

THE ROLE OF ADULT EDUCATION IN SUSTAINING CITIES AND COMMUNITIES THROUGH INNOVATIVE TECHNOLOGY IN NIGERIA

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ABSTRACT: Every country of the world including Nigeria needs to imbibe the idea of innovative technology in a bid to sustain cities and communities with a view to raising the standards of living of the citizens and attending to the many challenges facing cities and communities. These challenges make it extremely difficult or impossible to fix socio-economic development and inhibiting improved standard of living of the people and outlook of cities and communities. Adults need to be carried along in sustainable development through all the laudable programmes of adult education, interjecting them with technological innovations. Technology stimulates creativity which brings along with it innovation. Lack of adequate training in technology robs adults of creativity. The paper thus looks at how introducing technological innovations into adult education would stimulate creativity in people thereby making them innovative in all areas of life so as to achieve sustainability. The paper recommends that adult education should be more funded by Nigerian government, that technological education should be introduced into all programmes of adult education, remove every hindrance to technological education from every adult learner and education should be made accessible to all so that sustainability would be achieved not only in cities and communities but in individuals and getting communities ready for future generations.

Keywords: education, adult education, cities and communities, innovation, Nigeria, technology.

It is widely observed that sustainability has been variously defined by various bodies and authors, however, the core of it is to make sure that life is well maintained now and with adequate preparations being made for future generations. Sustainability is, therefore, relevant for every aspect of human endeavor and it is also relevant when talking of sustaining cities and communities. Sustenance of cities and communities become important, perceiving the fact that each person is a member of a community, therefore, efforts must be made to improve such societies, providing for the needs of adults and youth alike not neglecting one at the expense of the other (Global Goal 1, 2017).

Cities in Nigeria are not really what they are supposed to be. The elites create a center for themselves, which only represents a minute part of cities while the surroundings of the elites are interspersed with slums. It is observed that communities which may be referred to as rural areas are deserted on a daily basis, especially by the young in search of greener pastures in the so-called cities. Yet it is observed that their dreams for city lives are shattered; thus, ending up living in city slums which are worse than the rural communities they left behind. The point of emphasis, therefore, is that if communities are sustained, standard of living shall be raised and people through technology, will become more creative leading to innovative ideas that would lead them to live above poverty level with hunger being eradicated (UNICEF, 2017), thus leading to healthy

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lifestyles thereby increasing the wealth of the nation and at the same time creating enabling and virile atmosphere for generations to come.

It is in the light of the above that the concepts of education, adult education, innovation, technology and sustainability of cities and communities are examined in the face of innovative technology.

Education

Education is usually associated in most countries of the world with formal leaning, just the education of children and the young ones alone leaving out the adult members of the communities and cities, the vulnerable and all other marginalized groups. INCHEON declaration 2030 stated that the right to education is a human right that must be enjoyed by all irrespective of age and where you are located. Education should be for all as it is deemed a universal thing and that it must be inclusive and equitable and of good quality and one that promotes lifelong learning for all. The essence of education is further established that education is a public good, a fundamental human right and a basis for achieving, for guaranteeing the realization of other rights (Envision 2030, Goal3).

The above implies that for any type of development to be sustained and sustainable, education must reach all, ignorance must be wiped out and illiteracy must be subsided. Giving education to all will enable them to think creatively and be innovative in their doings thereby, reducing poverty and diseases in cities and communities.

Education is meant for empowerment of everybody both in cities or rural communities. Education now goes beyond formal concepts in order to enhance sustainability. Education for all and in all areas must be armed with information and communication technologies (ICTs) for wide exposure to creativity, for access to vital information, knowledge sharing and more effective service promotion (Education, 2030).

Ban Ki-Moon, United Nations Secretary-General in (UNESCO, 2018) expressed strongly that education is a fundamental right and the basis for progress in every country, parents need information about health and nutrition, if they are to give their children a good start in life. Prosperous countries of the world depend on skilled and educated workers and that education would conquer the challenges of poverty, hunger, diseases and climate change. The challenges of conquering poverty, combating climate change and achieving truly sustainable change in the decades compel countries of the world to work together. His speech implies that with investment in education, “individual lives, national economy and our world would be transformed (p.1)”

When education is put to good use, it alters the lethargic attitudes of people towards sustainable development in every area of human life; it helps people to make informed judgments about the issues that concern their environment. Education, therefore, becomes a tool for accelerated progress towards the achievement of sustainable cities and communities. It makes people’s voices in cities and communities to be heard, it helps

individuals within the communities and cities to live healthy lives and aspire for meaningful, creative and resilient lives as stated in SDG. 11.

Summarizing the importance of education, in every area of human life, in UNESCO (2018) Irina Bokova, Director-General of UNESCO stated, that the benefits of education permeates all works of life right from the moment of birth and if we are to eradicate poverty, hunger, improve health, protect our planet, and build more inclusive, resilient and peaceful societies, every individual must be empowered with access to quality lifelong learning.

SDG 4 which is the sustainable development goal on education, states that the type of education to give should be one that “ensures, inclusive, and equitable ,quality education and one that promotes lifelong learning opportunities for all” (INCHEON Declaration p. 3)

The above implies that education is a lifelong process which involves both young and old and which leads to sustainability of not only cities and communities but of individuals within it. Education generates sustainable productivity through creativity and innovation brought about by technology.

Sustaining Cities and Communities

Cities in Nigeria are majorly in shambles and therefore cannot be compared with the newly developed “smart cities” in developed world where everything is based on advanced technology. Smart cities are urban areas that use different types of electronic data sensors to supply information that is used to manage assets and resources efficiently. Such includes data collection from citizens, devices and assets that is processed and analyzed to monitor and manage traffic and transportation systems, power plants, water supply networks, waste management, law enforcement, information systems, schools, libraries, hospitals and all other community services (McLaren & Agyeman 2015).

With ICT in full use, a smart city may be more prepared to respond to challenges than one with a transactional (one -to- one) relationship (Chan, 2017). It is clear from the above that smart city concept is based on integration of information and communication technology (ICT) and internet services for effective and efficient city operations and services. In such smart cities, one can allude to sustainability. This is however far from reality in most developing nations, Nigeria inclusive. Nigerian cities are with slums that make them look less than cities. In Nigeria, rural communities are deserted while the urban slums increase and with the standard of living falling below expectation because expected goals of moving to cities are not met. This is because majority are either illiterates, not literate enough or lack skills with which they could be gainfully employed in cities.

Every city in Nigeria can be divided into two parts; the elitist area and the slum. The slums outweigh the elitists’ and the result is that of poverty ravaging the so-called urban cities. Out of school children as well as poverty ridden adults are seen on the streets begging for money; children in school (after school) are also in the habit of hawking on the streets not minding the dangers inherent in it. All these are pointers to the fact that

cities and communities must be re-planned and sustained in such a way that future generations would not suffer these havocs.

Sustainable Development Goal 11 (Eleven) is about sustainable cities and communities with the aim of making cities and communities and other human settlements inclusive, safe, resilient and sustainable (SDG11 sustainable cities and communities). Many challenges have however, been highlighted in an attempt to sustain cities and communities one of which is that urban cities have been populated worldwide with half of the world's population living in urban areas and which by 2050 would increase to two-thirds ($\frac{2}{3}$) (UNDP, Goal 11).

Other challenges are:

- That cities are supposed to be economic power houses generating more than 80% of global GDP (New Climate Economy) but in spite of this, inherent in cities are myriads of social problems such as poverty, hunger, housing shortages, slum settlements and environmental degradations, air pollution, dumping of wastes with its associated health hazards.
- That the challenge of climate change is more vivid in urban areas as almost 70% of greenhouse gas emissions come from cities (World Bank, 2018). Such emissions from concentrated industrial and domestic energy and transportation cause serious air pollution which is very hazardous to life and urban planning which should lead to ensuring safe, resilient and sustainable cities also remain a challenge, thus business in cities is ineffective with low productivity due to ineffective transportation system.

All these challenges are very much imminent in Nigerian cities, there is overpopulation to the extent that more than expected people occupy a room in houses in slum areas, joblessness, dirty environment, lack of toilet facilities, rampant diseases, insecurity, ill health and untimely death due to inability to access health services due to lack of funds as a result of joblessness are all very much in vogue in Nigerian cities.

Sustaining cities and communities is more than taking care of environments as most people think. It is about being socially aware, economically and also politically aware, which will culminate in wanting a positive change. It is about seeking solutions to challenges facing a group of people in their environment. Sustaining cities and communities include power utilization by making use of sunlight, maintaining good agricultural practices for growing food to sustain good health for people, preserving biodiversity, restoring ruined ecologies, waste management and developing communities that could be sustained within nature's limit (Akintayo, 2018).

The human dominated organism, that is, cities are the most dramatic manifestations of human activities. Yigitcanlar and Kamruzzaman (2015) submit that cities degrade human habitats, simplify species composition, modify energy flow and cycling nutrients. Also in generic terms sustainability is described as, a normative concept that indicates the way humans should act towards nature and the way they should be responsible towards one

another and future generations (Baumgartner & Quass 2010; Yigitcanlar & Dizdaroglu, 2015).

Mayer (2015) perceives that the fundamental characteristic of sustainability is the idea of meeting the reasonable needs of the current generation while enhancing the lives and ecosystems of future generations. Sustainable development is thus, important in meeting fundamental human needs while preserving the critical life- support system of the planet. Allan in Yigitcanlar and Kamruzzaman (2015) describes sustainable development as the development that satisfies the human needs and improves the quality of life in such a way that ecosystems should keep renewing. Elkington (1997) subscribes to the fact that in approaching sustainable development, one should consider environmental quality, economic property and social justice.

From the above authors the following characteristics can be culled out:

- Urban areas are centers of economic development where sustainability should be of great concern
- It is a place where human and financial resources are centered and there is rapid population increase
- Depletion of natural resources and disruption of urban ecosystems are common feature (example in Nigeria is that of Lagos State where the ocean is being sand filled for houses to be built)
- It is a fact that the city is full of infrastructural facilities which are not found in smaller communities which have paved way for rapid movement from smaller communities to urban cities and with evolving problems which can only be dealt with using education. But what type of education?

Adult Education for Sustainability in the Era of Innovative Technology

Technology is a strong tool for bringing sustainability to cities and communities. Traditional technology can be transformed to match the newly developed ones. Though people in small communities who are least educated may not have much knowledge about modern technology but they should not be left out in this era of innovative technology. This is why the government of all nations especially the developing ones should focus on adult education programmes, also established entrepreneur should include short courses, trainings and on the job trainings in their establishments because technology brings about collaboration, equity and it bridges the divide gap and accessibility gaps. Criminal activities pervade urban cities due to joblessness and those that have education are sometimes found to be unemployable due to lack of technological skills that can lead them into being creative and innovative.

Luo, Liang, Wu, and Yang (2018) assert that in the era of knowledge economy, people pay more attention on lifelong education with the fast updating speed of knowledge and continuing emerging technologies. Adult education is thus, becoming an important

indicator of technological development and social progress. There is thus, a close relation between the application and development of technology in adult continuing education which would lead to innovation.

Adult education is thus central to bringing solutions to all these problems, including the problem of insecurity, which is the result of discontent that comes from widespread exclusion and intra-urban inequalities. Adult education is holistic as it provides for both young and old, it is lifelong in nature, it will thus be sustainable if well funded and well positioned in every nation of the world especially Nigeria because sustainable development is an age long and all life issue. Adult education makes learners excited and motivated and well equipped. It is the type of education that has economic outcomes for participants both in cities and communities. A typical example is making money out of wastes, planting gardens in modern ways and making money for personal and community sustainability.

Adult education with its programmes has environmental outcomes as people are made aware of keeping their environment safe, getting ready for disasters, locating their businesses in appropriate places, taking good care of their health and homes and their vehicles to prevent gas emissions. Through programmes like community education, awareness would be raised on diverse issues in cities and communities that are detrimental to people's health and development. Environmental adult education would enable people to make meanings out of their lives in cities and communities thus transcending to peaceful and secured living.

Adult education for sustainability has to do with mentality hence, everyone needs to cultivate the culture of living sustainably because sustainable development of communities and cities is about whole living as it involves knowledge, skills, values, attitudes and behaviours. All these are embedded in adult education bringing innovations and creativity to people in cities and communities.

Adult education is about technology whether traditional or modern because all major innovations are predicated on existing traditional ideas. Technology can lead to creativity, new knowledge and skills which is termed innovation. With innovative ideas, life is made easier for people.

As, Mushi (1994) submitted in his article on "Innovations in adult education, adult education can mean any form of learning adults engage in beyond traditional schooling which leads to personal fulfillment as a lifelong learner.

Technological Innovations

Technology affects the way people act. Thompson (2011) says technology is more than tools and machines especially in highly developed countries of the world. He sees technology as the answer to all social, economic, political and medical ills. Chandler (2000) in Thompson 2011, states that technology is used to refer to tools, instruments, machines, organizations, media, methods techniques and systems. This implies that technology is an inclusive term that affects every aspect of human living in cities and

communities. This also implies that the digital divide that separates the ICT “Haves” from the “Have-nots” must be bridged, so also the gaps between those who have the blend of cognitive and technical capabilities and those who do not have must be bridged. It is, therefore, germane that every ICT based gaps must be bridged to prevent a weakened society, one with fewer informed people, fewer productive populace and fewer lifelong learners (Adedokun, 2018).

Technology has contributed a lot to developed nations. It has made a lot of impact on education, business, medical and political areas, this means, technology must be made available in the developing countries so as to permeate every aspect of such nations and the people for effective transformation of cities and communities and their lives.

Technology brings creativity and innovations. Innovation to Ayeni (2015) is the creation of something new or developing a new idea. This involves, introduction of a new method of production especially with the use of appropriate technology. A good innovator is therefore that person who applies new knowledge into practical use. He applies new innovation to bring better living to him/herself and the society in which he lives and he takes new steps constantly to access new ideas that will not only lead to his sustainability and his environment for now but also for the future. This is the core of adult education programmes. The adult education programmes are not only developed for now but also inclusive and for the future, this is why people who are not born in computer age are seeing using computer effectively through training, re-training and in service programmes.

Technical innovation, therefore, is the process through which new or improved technologies are developed and brought into widespread use; and constantly evolving and changing to match the order of the day because they are vital to lives and living (Dovey et al., 2009). Technological innovation is thus, an integral part of the human experience, and it stresses the importance of individuals as sources of innovation (Hekkert, Suurs, Neqoo, Kutilman, & Smits, 2007)

Examples of technological innovations are smart phones which enable both literate, semi-literate and non-literate alike to improve their businesses and health and thereby helping people to make contacts on diverse issues leading to sustainable development. This issue of these devices is being passed to the younger generation in a better and smarter forms thus enabling sustainable development.

Technological innovation has thus led to:

- Improvement in science which has led to various researches being carried out on how to enhance living in terms of improved health, business management and reorganization of cities, and public participation in all areas in an easier way
- Easy interaction especially through the use of phones thus aiding social interaction and thereby providing clarity on diverse issues.
- Production of new items and new ways of doing things.
- constant positive change in cities and communities.

It is pertinent to note that old technologies cannot be dispensed with a wave of the hand as they form the basis for new technologies and this signifies improvement, hence the printing system of old is the basis for new print media, and through the printing press which created books, e-books are made available on line, agricultural societies have become industrialized ones due to technological innovations.

This implies that old ideas mixed with modern technology will lead to creativity and innovations, the end result of which will be sustainable development. Technology therefore includes anything man-made that makes life easier for the people and one, which allows learners to tap resources and expertise anywhere in the world starting from within the immediate environment. Its availability allows technologically disadvantaged youths, out of school children, and adults greater opportunity and equity of access to high standard of living which is the essence of sustainability

Role of Adult Education in Sustainable Development through Innovative Technology

Adult education is the core of lifelong learning as it entails all forms of education and learning, including formal, non-formal and informal learning processes (Fashokun, Katahoire & Oduaran, 2005). It is a process through which an individual acquires needed knowledge and capabilities for sustainability. It is important as it allows for creation of learning community, cities and regions. It fosters the culture of learning through life and fills every learning space in the life of an individual.

Adult education is important for sustainable development due to the following points:

- The learning activities vary to include a host of learning opportunities for equipping adults for greater opportunities in cities and communities. Its programmes include literacy, professional development education, citizenship education, extension services, health education and liberal as well as retirement education. To boost people's opportunity for sustainable development through these programmes, there is the great need for interjecting them with information and communication technologies (ICTS), as these would boost their participation in community matters, making their voices to be heard and thereby contributing to sustainable development in cities and community and all over the world.
- Adult education is innovative in nature as it provides a lot of possibilities for realizing lifelong learning, reducing dependence on formal learning structures and encouraging individualized learning thereby providing necessary exposure into doings of relevance in the world around them. This exposure through technological networking bring into the world of creativity and awakening the innovation tendencies of the people.
- It is education for personal fulfillment through innovations
- Adult education provides a forum for a safer, healthier, more prosperous and environmentally sound world and helps individual to contribute to social,

economic, cultural progress, tolerance and international cooperation. It is the key to personal and societal sustainability (Mauch & Papen 2018).

- Adult education provides coping skills for any challenging issues in cities and communities. Adult education enables people to reflect and act on emergency situations and take decisive actions to deal with such whether personal or societal.

The above and many more reflect the importance of adult education in sustainable development. Adult education implies changes in the way things are done in order to bring relief, security good health, improved economy and political stability to cities and communities. UNESCO (2018) sums up the role of adult education in sustainable development in the following:

Innovation is needed in adult learning and adult education in that there are nearly one billion illiterate adults worldwide and about the hundreds of millions of unemployed people workers suffering from appalling working conditions and the masses of women excluded from equal participation in many domains who also belong to this human kind. There are also damages done to the environment, a continuing crisis in the field of nutrition and population development and continuing crises on the field of health (p. 13).

The solution lies in adult education through its programmes to bring about change in knowledge and competence through innovative technology. Innovation in adult and non formal education is therefore a ‘must’ as it calls for doing things in different ways and it implies addressing problems that could not be solved by traditional means.

Conclusion

The paper has dealt with the role of adult education in sustaining cities and communities through innovative technology. The paper examined some documents and studies in adult education, sustainable development of cities and communities and innovative technology. The paper highlighted that adult education with technology has the capacity of reaching everybody in any city with the effect that cities, communities and individuals would reach a level of sustainability and which is passed on to the next generation as the importance of adult education through its programmes lies in change which is brought about through technologically induced creativity and innovation. There is, therefore, the need to promote innovations in adult education by introducing technological induced programmes into its curriculum.

Recommendations

Based on the above, the following recommendations were made

- i. Challenges facing adult learners in the face of technological innovations such as lack of literacy which hinders the use of technological tools, lack of exposure to technological tools, fear of its use and lack of digital literacy should be tackled (Julian 2016).

- ii. Efforts should be made to initiate a participatory process in promoting innovations in adult education such that transfer of technical skills would be encouraged
- iii. Learning in all its forms should be sustained to lead to sustainability of cities and communities as sustainable development is not a onetime activity but a lifelong one just as it is in adult education.
- iv. In sustaining cities and community, the government should make sure that community engagement and impact assessment policies are followed.
- v. People should be adequately enlightened through the various programmes of adult education as to what constitute sustainability
- vi. Adult education should inculcate technology into its curriculum as it will lead to creativity and innovation which will help people identify problems and seek solutions to such through creative minds.
- vii. Education should be made accessible to all in diverse forms as education expansion fuels economic growth.
- viii. Efforts should be made by concerned bodies to reform curriculum and textbooks of both adult education and formal education as a means of reconciling theoretical knowledge with practical knowledge, which is the essence of technology.
- ix. E-learning should be introduced into adult education to foster e-services in all its ramifications in cities and communities.

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