E-LEARNING: AN EFFECTIVE TOOL FOR THE TEACHING AND LEARNING OF GEOGRAPHY IN NIGERIAN SCHOOLS.

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Abstract

This paper is on E-learning, as an effective tool for the teaching and learning of geography in Nigerian schools. In recent times, Information and Communication Technology (ICT) has witnessed an unprecedented transformation in every aspect of humanity. The application of ICT in geography education with regard to teaching and learning is through a tool known as e- learning. E-learning is referred to as a structured and managed learning experience and may be provided partially or wholly via a web browser or through an internet or intranet or a multimedia platform such as Pictures, Audio, Videos, Graphics and other media and communication technology. Geography embraces different aspects that e-learning can be holistically and effectively used as a tool to improve its teaching and learning. The paper examined how e-learning in geography allow learners to undergo the process of assimilation and building of knowledge in areas of geography that are abstract and difficult to assimilate through words such as the used of DVD, CDs, world wide web (www) instruction in teaching and learning of volcanicity, landslide, rock fall, soil creep folding, faulting etc. The emergence of e-learning has presented a unique opportunity to undertake a re-evaluation of the role of geography in creativity and invention. The paper also looked at the benefit of e-learning, problems and recommends an urgent need for geography teachers and students to be computer literate so as to explore the great opportunities e-learning has provided for us in this era of information and communication technology.

KEY WORDS: E-learning, Teaching, Learning, Geography, Nigerian schools.

Information and Communication Technology (ICT) revolution in education has transformed the available technologies in teaching and learning process. That means the era of information and communication technology (ICT) has witnessed unprecedented transformation in every aspect of humanity. According to Salau (2003), Information and Communication Technology is seen as a technology used in collecting, storing, editing, and passing information in various forms. This includes the use of communication satellites, radio, television, telephone, video, tapes, recorders, compact disc, floppy disc, and personal computer (PC). Most expert in education agreed that when this technology is properly used, ICT holds a great promise in improving teaching and learning (Uzodinma, 2006). The use of ICT devices have made ICT an instrument of dynamic and progressive change not only in education but also in socio-economic, technology, business and labour.

The application of ICT in education with regard to teaching and learning is through a tool known as E-learning. The term e-learning is an umbrella term that refers to the use of technology in learning in a broader sense than computer-based instruction. Tukiya *et al* (2005) view e-learning as the delivery of materials electronically with the added value of maintaining standard and quality across board without limitation of specific location. E-learning according to Wali (2003) is the main Information and Communication Technology new education tool for teaching and learning. E-learning is referred to as a structured and managed learning experience and may be provided partially or wholly via a web browser or through the internet or intranet or a multimedia platform through the DVD, CDs, or other media and communications. (South African Department of Education (SADE),2003).

E-learning approach in education can be describe as a shift from teacher centered, task oriented, memory based education to an inclusive and an integrated practice where learners work collaboratively develop, shared practices, engage in meaningful contexts and develop creative thinking and problem solving skills (SADE, 2003). E-learning being a technology and its pedagogically neutral, that is, it is a means and not a mode of education, and can therefore be applied to different subject areas including geography. E-learning can therefore be seen as an effective tool for the teaching and learning of geography in Nigerian schools, since many educationalist (for example, Brown, 2003; Francis, 2006 and Olayoye, 2008) have criticized in a very strong terms the used of words that carry the shadow of meaning but not the substance, the shell of understanding but not the kernel.

Geography embraces different aspects that e-learning can effectively be used as a tool to improve its teaching and learning process such as physical

3

*E-Learning: An Effective Tool for the Teaching and Learning of Geography in Nigerian Schools - **Friday Bonoh and Maikai A. Saidu***

geography (it deals with geomorphology, climatology, soils and vegetation), human geography (it deals with transportation, population distribution, industrialization, agriculture, settlement patterns trade and commerce), regional and practical geography (it deals with map design, cartography, space location). Other new areas in geography that basically are of e-learning tool in the teaching and learning include; aerial photograph, geographical information system and remote sensing.

Meanwhile there is the need for a holistic approach, an approach that will put into consideration all variables and the different aspects that geography embraces. This holistic approach is the introduction of Information and Communication Technology in the teaching and learning of geography using E-learning as a tool. It has been observed that ICT and it associate (e-learning) has Influence on students attitude and interest in geography (Salau, 2003).

E-learning and the Teaching of Geography

Geography education and the process of acquiring it have change over time. Educational systems and business all over the world are under increasing pressure to use the new ICT to teach students and do all form of business (thus, e-learning, e-banking, e-library, e-payment, e-business, e-mails, etc) as the only knowledge and skill needed in the 21st century. UNESCO (2008) describes the radical implication the new ICT have on conventional teaching and learning and predict a transformation of the teaching and learning process and the way teachers and learners gain access to knowledge and information. This transformation is now a reality through the introduction of e-learning.

Since e-learning is a means and not a mode of education, that is, a medium of delivering education, it can be applied in the various field of geography. E-learning is very supportive of the different theories: cognitive, constructivism and behaviorism which guide the teaching and learning of geography .E-learning allows learners to undergo the process of assimilation and building of knowledge in areas of geography that are abstract and difficult to assimilate through words, such as the use of DVD based instruction, in the learning of volcanic eruption, cooling and solidification of molten magma, folding, faulting, hurricane, weathering process, and mass movement (land slide, rock fall, soil mud, and soil creep). E-learning can allow learners in geography to be constructive, creative, and innovative through the use of AUTO-CAD for the design of maps on settlement, population pattern, vegetation, industrial location and site for mineral resources .This gives room for constructive and abstract thinking. E-learning can be learners centered in geography; it gives learners a wide range of opportunities to reach areas which ordinarily they will not be able to reach. Through the remote sensing

4

*E-Learning: An Effective Tool for the Teaching and Learning of Geography in Nigerian Schools - **Friday Bonoh and Maikai A. Saidu***

devices learners in geography collect information of geographic interest from a distance using remote sensing device (sensor) such as Aerial Photographic Camera (A.P.C), Multi-spectral Scanners (M.S.S), Side Looking Air Borne Radar (SLAR), lab-band radiometer, Electro-magnetic Spectrum (E.M.S), Radar Scanner (R.S), and Thermal Infrared Scanner (T.I.S) etc. E-learning support the development of geographical concepts and also stimulates the interest of learners especially in Geographical Information System (G.I.S) which allows learners to use sensors to collect satellite imagery on land used and vegetation cover and interpret such satellite data.

Media of Delivering E-learning in Geography

The following media can be used in the delivery of geography e-learning instruction;

1. **Internet Based Instruction**: These consist of a means of accessing geography instruction over the internet, most times through the World Wide Web (www). E-mail correspondence courses of geographic contents and file transfer can be done through internet based instruction.

2. **Intranet Based Instruction**: This consists of accessing geography instruction over an institution's internal network through the long Area Network (LAN) or Wide Area Network (WAN).

Browsers such as Google, Maxhton, Baidu, UC browser etc can be used.

3. **CD-ROM, DVD and DVCs Based Instruction**: Geography instructions are contained in CDs, DVD and DVCs for teaching and learning purpose. These types are usually complete course contents and directive on how to study the materials, illustrations diagrams and maps. Some DVD contain appropriate video clips, of volcanic eruption, land slide, soil mud soil creep, rock fall, folding and faulting processes, etc.

Basically, media delivery of e-learning in geography could be classified into two (2) major categories that are on-line geography instruction delivery and off-line geography delivery (SADE, 2003).

On-line Geography Instruction Delivery: This involves the delivery of geography instruction electronically which could be in the form of text, audio, or video through the internet or intranet. This is done either on-line real time format or non-real time format.

On-line Real Time Format: This is a form of geography delivery through the net (internet or intranet) whereby learners can log in at exactly the same time when the geography instruction is being delivered. In this form learners are hooked directly to the teacher, while the instruction is being delivered almost in the form of face to face teaching and learning process. A very good example

5

*E-Learning: An Effective Tool for the Teaching and Learning of Geography in Nigerian Schools - **Friday Bonoh and Maikai A. Saidu***

of this is the teleconferencing. Teleconferencing is a process of teaching and learning made possible for the teacher to talk with hearers and see their learners in real time with no delays in the transmission if the students were located across the country or around the world.

On-line non-Real Time Format: This is a form of geography delivery through the net (internet or intranet) where learners are not hooked 'live' to geography instruction as in real time but they rather access the deposited geography materials on the net.

Off-line Geography Instruction Delivery: The off-line geography instruction delivery is the type of presentation that is not on net (internet or intranet) but is designed and packed in DVD, DVC or CD-ROM in the form of geography Computer Aided Instruction (C.A.I) that can be accessed through a personal computer (PC) or presented through the use of a projector.

Benefit of the Creative Invention of E-Learning in Nigerian Schools.

The creative invention of Information and Communication Technology with its associates (e-learning) has become an engine for sustainable development and global competitiveness. The mission statement as contained in the information technology policy enacted by the federal government in 2001, is "to use Information and Communication Technology (ICT) for education, creation of wealth, poverty eradication, job creation, and global competitiveness", (Federal Ministry of Education, 2004). The need to use e-learning in Nigerian schools cannot be over emphasized, considering the benefits.

According to Osemwinyen (2008:48), the benefit of e-learning in Nigerian schools includes;

1.   E-learning changes the traditional process of teaching and learning.

2.   E-learning serves as a medium for facilitating and managing learning, such as making course material available to learners, sharing of course materials with colleagues, communicating with learners outside the classroom, management of individual target setting, test of learners understanding and tracks learners progress.

3.   E-learning serves as a preparatory and a presentational tool, for example, it prepare scheme of work, research and access to teaching materials and create teaching materials.

4. E-learning serves as a learning tool, for example it provides one to one attention, develop understanding, and deliver different lessons (Osemwinyen, 2008).

Benefit of E-Learning in the Teaching and Learning of Geography

There are many benefits in the adoption of e-learning for the teaching and learning of geography. Some of this benefit according to Brown (2013) includes;

- It enhances access to quality geography education.
- E-learning has the potentials of reaching out to many geography learners whose delivery quality is not compromised.
- It helps geography students to learn at their own pace.
- E-learning significantly saves time over conventional classroom instruction.
- It creates an effective climate and learning environment especially for slow learners.
- It puts geography information and learning materials in the hands of the teacher.
- In e-learning, the novelty of working with the computer raises student's interest in geography.
- E-learning provides reliable geography instruction from learner to learner.
- E-learning provides geography instruction to learners at comparable expenses to other media.
- E-learning ensures global competitiveness in geography education.

Problems of Using E-Learning in the Teaching and Learning of Geography In Nigerian Schools.

The major problems in using e-learning for the teaching and learning of Geography in Nigerian schools is:

- Insufficient computer system to go round geography students due to high cost of purchasing them.
- High cost of internet server provider (I.S.P).
- Inadequate geography personnel or computer expert to train students on internet and to handle electronic garget and obtain geographic information.
- Inadequate fund in schools to procure computers and software packages.
- Poor infrastructure, electricity power supply and its stability.
- Laziness on the part of some geography teachers to learn computer.

Conclusions

In this era of Information and Communication Technology (ICT), e-learning approach in education can be described as a shift from the teacher centered, task oriented memory based, education to an inclusive and an integrated practice where learners work collaboratively develop, shared Practices, engage in meaningful contexts and develop creative thinking and Problem solving skills. Learners through e-learning have helped themselves to be more effective in researching topics,

developing and reinforcing their knowledge of geography. E-learning delivery instruction (electronically) has created a transformation in geography. The emergence of e-learning presents a unique occasion in geography to undertake a re-evaluation of geography curriculum in secondary schools, polytechnics, colleges of educations and the universities with the great and unique opportunity that creativity and the invention of e-learning has provided. Geography, a subject per excellent, an indispensable discipline and an essential tool for the transformation of man and his environment needs to employ and tap into the potentials of e-learning, a modern and an effective tool for the teaching and learning of geography in Nigerian schools.

Recommendations

Looking at the benefits of e-learning in the teaching and learning of geography in Nigerian schools, the paper recommends that:

1. There is an urgent need for teachers and students of geography to be computer literate.
2. There should be provision of necessary infrastructural support: power supply, internet facilities, and availability of computers in Nigerian schools.
3. Information and Communication Technology (ICT) education should be included or re-enforced in teacher education curricula in various teachers training institution.
4. Skilled manpower such as computer programmers, system engineers and technicians should be deployed to the various schools (primary, secondary, and tertiary) to help in technical issues and maintenance of the system.
5. Geography teachers should be encourage to attend ICT (e-learning) workshops, seminars, and conferences in other to be exposed to the concept of e-learning instruction delivery.
6. Adequate funding by relevant bodies, government and non-governmental organization and international donors should be provided.

*E-Learning: An Effective Tool for the Teaching and Learning of Geography in Nigerian Schools - **Friday Bonoh and Maikai A. Saidu***

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