

DIGITALIZED CURRICULUM IN BASIC EDUCATION: TOWARDS EDUCATION FOR SUSTAINABLE DEVELOPMENT IN NIGERIA

Ogeh, Obitor Wizoma Matthew (Ph .d)*

Department Of Educational Foundations Faculty Of Education University Of Port Harcourt, Nigeria

Abe, Ezinne Chidnma (Ph. D)

Department Of Curriculum Studies And Educational Technology, faculty Of Education, university Of Port Harcourt, Nigeria

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ABSTRACT

This paper looked at the relevance of digitalized curriculum, its ease and effectiveness at actualizing the basic education programme in Nigeria; and this informs national development. The author is of the opinion that the basic education which is a mandatory nine years academic programme is an imperative for encouraging mass literacy and numeracy, requisite skills for job creation, and avenue for educational opportunity for a long-life learning for the out of school for formal and non-formal education. However, the paper observes that given the economic realities in Nigeria and its challenge to a regular teacher-student classroom method of service delivery; the actualization of the basic education programme in Nigeria might become a mirage and the intended skills and job creation that would have been encouraged through the programme and the attended sustainable development in Nigeria elusive. Based on the observations, the author maintains that the digitalized curriculum is a preferable educational approach to achieve sustainable development in Nigeria through the basic education programme; given the versatility and adaptability of the digitalized curriculum to many and varied learners. The author observes some challenges, such as power supply, network coverage, finance for data subscription among others as major setback to implementing the digitalized curriculum in Nigeria. Based on the observed challenges, the author made some suggestions that will be of help to effectively implement the digitalized curriculum at the basic education level to achieve sustainable development in Nigeria.

Key Words: Competency framework, applying knowledge, practice, high school, teaching chemistry.

1. INTRODUCTION

The Concept Of Curriculum

There are many and varied definition of curriculum, as there are scholars and philosophers. Curriculum theorist over the decades have made attempt at providing a definition for the concept of curriculum. While some see it as a program of study in an institution, others see it as a program of activity or a course of work to be pursued by an organization, institution of learning. Originally, the concept curriculum derives from a Latin word meaning "a running course", race, running on a wager, a race-ground, or a career. Onwuka (1996), maintains that in its original Latin Language, curriculum means a "runway" or a course which one runs to reach a goal. It is sometimes referred to the race-course, the course that is run, the race itself, a place of deeds, or a series of deed. The word curriculum has the connotation of "a race track", particularly when it

is used to refer to a course of study. In this sense, it is a course which student pursue and compete for targets, defined in terms of high grades, passes, certificates or other forms of academic work. Onwuka,(ibid), further maintains that the Latin usage of the concept curriculum covered all life activities. In this regard, curriculum is presented as ‘a vehicle on which we move from cradle to the grave’. This idea of curriculum portrays it as a process of learning which takes all human sensitivities – political, economic and professionals into account. Okebukola in Ipaye (1992), looks at curriculum as in the everyday sense of ‘a programme of studies containing experiences that learners should have. Udoh (2010), Fafunwa (1983), Paralius and Paralius (1978), discussing the sociological concept of curriculum looked at it as a systematically organized set off learning experiences and practices to direct and guide purposeful instruction in schools and other educational organizations. In is regard, the curriculum covers all social, cultural, and technical experiences including the school subject. Given the varied definition givens to the concept of curriculum, many educators have claimed that the curriculum is nebulous in that it is too slippery and altogether too indefinable. However, despite the contending definitions of curriculum and different meanings attached to it, there is the general consensus that curriculum consist a set of activities, programmes, courses of study and stated plan of action for an organization, an institution, a group or a community, aimed at accomplishing economic social, political, cultural and technical experiences to bring about change in behavior for a responsible adult life. This might take place over a time frame as stated by a group or may run from cradle to the grave as the case may be.

2.THE CONCEPT OF DIGITALIZED CURRICULUM

There concept digitalized curriculum conveys a barrage of definition and explanation so broad to accommodate the many and varied strands of our educational endeavor. However, this paper looks at Digital curriculum as a comprehensive, customizable collection of resources that are aligned to learning standards and expectations, and these are manifest in variety of formats like: texts, video, images, audio, and interactive media. Digitalized curriculum is an omnibus that provides the teacher with varied and specific avenue to reach out to his students. In this regard, the teacher can individualize and personalize teaching and learning process to the students. Besides, the student outside the classroom can also engage in the learning process without visiting the four walls of the school through the digitalized curriculum. There are many types and varieties of resources for learning that the teacher can create, modify or advance to effectively teach his students. These include: e-books, documents, interactive whiteboard lessons, video tutorials, diagrams and charts. .Others include iTunes, module, edmodo, Brain POP, SAS, cK -12 and others. Ogeh and Abey (2020), maintain that Digitalized curriculum in education simply means the rebranding of the educational system from the old traditional style to the newly globalized modernized education with the aid of information and communication tools via their integration into the educational process. Stuart (2014), furthers the explanation by saying that digitalized curriculum is a powerful trend in terms of information and modernization of the global education environment; the transformation of all information types (texts, sounds, visuals video, and other data from various sources) into the digital language. One of the inventors of the World Wide Web, Tim Berners-lee, considers the digital curriculum as the innovative use of digital tools and technologies during teaching and learning and is often referred to Technology Enhanced learning (TEL) or e-learning .Ogeh and Abe (2020), further explains that a digitalized learning process implies integrating technology in the classroom to make teaching and learning more effective,

encourage discipline, promote higher-order thinking, creativity, collaboration and feedback. While the regular curriculum brings the learner to the teacher in the classroom, but with the digitalized curriculum the teacher takes the class/teaching to the learner in his room, office, farm, workshops etc. with the e-learning devices thereby, breaking and eliminating all the barriers and limitations to learning associated with the regular curriculum. Roberts(2007), in Ogeh and Abe (2020) maintains that digitalized curriculum is an authentic environment equipped with digital technologies in which students have active participation and take responsibility for their own learning. The learner decides and chooses a convenient time to learn provided the e-learning facilities are available. To achieve sustainable development in Nigeria through the basic education, the digitalized classroom is imperative. This will enable the teacher reach all shade of persons to be captured in the basic education programme thereby, proving all and sundry the opportunity to receive the requisite skills needed to make their input for sustainable development in Nigeria .

3.THE CONCEPT OF BASIC EDUCATION

Basic education is the fundamental education that is necessary and provided for citizens of a country to enable them to acquire the basic knowledge of reading, writing and numeracy for a responsible adult life as citizens of a country. Basic education is a compulsory unbroken nine-year educational programme broken into two segments made up of six years of primary education and three years of junior secondary education. Osagie and Ehigie in Jim (2015), maintain that the Basic education is universal, free, and compulsory. The purpose of the universal basic education is to give equal opportunity for all, encourage life- long learning, formal and non formal, informal and providing basic skills to learners to sustain themselves in the society. The Universal Basic education programme in Nigeria was launched by the former President of Nigeria on the 30th of September 1999, in response to the Jomtian Declaration in 1990. Orubite (2022), maintains that Basic education sees education in broadest sense in that it covers the formal, the none formal the informal approaches to learning aimed at stimulating an all-round human potential and thereby laying the foundation for life-long learning, self awareness, learning- to –learn and life skills. The basic education programme is also aimed at developing in the entire citizenry consciousness for education and strong commitment to its vigorous promotion, catering for persons who, for one reason or another have had to interrupt their school as well as, other out of school children/adolescents, through appropriate forms of complementary approaches to the provision and promotion of basic education; and ensuring the acquisition of the appropriate levels of literacy , numeracy, manipulative, communication, and life skills, as well as the ethical, moral and civic values for laying a solid foundation.(FGN1999:2).Besides, Basic education also aims at reducing drastically the incidence of drop-out from the formal school system through improved relevance, quality and efficiency. Orubite (2022), further maintains that the Basic education is aimed at not only making the young to acquire the skills of “permanent literacy and numeracy, and the ability to communicate effectively “ but also to acquire practical skills with which to earn a living for life. Accomplishing the above aims for Nigerian government, is synonymous with providing “education for all”, which include; the advantaged and the disadvantaged; the gifted and uneducable; the physically handicapped and the non-handicapped; the rural dweller and the urban dweller; the rich and the poor; the nomadic and the sedentary among others.

Given the omnibus nature of the basic education at reaching every class and group of humans in the society, requires a versatile approach, humongous funding and massive recruitment of personnel with specific and relevant training. Besides, the all embracing nature of basic education

also requires an all embracing approach and method of delivery/teaching as to meet the learners need. Some learners with special need with peculiar characteristics that can impede learning, thereby limiting the objective of the basic education, will require peculiar method, approach and devices to have them educated. The complexity of human nature and the complexity of life in this twenty first century require complex objects and devices that can make learning easy to encourage learners to access/attend lectures without hindrance/s. One of such handy method to achieve easy learning is the digitalized curriculum.

The digitalized curriculum with it nature will make education for all easy and possible especially for the not-easy –to reach group and the not easy- to- teach group; this will seriously stimulate learning at the basic education to encourage sustainable development in Nigeria.

4.THE CONCEPT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

Education for sustainable development is defined as an interdisciplinary learning, methodology covering the integrated social, economic and environmental aspects of formal and informal curriculum. This academic approach can help graduates nurture their Knowledge, talents and experiences to play their role in environmental development and become responsible members of the society.

The Brundtland commission or world commission on environment and development (was a sub-organization of the United Nations that aimed to unite countries in pursuit of sustainable development.), defined sustainable development as ‘meeting the needs of the present generation without putting at risk the capacity of the generation to come in meeting their own requirement’. The idea of sustainable development originated from the United Nations conference on Human Environment in Stockholm (Sweden 1972). There had been two other global conferences since then. - The United Nations world commission on environment and development 1987 “ our Common Future Report”, (2)

The United Nations Conference on Environment and Development 1992 – Rio Earth Summit For UNESCO, Education for sustainable development involves: integrating key sustainable development issues into teaching and learning. This may include for example, instruction about climate change, disaster risk reduction, biodiversity and poverty reduction and sustainable consumption. -sustainable consumption and production implies the use of services and related products, which respond to basic need and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emission of waste and pollutants over the life cycle of the service or products so as not to jeopardize the need of future generations. Sustainable consumption further implies the use of material products, energy and immaterial services in such a way that their use minimizes impacts on the environment so that human needs can be met not only in the present but also for future generation. It also requires participatory teaching and learning methods that motivates and empowers learners to change their behavior and take action for sustainable development.

Education for sustainable development consequently promotes competences like critical thinking, imagining future scenarios and making decisions in collaborative way. Education for sustainable development requires learners t (students) to resolve common problems and tensions.

Given the fact that Economic growth and wealth creation has reduced global poverty rates, but vulnerability, inequality, exclusion and violence have increased within and across societies throughout the world. Global warming, environmental degradation, occasioned by unsustainable

patterns of economic production and consumption are on the increase. Despite the international conferences on human rights framework, and the empowerment of women and greater access to education, there are still high incidences of violence against women, discrimination in public life and employment.

The development and advancement in technology has created greater interconnectedness and provided avenues for exchange, cooperation and solidarity. Despite all these, are increase in cultural and religious intolerance, identity-based political mobilization, and conflicts. In Nigeria for example, Identity-based/political mobilization include: Indigenous People of Biafra-IPOB, Boko Haram, Islamic State of West African People –ISWAP, among Others. Education for sustainable development must therefore, find ways of responding to such challenges with a view to accommodating multiple world views and alternate knowledge systems. Education for Sustainable Development also seek to apply/explore and employ new frontiers in science and technology such as the advances in neurosciences and the development of digital technology. (for example Zoom teaching, conferences and telecasting). To sustain the globe rethinking the purpose of education and the organization of learning has become an urgent task and very imperative (Rethinking Education: towards a Global Common goals (<http://Unesco.Unesco.org/images /002325/232555 e.pdf> UNESCO2015 PP9-10 ISBN978-92-3-100088-1)

5.DIGITALIZED CURRICUM IN BASIC EDUCATION AND SUSTAINABLE DEVELOPMENT IN NIGERIA

Digitalizing the curriculum in basic education will surely encourage sustainable development in Nigeria. Given the fact the Basic education scheme is a broad spectrum educational programme that provides for all shades of people in the society to be educated, many of which are no more within the regular school age : digitalization of the school curriculum becomes handy as to be able to reach all the group of persons involved at their own pace and schedule. Anikpo and Abey (2015) maintain that experiences both nationally and internationally have shown that the conventional education system is extremely had press to meet up with the upsurge of educational demands in the contemporary time, has placed a high demand for the digitalized curriculum in the basic education as to encourage sustainable development in Nigeria. Given the gulf between the educational demand at the basic education and the demand for space to accommodate all the students, places a speedy demand on the curriculum to be digitalized. Onyido (2022), also contends that given the contemporary health, economic and social challenges emanating from the Covid-19 pandemic, has placed a high demand on digital learning, housing and disability services. Onyido furthers the argument by saying that adopting the digital learning method will comprise radio and television broadcast, recorded video classes, digital learning platforms and online subjects and courses. This approach is highly recommended, considering the fact that many children and young adult who are in school today are self-sponsored, the digitalized curriculum will give them ample opportunity to be educated while working to earn a living and pay for their tuition and at the same time learn at their own time and pace, this will seriously encouraged the sustainable development in Nigeria. The skills that are thought at the basic school level can also be put to task to encourage learners to be self reliant.

6.THE CHALLENGE TO DIGITALIZED CURRICUM IN BASIC EDUCATION IN SUSTAINABLE DEVELOPMENT

There are a lot of challenges and impediments to digitalized curriculum in Basic education as to enhance education for sustainable development in Nigeria. The challenges range from limited information infrastructures, lack of ICT facilities in schools, lack of ICT manpower in the school, poor budgetary allocation to digitalized facilities, to inadequate electricity power supply among other teething problems. Osai and Emejobi (2015), maintain that so far the digitalized method of teaching is yet to be seriously applied in teaching in secondary schools because of the inadequacy of curriculum content and limited access to ICT gadgets.

Ogeh and Abe (2020), maintain that the lack of sophisticated technologies to support the digitalized curriculum implementation in the Basic education is a serious challenge to sustainable development in Nigeria. Many persons and institutions in Nigeria do not have the requisite equipment and have no plan to do so in the nearest future. Dienye and Ewhe (2015), collaborates that Nigeria as a nation is a late comer to the technological table and has progressed slowly in the use of information communication technology in all sectors, especially education; this the authors maintain has seriously caused a major set-back in the digitalization of teacher education for an effective basic education for sustainable development in Nigeria.

Power supply is another challenge to digitalizing the curriculum in Nigeria. Mbato in Osaat, Kalu and Abdulrahman (2022), maintains that digitalized curriculum can only be powered with electrical energy which are not always available in many Nigeria cities and villages, and no alternative gasoline generators to run the facilities if installed.

Lack of internet connection, Closely linked to the challenge of electricity supply is lack of internet connection. Many institutions in Nigeria do not have internet facilities to engage in digitalized curriculum. This has seriously affected the basic education and sustainable development in Nigeria Cost of subscription. Many persons and schools that have managed to procure some internet facilities do not always have the fund to subscribe to keep the system running. Most of the internet facilities in some schools end up been stolen after so many years of non usage due to lack of internet. Some get rusted and are disposed of.

Malpractice/manipulation: many students who are knowledgeable in the use of the internet system more often than not, get involved in exam malpractice to help fellow students or to pass their own exams since the teachers are not physically there to invigilate the exams. This is common with most computer-based self administered exams.

Computer literacy challenge is a major challenge to digitalization of the curriculum. Many teachers and students are not computer literate, and many teachers who might have the opportunity to be trained are so stereotyped and are not ready and willing to adjust to any innovation

7.WAY FORWARD FOR DIGITALIZED CURRICULUM IN BASIC EDUCATION

To encourage digitalization of curriculum to encourage teachers performance in Basic education for sustainable development, Ogeh and Abe (2020), opined that curriculum planers should device a means through which the digitalization of the curriculum can be fully implemented at all spheres of the educational process in Nigeria. To achieve this will require a more funding to the education institutions from the nursery to the tertiary levels. The Non Governmental Organizations, (NGOs), Philanthropists and Community Based Organizations (CBOs), should be encouraged to invest and donate digital learning materials to schools to encourage digital learning at the Basic education level. Lack of electricity power supply is a major challenge to digitalized curriculum, mostly for

schools in the rural areas; the Solar energy panels and energy saving equipment should be preferred while making purchases or delivery of digital learning materials to schools. There should be serious sensitization programme at educating and enlightening the masses on the need and benefit of digital learning, so that materials provided for digital learning can be well utilized. Institutions of learning should make provisions for the training and retraining of the teachers and professionals who will successfully execute the digitalized curriculum education programmes not only at the basic education level but at all tiers of the academic system in the country to encouraged sustainable development in Nigeria.

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