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Teaching and Learning in Cyberspace: The Nigerian Situation

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ABSTRACT

Access to education in Nigeria, especially at the tertiary level has become a major challenge. The quality of education being provided in schools is another issue begging for attention. Coupled with this is the problem of teaching which has become very uninteresting and boring, students are not motivated as active participants in the learning process. This paper looks at the issue of teaching and learning in cyberspace, which provides a synchronous forum for discussing, sharing, reviewing and collaboration among peers and teachers.

Despite the challenges of sporadic electricity supply, unreliable telephone facilities, high rates paid for poor internet connections, inadequate and poor ICT infrastructure, teaching and learning in cyberspace offers several advantages which includes ease and cost of access to education, flexibility for learners in terms of study time and pace. A proper implementation of teaching and learning in cyberspace will enable many Institutions to tap and utilize the expertise and skills of experts across the globe.

Keywords: *Teaching, Learning, Cyberspace, Internet Nigeria*

1. INTRODUCTION

There is no doubt that the state of accessing education in Nigeria especially at tertiary level is very challenging. The issue of the quality of the education is another major challenge begging for attention. The strength of any nation to a large extent is in the quality and quantity of other human resources. Education is the pivot on which development rotates and the fundamental capacity building measure for sustainable development. Unfortunately there is a serious decline in the Nigerian educational system.

Teaching has become uninteresting and boring as students are not motivated as active participants in the learning process. This is where teaching and learning in cyberspace can be a major advantage. Teaching and learning in cyberspace provides a synchronous forum for discussing, sharing, reviewing and collaborating with peers and teachers. It also enables students centered teaching approaches [1].

2. TEACHING AND LEARNING

Teaching has been described as an academic process by which students are motivated to learn in ways that make a sustained, substantial, and positive influence on how they think, act, and feel. To teach is to impart knowledge or skill in; give instruction to. Teaching also involves a creative activity to foster student learning and it include a broad context the design, implementation and evaluation of curriculum materials. According to Darling – [2], 'Teachers who know a lot about teaching and learning and who work in environment that allow them to know students well are the critical elements of successful learning.

Teachers are those that help learners to learn. There are a number of processes that teachers pass through in order to enable learners learn properly, these processes are called teaching, these processes involve direction or impartation. There are different methods (pedagogy) used in teaching. These method used is determined to a large extent by the age, background, environment and learning goals of the learners. A teacher's style could be learner or teacher centered [3]. Some of the teaching methods that have been identified to be used by science teachers in presenting scientific information include:

- Lecture or talk – chalk method.
- Demonstration method.
- Discovery (guided inquiry and unguided inquiry) methods
- Project method.
- Laboratory/ Investigative method)
- Individualized learning method.
- Field trips.

[4]. Abdualhi also asserted that eighty percent of scientific information or principle that student receive from their teachers come through the lecture methods. Most of the methods above can be utilized in teaching and learning in cyberspace.

Learning is the lifelong process of transforming information and experience into knowledge, skills, behaviors, and attitudes. [5]

Learning can also be defined as a relatively permanent change in behavior. "Learning is acquiring new or modifying existing knowledge, behaviors, skills, values, or preferences and may involve synthesizing different types of information. The ability to learn is possessed by humans, animals and some machines. Progress over time tends to follow learning curves."[6]

Some of the learning styles that have been identified are:

- Active
- Reflective

- Sensing
- Intuitive
- Visual
- Verbal
- Sequential
- Global.

Each of these learning methods has its own peculiarity and the teacher must study his/her learners to know the type of learning that is suitable to his students.

2.1 What is Cyberspace?

The term Cyberspace is commonly used today when referring to the internet. Although not incorrect, cyberspace has been defined by some authors as more than just the internet. A term coined by William Gibson in his sci-fi novel Necromancer (1984), it has been described as a metaphor for describing the non-physical terrain created by computer systems [7]. It is a space where people can communicate (email, VoiP, video conferencing), do research or simply shop. Cyberspace has been defined as a domain that makes use of electronics and the electromagnetic spectrum to store, modify and exchange data via networked systems. It is seen as communication between human beings over a network, discounting geographic location [8].

For the purpose of this paper, cyberspace is defined as a communication between people via various means (video, voice, text) over the internet or any telecommunications network. Learning and teaching in cyberspace implies communication between students and tutors over any telecommunications network

Cyberspace, according to wepodia (2011) an online dictionary is:

A metaphor for describing the non-physical terrain created by computer systems. Online systems, for example, create a cyberspace within which people can communicate with one another (via e-mail), do research, or simply window shop. Like physical space, cyberspace contains objects (files, mail messages, graphics, etc.) and different modes of transportation and delivery. Unlike real space, though, exploring cyberspace does not require any physical movement other than pressing keys on a keyboard or moving a mouse.[9]

Various forms of teaching and learning exist over the internet. Computer Based Instruction (CBI) was among the earlier known forms of online learning. This involved interaction between computer drills, simulations and tutorials and no real feedback was available other than what was already present in the software. It is characterized as self study. Computer Mediated Communication (CMC) on the other hand involves student tutor interaction over a network. This form of learning is more prevalent today.

There are a number of things that characterize learning and teaching in cyberspace. It is more Student-centered. Students generally determine the direction of their studies by the level of participation and activities they involve in. This does not negate the role of tutors in setting up classes and designing curriculums. It is also regarded as being unbounded as it removes the restriction of physical classroom walls and gives students access to people and information from all over the world. This provides a broader range of knowledge. This also leads to the opportunity of shared knowledge. Physical books and libraries have done this in the past but are nothing compared to the scope the internet provides. Electronic books and websites have made it possible to share information across geographic locations saving time and cost. Connectivity and collaboration also form an important aspect of learning in cyberspace. It provides an opportunity for interaction with experts in various fields and direct collaboration with student s and tutors where necessary.

Teaching and learning in cyberspace (E- Learning) "draws on educational technology, instructional design and traditional pedagogic theory to design, deliver, and implement a learning environment to promote knowledge construction, critical analysis and reflective practice in our learners. It draws on student's established social networking abilities and enables them to apply this to the realm of education." [10]

Education in the cyberspace also allow for the following according to Jennings:

- Supports our learners through flexible and inclusive access and supports our teaching practice through dissemination and engagement opportunities.
- Enables learner's flexible access to materials to learn at their own pace via a contemporary interface.
- Provides academics with the freedom to attempt alternative teaching methodologies, allowing them to explore creative solutions and embrace innovation and experimentation in one's teaching.
- Simply put, it makes teaching and learning more effective.

The implementation of technology in higher education is very beneficial for teaching, learning and research. It allows for the delivery of teaching materials in a flexible and accessible way, it also promotes student-centered learning and encourage open and collaborative environment for research activities.

3. CYBER SCHOOLS HAVE SEVERAL IMPORTANT ADVANTAGES AND DISADVANTAGES FOR EDUCATION

3.1 Ease and Low Cost of Access

The advent of cyber education has reduced the need for students to travel to other locations for an education. Not only can this education be received at home, cyber education can also be provided for by schools in the

locality, taking advantage of the internet to advance knowledge. This is made possible where internet connection and computer systems are available, allowing people in rural areas to have access to quality education [11]. Countering earlier criticisms of past long distant learning of affecting socialization skills she adds that cyber education offers forums and virtual meeting points for students and tutors to meet online. Working professionals can save travel time and access their academic instructors and course work over the internet, saving time and cost of travelling to and from school. Working professionals are the majority in enrolling in online education and have the opportunity to work full time, raise families, and advance in their places of work serving as a tremendous advantage to both employer and employee [12]. Potential students from the working class have otherwise been discouraged from brick and mortal class rooms due to lost earnings, seniority and time with their families. Online education tuition fees are generally cheaper than conventional schools. The costs of text books are also cheaper as they are generally eBooks and other materials available online [13].

3.2 Choosing Study Times and Pace

Cyber education is largely self paced and allows students to select their curriculum and learning style. This makes for better understanding and information retention by students. Learning can also be more engaging and fun as various styles are used to improve the quality of learning [11]. She also argues that students can finish a given stage of education (elementary or secondary) sooner or later than a regular school plan. This is an advantage to students with learning disabilities or exceptional students. Students who work have the opportunity of choosing what time they study and do school work [14].

3.3 Degree Programs and Classes Offered

Online education provides the opportunity of finding particular study areas that meet a student's interest requirements [14]. Students are often saddled with studying courses that are close to what they desire and not the exact course. Students also have a wider variety of courses and schools to choose from [13].

3.4 Avoid Adverse Weather Conditions

Snow storms and other adverse weather conditions have been causes for schools to close down. Students on a tight schedule can be affected. Online education avoids cancelled classes and provides a consistent education regardless of weather. Students from different countries do not need to worry about adjusting to changes in weather either [13].

3.5 Student Interaction Is Increased

Cyber education provides students with the opportunity of networking with people from different parts of the world more easily than conventional schools, increasing student interaction. According to Dr. Jerry Ice and Dr. Paul Edelson, authors of the "Complete Book of Distance Learning Schools", students are also better equipped with research and writing capabilities. These skills should carry on onto the working environment [15].

4. THERE ARE A NUMBER OF DISADVANTAGES OF CYBER EDUCATION

4.1 Self Motivation

Students who are not self motivated will find it difficult to meet deadlines and get work done on time. When students are not motivated they can easily fall behind on school work [16].

4.2 Employment

Graduates may find that they have to defend the validity of the qualifications received. Employers may ask about the schools accreditation, student transcripts, syllabi and any other convincing document [17].

4.3 Slow Response

Students may not always have easy access to teachers as teachers could respond slowly to emails [16]. They could also get confused about a topic or study area and not have a tutor to clarify this problem when they need help. This could also lead to students feeling isolated from their tutors or other classmates (E-learner, 2010).

4.4 Poor Internet Connection

If students do not have good or consistent access to the internet, downloading course material, video conferencing or communicating through any means online will cause delays or the inability to study [18].

4.5 Infrastructural Needs for Teaching in Cyberspace

The internet is the major medium for the process of teaching and learning in cyberspace. The internet is also the potential driver for online and virtual education. The development of multimedia and communication systems to ensure a seamless connection of teachers and students for the purpose of learning and sharing ideas is very important [19]. There are many infrastructural challenges to the issue of teaching and learning in cyberspace. Some of these challenges common to the developing countries as enumerated by Ekekwe are:

Electricity: many developing economies still suffer sporadic electricity supply thereby making it extremely challenging to deploy the right technology to support IVC.

Telephone Facilities: though many developing economies are deploying better telecommunication infrastructure, the telephony is still unreliable. This has a potential to derail IVC.

Broadband Telecommunications: the advent of broadband telecommunication has to be pervasive in the universities across these nations to enable seamless integration of IVC.

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Computer Systems: though efforts have been made in many schools to acquire computing systems, the ratio of computers to students remains very poor.

IVC Accessories: IVC accessories or tools like video systems, cameras, speakers etc are expensive and not many schools can afford them with the low operational budgets.

Lack of Adequate Manpower: the human capital is a fundamental challenge in the design and deployment of IVC. While trained experts are readily available in the cities, they remain in low numbers in some remote areas where some of the schools are situated.

In Nigeria, the issue of electricity is particularly very challenging. Billions of dollars have been expended on trying to ensure regular supply of electricity. Unfortunately these efforts have not yielded the right results. Internet access is still very expensive in Nigeria; this is because service providers charge exorbitant amounts for unreliable internet connections. Institutions with managed good facilities especially the private ones are well positioned to benefit through teaching and learning in cyberspace, the expertise and skills of experts across the globe. This opportunity is very strategic considering that many top global scholars do not want to come to Nigeria because of transport problems and security challenges.

5. CONCLUSION

Teaching involves a creative activity to foster student learning, impartation of knowledge or skill, and is an invaluable activity in the school setting. Learning on the other hand involves a relatively permanent change in behavior. There are various forms of teaching and learning on the internet. Computer mediated communication (CMC) involves student tutor interaction over a network; this type of learning is more prevalent today. Because learning and teaching in cyberspace is more student centered, it provides asynchronous form of discussions, sharing and reviewing and collaboration among peers and teachers. Despite the challenges of such a system in Nigeria, it is very important that institutions in the take advantage of its potentials in providing adequate access to quality education.

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