical lines. Therefore, providing access to literacy and skills development through ICTs only constitute an aspect of efforts at addressing the equity issue in literacy and skills development. Hence, there must be an assurance that the technology is going to be used by the target population in ways that will serve their needs (Ogbomo, 2011).

Economic challenges facing the country: Nigeria is presently in a deteriorating financial condition, and the economy has been undergoing strong turbulence in the recent past (Adams, 2019). This situation makes it difficult for the government to heavily invest in ICTs to get expected return on ICT investment in terms of considerable reduction in the unemployment rate, economic growth and e-governance compared to developed countries. This lack of real investment in ICT in the country provides a less ICT-favourable environment for critical stakeholders to take advantage of it.

Other issues that have been identified as potential challenges to the utilization of ICTs for literacy and skills development enhancement include a low percentage of people that have ICT skills and the problem of the massive ICT literacy drive required to develop the enormous human resources base at national and institutional levels for optimal utilization of ICTs; uneasy access to computer equipment and other accessories at institutional and personal levels due to locations of cybercafé in commercially profitable communities to the detriment of semi-urban or rural communities and the absence of coherent ICT policy from the government that has made coordination of ICT projects and programmes being undertaken separately by various government agencies which often lead to resource wastage and duplication (Ibara, n.d). It is worthy of note that some schools in Nigeria have engaged the use of ICT in teaching students during COVID-19 pandemic but it is obvious that majority of the students in the rural areas are completely marginalised due to lack of access to ICT facilities. Some students are compelled to leave their domain for another community in order to find opportunity to engage in the use of ICT. Even in the urban areas, there is no guarantee of stable network for users.

Conclusion and Recommendations

Information and communication technologies have been identified as an essential tool that has the potential to enhance literacy and skills development through opening more comprehensive access to literacy and skill development at minimal cost to all irrespective of time, location. It also reduces or eliminates other factors that inhibit optimal participation of people in literacy and skills development opportunities. While several factors have been identified as a potential challenge to full utilization of ICT to enhance literacy and skill development in Nigeria, ICT remains a worthy venture that government at different levels in the country must invest in. It becomes necessary to adequately prepare the citizens for active participation in the knowledge economy, which has the potential to spur the country's economy on a sustainable path. It was therefore concluded that if ICTs can be fully adopted and utilized to enhance literacy and skills development, the country will be a step further in her efforts to achieving a functional literate society for sustainable

development.

Arising from the analysis of the potentials inherent in ICTs at enhancing literacy and skill development in Nigeria, the following recommendations are provided:

1. There must be conscious efforts by governments at various levels in the country and critical stakeholders to invest significantly in ICT infrastructural development and support initiatives aimed at extending the reach of ICT to rural or remote areas of the country.
2. There is a need for a coherent ICT policy most notably in the education sector and by extension informal and non-formal sub-sector of the education system to narrow the digital divide and provide equal opportunity for all.
3. There must be adequate sensitisation of people on the potentials inherent in ICTs and how its utilisation can improve their livelihood.
4. There must be massive ICT literacy drive to equip people with the required knowledge to navigate the ICT terrain and to develop the vast human resources necessary for full adoption and utilization of ICTs to enhance literacy and skill development.
5. Literacy organisers and technical and vocational training providers must be sensitised and encouraged to incorporate ICTs into the training programmes for the beneficiary of such training to have a well-balanced training that will meet the 21st-century skills needed in the labour market.

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