

## **E-LEARNING AND CURRICULUM IMPLEMENTATION FOR SUSTAINABLE DEVELOPMENT IN NIGERIAN SCHOOLS**

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### **Abstract**

*E-learning is a subset of distance learning which play an important role in the educational growth of any nation. The internet has become one of the most important ways of making resources available for research and learning for both teachers and students to share and acquire information. Technology based e-learning includes the use of internet and other technologies to produce materials for learning. E-learning focuses mainly on the use of computers irrespective of classroom to deliver instructional content to students. Advancement of modern technology and the use of world-wide-web have made learning not to be limited to only the teachers and students. Learning can now be achieved through reading blogs, online forums, and social media or through online training platforms. People can now consult different blogs or online tutorials to learn about a particular way of doing tasks. This paper therefore examined the concept of E-learning, types of E-learning, Merits and demerits of E-learning, Effects of E-learning on education, concept of sustainable development among others. Based on the findings it was recommended that effort should be intensified by the government to provide e-learning facilities in Nigerian schools, teachers should be trained on how to use E-learning facilities for effective curriculum implementation.*

**Keywords:** E-learning, Curriculum Implementation, Sustainable Development, Nigeria.

### **Introduction**

E-learning plays an important role in the educational growth of any nation. It offers opportunities for developing nations to enhance their educational development. It prepares the new generation of teachers as well

as upgrading the skills of the existing teaching force to use the 21<sup>st</sup> century tools and pedagogies for learning. The modern technologies especially the internet now makes education not to be limited to the four walls of the classroom. E-learning comprises of all forms of electrically supported learning and teaching (Cover, 2017).

Modern technologies are important tools to achieve sustainable development. The new pedagogy must be adapted to new communication realities connecting the entire globe in an ever closer electronic method which many schools in poor countries struggle with expensive and outdated books (Algahtani, 2011). The internet increases capacity while technology may combine laptop functions with increasingly unambiguous mobile phone and I-pad. Attaining sustainable development is the single most critical challenge necessary to ensure the well-being of our world and its people.

Development is a process fueled by resources. According to Bell, (2016) Sustainable development should be centered in the use of new "thinking processes" to realize new values and attitudes. Learning and reinforcement of learning must occur continuously and should be part of a lifelong learning process (Ehlers, 2007). This paper therefore focuses on the following: Concept of E-learning, Types of E-learning, Merits of E-learning, De-merits of E-learning, Effects of E-learning on education, Concept of Sustainable Development and Sustainable Development indicators and concept of curriculum implementation

**(i) Concept of E-Learning**

E-learning has been defined in different ways by different authors. Some described it as learning using electronic means. Others regard it as the acquisition of knowledge and skill using electronic technologies such as computers and internet based course ware and local and wide area networks. It is the newest form of teaching device by which students most especially distant learners are provided with access to the learning materials. (Derek, 2017).

E-learning can be viewed as computer assisted learning and as a pedagogy for student centered and collaborative learning. E-learning comprises of all forms of electronically supported learning and teaching. E-learning is the use of internet technologies to enhance knowledge and

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performance. E-learning technologies offer learners control over content, learning sequence, pace learning, time and allowing them to tailor their experiences to meet their personal learning objectives. E-learning is any technologically mediated learning using computers whether from a distance or in face to face classroom setting. E-learning is a shift from traditional learning to ICT-based personalized, self organized, collaborative learning based on a Community of learners, teachers, facilitators and experts (Crecente and Lee, 2011).

E-learning is also referred to as web-based learning online learning distributed learning computer-assisted instruction or internet-based learning. There are two common types of e-learning namely Distance learning and Computer assisted instruction also known as computer based learning. Distance learning uses information technologies to deliver instruction to learners who are at remote locations. Computer Assisted Instruction uses computers to aid in the delivering of stand-alone multimedia packages for learning and teaching (Derek, 2017).

**(ii) Types of E-learning**

E-learning is classified in different ways. Algahatani (2011) divided e-learning into two basic types namely computer-based and internet based e-learning. Computer-based learning according to Algahtani (2011) consists of the use of full range of hardware and software, that are available for the use of information and communication technology. In computer based learning, according to Algahtani computers are used instead of the traditional method by providing interactive software as a support tool within the class or as a tool for self-learning outside the class. According to Almosa (2001) internet based learning is an improvement of computer based learning and it makes content available on the internet with the readiness of links to related knowledge sources, for example e-mail services which can be used by learners at any time and place as well as the availability and absence of teachers.

Algahtani (2011) further classified e-learning as [synchronous' or "asynchronous". The synchronous type allows learners to discuss with the instructors and also among themselves via the internet at the same time with the use of tools such as videoconferences, teleconferencing (audio video or



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both) internet chat forums and instant messaging. The asynchronous mode allows learners to discuss with instructors or teachers as well as among themselves over the internet at different times. The instructors and learners communicate using e-mail or feedback technologies but not in real time. A variety of methods can be used for asynchronous delivery including email, online bulletin boards, newsgroups and weblogs.

**Table 1: Categories of E-learning**

<b>TYPE 1</b>	<b>TYPE 2</b>	<b>TYPE 3</b>
E-learning system with low interactive capabilities e.g. texts or multimedia materials	E-learning system with moderate interactive capabilities	E-learning systems with high interactive capabilities either with student to student or student to teacher
The examples of this type of system consist of power point presentation, learning from an e-book or from watching videos or audio podcast.	Examples of this type are quizzes with feedback, learning by using simulators or demonstrations	Examples are modern blended e-learning systems such as virtual classrooms, video conferencing, different online groups, games, online blogs & social media.

### **Categories of E-learning Modified by the Author**

#### **(iii) Merits of E-learning**

Some of the major advantages of E-learning according to Cover (2017), are:

1. E-learning provides the possibility of students to learn the same material or content repeatedly until they are satisfied.
2. E-learning system provides worldwide learning as learning materials regardless of the geographical location.

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3. E-learning is cost-efficient for students. Once learning platforms are set up they can be reused without any extra cost.
4. E-learning provides a flexible way of learning for students. Learning materials can be stored and accessed at anytime. Students can also choose between instructor led and a self-learning system.
5. E-learning materials can frequently be updated without changing the whole material and the materials can be reused for longer times.
6. E-learning materials can be easily accessed by students anytime and at any place they want. It does not required the physical presence of a student in the classroom. Students can also download and save the learning materials for future use.

**(iv) Demerits of E-learning**

The Disadvantages of E-learning according to Douch, Savit, Parker & Attewel (2010) are as follows:

1. Students with low motivation may not benefit much from e-learning as there is none to look up to. This can cause laziness on the part of the students.
2. Students may feel socially isolated since they are not physically present in the classroom with classmates.
3. Learning materials in e-learning are delivered through computer applications. It takes a long time for some students to master the use of these appliances. In addition, other factors such as poor internet connection network and lack of constant electricity can be an obstacle to e-learning.
4. The materials available in the internet may not also be reliable. People can sometimes mislead the readers by feeding wrong information.
5. E-learning though relatively cheap at the initial stage might prove to be expensive e.g. buying equipment like computers projectors and so on.

Below is a table showing the summary of some of the merits and demerits of e-learning



**Table 2: Merits and Demerits of E-learning**

<b>MERITS</b>	<b>DEMERITS</b>
It reduces the need to travel longer distances or away from home to get the desired education.	It lacks face-to-face interactions that students in the normal classroom would get.
It is a convenient way of learning things as it can be accessed any time anywhere and on self-demand	Lack of strict guidelines may demotivate students and lead to dropouts from the learning process prematurely.
It is a self-placed private learning system and is mostly flexible for learners.	It is sometimes difficult to measure the reliability of the placed learning systems.
It uses the media resources, thus making it easy for learners to understand.	Slow internet connections or server problems may make the learning process frustrating.
It is repeatable as the content is stored in storing devices and each time the learner accesses it, the same content can be repeated.	It may take some learning time just to understand the learning systems.
It is easier to track the progress of learners in the e-learning system.	Students may feel isolated due to lack of social interaction.
The content of learning materials is consistent for all users regardless	Real-time interactions may not be available at the time of need for students, which can be frustrating.

Source: From the Author

**(v) Effects of E-learning on Education**

Some of the effects of e-learning on education are stated below:

1. E-learning provides an audio-visual mode of learning that automatically develops the memory of the learners.

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2. E-learning provides animations of different concept which in turn helps in gaining knowledge.
3. E-learning makes the classroom interactive which converts the school to a learning environment.
4. E-learning helps in active participation of students and teachers
5. E-learning provides an opportunity for teachers to upload content online; create question papers and examine student's performance.
6. E-learning provides teachers with a large database questions capable of helping students to overcome learning difficulties.

**(vi) Concept of Sustainable Development**

Sustainable development means to make the world a better place for every one without destroying possibilities for the next generation to live happy and quality lives (Ogwuazor, 2017). It is the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. Sustainable development is organizing principle for meeting human development goals while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which economy and society depend.

Sustainable development involves building human capabilities most basic of which are to lead long and healthy lives, to be knowledgeable, to have skills and access to resources needed for a decent standard of living and to be able to participate in community life. The Human Development Report presents annual rank order of countries of the world and classifies them into High, Medium and Low. Nigeria has unfortunately remained in the league of Low Human Development Index (HDI) countries. We need to do something about this, as this implies the lack of sustainable development.

**(vii) Sustainable Development Indicators**

Below is Table 3 showing sustainable Development Indicators.



**Table 3: Sustainable Development Indicators.**

SUSTAINABLE DEVELOPMENT INDICATORS		
/NO	THEME	FOCUS AREAS
i.	Poverty	Income Poverty, Income inequality, Sanitation, Drinking water, Access to Energy and Living conditions
ii.	Governance	Crime and Corruption
iii.	Health	Mortality and Natality, Health Care Delivery and Nutritional Status
iv.	Education	Educational Quality and Literacy
v.	Demography	Population and Tourism
vi.	Natural Hazards	Vulnerability to natural hazards and Disaster preparedness and response
vii.	Atmosphere	Climate Change, Ozone Layer Depletion and Air quality
viii.	Land	Land use and status, Desertification and Agriculture, Forests and wildlife
ix.	Oceans, Seas and Coasts	Coastals Zone, Fisheries and Marine Environment
x.	Fresh Water	Water quantity and Water quality
xi.	Biodiversity	Ecosystem Species
xii.	Economic Development	Sustainable public Finance, Employment, ICT and Research and Development
xiii.	Global Economic Partnership	Trade and External Financing
xiv.	Consumption and Production Patterns	Material consumption, Energy use and waste generation and



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		management
xv.	Transportation	Modal split of passenger transportation

Adapted from UN Economic and Social Affairs (2007)

**(viii) Concept of Curriculum Implementation**

The Author defined Curriculum implementation refers to how teachers deliver instructions and assessment through the use of specified resources provided in a curriculum. Curriculum designs generally provide instructional plans and assessment options related to a set of objectives. According to Mingaine (2013), an educational curriculum is a connective link between teachers and students organized in such a way to achieve goals previously set by the teacher, the learning organization or by curriculum specialist.

According to Offorma (2002) curriculum implementation is the planning and execution of the content of curriculum in order to bring about certain changes in the behaviour of the learners and the assessment of the extent to which changes take place. The primary purpose of implementation is to achieve the objectives of instruction and achieve retention and transfer of knowledge. E-learning is an instructional medium that permits alternative approach to curriculum implementation in an ICT age. E-learning curriculum refers to the capability of students to learn outside of a pace and structured classrooms (Ngwu, 2014). E-learning course curriculum may need to be designed in such a way that it is relevant in the quality of information with the outside work because students use different resources besides their instructor.

According Mahmood, Halim, Rajindra & Ghani (2014), an e-learning curriculum may help infuse constructivist learning when students are encouraged to spend more time interacting with each other than simply listening to the instructor and requires students to work autonomously and concurrently in a competitive environment so that each individual will construct his or her own knowledge base on the interaction that take during the e-learning course.

E-learning implementation requires a compatible instructional design that can facilitate the delivery of the e-learning materials as well as produce desired outcomes that can be noticed on student performance. Egomo, Enyi and Tah (2012), observed that instructors need to spend more time on the computer to design an e-learning programme; instructors need to look for suitable ideas that allow them to shift from the traditional teaching to an e-learning teaching style. The increasing number of e-learning implementation has resulted in the development of new skills and competences among instructors.

### **Conclusion**

There is need to prepare students not only for employment in a sustainable economy, but also with skills and values that will allow them to live sustainable lifestyles. This entails encouraging strong personal development, continuous monitoring and reflecting on the progress of the suggestions made. Teachers, leaders and researchers need to be at the forefront to the implementation of integrating e-learning into school curriculum. This should bring about a great challenge to our future leaders, motivate them and their talents fully developed. E-learning approach has emerged as a major solution to the challenges faced by education. They provide options for personalization of learning. E-learning enables students to work independently and in groups. Students are able to access much content anytime and anywhere with E-learning.

### **Recommendation**

- The following recommendation will suffice for this study
- a. Courses related to e-learning should be taking into consideration during curriculum planning.
  - b. Government at all levels should join hands together to promote the use of e-learning in schools in Nigeria.
  - c. Teachers in Nigerian schools should be trained on how to use e-learning facilities for effective curriculum implementation
  - d. Effort should be intensified by various government to provide e-learning facilities for teachers in Nigerian schools for sustainable development.



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