



Trends and Gaps Strategic in Implementation of E-learning: An Analytical Perspective in Rivers State

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ABSTRACT

E-learning has become an increasingly important learning and teaching method in recent times and has been recognized as an efficient and effective learning method. The rapidly rising number of Internet users with smart phones and tablets around the world has supported the spread of e-learning, not only in higher education and vocational training but also in primary and secondary schools. E-learning and traditional distance education approaches share the emphasis on “any time, any place” learning and the assumption that students are at a distance from the instructor. The design of the initial online learning courses tended to replicate existing distance education practice based on content delivery. However, long textual lectures were clearly not suitable for the online environment. These early insights guided the development of online learning (technical and pedagogical) and emphasized the need for communication and interaction. E-learning describes learning delivered fully online where technology mediates the learning process, teaching is delivered entirely via Internet, and students and instructors are not required to be available at the same time and place. E-learning practices are evolving with the mutual influence of technological online learning platforms and pedagogical models. Today, the broad penetration and consolidation of on-learning needs to advance and open up to support new possibilities. Future e-learning should encompass the use of Internet technologies for both formal and informal learning by leveraging different services and applications. The purpose of this study is to provide a general analysis of the trends and gaps, method and strategies in implementation of online evolution and future trends in e-learning. The authors intend to summarize findings from contemporary research into e-learning in order to understand its current state and to identify the main challenges in the technological and pedagogical of e-learning.

Keywords: E-learning, trend, gap, method, strategies, implementation, Analytical, Perspective

INTRODUCTION

The use of technology in education could be traced back to history. From early days of civilization to the vast array of computer technology driven devices of the 1990s, technology has significantly impacted on educational theories and practice. Formation and communication technologies (ICT) have occupied the centre stage of social and economic transformation in both the industrialized and developing nation. The cost of these technologies has been falling continuously and as this happens, the capabilities of the technologies have been increasing steadily and they are being applied more to various sectors of economies and societies. The influence of computing, audio visual and telecommunication technologies on one hand and the spectacular advance in digital compression technology during the last two decades have drastically transformed the way information is accessed and assimilated on a global scale. People communicating now, have powers of transmitting and receiving information undreamed of even ten years.

Today, schools are challenged to do more with fewer resources as they try to meet the complex and changing demands of society. Educators now find that the traditional methods of managing education and transmitting information and skills are inadequate to deal with accelerating change. We are in the world of technological development and functional and qualitative education, which is viewed as a necessary condition for national development, and which cannot be achieved without quality use of e-learning facilities. Educational systems around the world are under increasing pressure to use the new information and communication technologies to teach students the knowledge and skills they need in the 21st century. Asogwa (2007) noted that electronically delivered learning (e-learning) has become one of the most important and potentially significant and efficient instructional methods to improve teaching and learning. With the emerging new technologies, the teaching profession is evolving from an emphasis on teacher centred lecture-based instruction to student-centred interactive learning environments. The need for educational service delivery especially in Nigerian universities to be relevant should not be over-emphasized. Educational service delivery in this e-era ought to prepare graduates who will not lack the requisite mental preparation that would enable them engage in job creation for themselves. This becomes possible with the integration of e-learning facilities.

There have been several attempts to define e-learning and its facilities. E-learning basically boils down to learning that is facilitated and supported via Information and Communication Technology (ICT). The American study for training Development (ASTD) defines e-learning as a broad set of applications and processes which include web-based learning, computer-based learning and virtual classrooms. Much of this is delivered via the internet, intranets, audio and video tape; satellite broadcast, interactive TV and CD-Rom. The definition of e-learning varies depending on the organization and how it is used but basically it involves electronic means of communication, education and training. E-learning is nothing but the use of technology to connect teachers and students who are physically miles apart. The training can be delivered by a number of means in the past, these included the use of mainframe computers, floppy diskettes, multimedia CD-Rom and interactive video disks. Most recently, web technology (both internet and intranet delivery) are being used.

Body (2005) says e-learning is education offered using electronic delivery methods such as CD-Rom, video conferencing, websites and e-mail. E-learning covers a wide set of applications and processes such as web-based learning, computer-based learning, virtual classrooms and digital collaboration. It includes the delivery of content via internet, intranet, audio and video tape, satellite, interactive TV and CD-Rom.

E-learning according to Markus (2008) can also be defined as learning process created by interaction with digitally delivered content, network based services and tutoring support. E-learning is any technologically mediated learning using computers whether from a distance or in a face to face classroom setting (computer assisted learning). It is a shift from traditional education or training to ICT-based personalized, flexible, individual, self-organised, collaborative learning based on a community of learners, facilitators and experts. E-learning technologies offer learners control over content, learning sequence, pace of learning, time and often media, allowing them to tailor their experiences to meet their personal learning objectives. The integration of e-learning into education can catalyze the shift toward applying adult learning theory, where educators will no longer serve mainly as the distributors of content but will become more involved as facilitators of learning and assessors of competences. According to Erah (2006) e-learning is the process of teaching and learning using the computer via internet. It involves passing structured instructional material from a repository to a learner. It refers to computer enhanced training as opposed to the computer-based training of the 1980's. It is usually delivered in a personal computer and includes learning delivered by other communication technologies. To him-e-learning is an approach to facilitate and enhance learning through both computer and communication technologies.

Finally, Horton (2005) defined e-learning as the use of internet and digital technologies to create experiences that educate our fellow human beings. E-learning has the potential to revolutionize the way we teach and how we learn. The use of new multimedia, technologies and the internet in learning is seen

as a means to improve accessibility, efficiency and quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration.

Concept of Management

Different meanings have been attributed to the word "Management," some people see it as a process demanding the performance of a specific function. Nwachukwu, (1992) defined management as "getting things done through others." It can be more scientifically defined as the coordination of all the resources of an organisation through the process of planning, organising, directing and controlling in order to attain organizational objectives. Management is the guidance or direction of people towards organisational goals or objectives. It can also be seen as supervising, controlling and coordinating of activity to attain optimum results with organisational resources.

Concept of Higher Institution

Higher education is education beyond the secondary school level, especially education at the college or university level. Higher institution is an institution of higher education that awards a bachelor's degree or not less than a two year programme that provides credit towards a degree or provides not less than one year of training towards gainful employment or can also be a vocational programme that provides training for gainful employment and has been in existence for at least two years. A higher institution must also meet the following criteria:

- Admits as regular students only persons with a high school diploma or its equivalent or admits as regular students persons who are beyond the age of compulsory school attendance.
- Public, private or non-profit
- Accredited or pre-accredited and is authorised to operate in that state,

Types of E-learning Facilities

- (1) Laptops/computers: These are electronic machines that are capable of receiving, storing, manipulating and retrieving data speedily and efficiently. According to Agbo (2001) computer is an electronic device that has a semiconductor chip called a microprocessor. The chip contains all the arithmetic, logic and control circuitry that enables the computer to carry out its numerous functions ranging from the simple to the most complex, hi fact the computer is one of the greatest inventions of man. By function it takes after the human brain. It is so far the best educational technology medium for individualizing institution.
- (2) Teleconferencing: This is a growing type of electronic office communication system which uses the video and audio communication to hold conferences and meetings with participants that may be scattered across a country or globe. Teleconferencing is being promoted as a way to save both students and employees time and thus increase productivity. It also reduces the level of travelling to and from meeting and school (learning centres) as well as expenses and energy consumption.
- (3) Electronic white board: This internet service is a device usually controlled from a computer. The computer uses data projector, electronic pens and erasers. There is also a small notebook that contains buttons for different operations and this appears immediately. The electronic white board is connected to the computer, the computer saves anything written on the white board and such things can also be printed if so desired. The electronic white board is notably a very good medium for effective classroom interaction and other activities like workshop, seminars and training of staff.
- (4) The e-mail: The e-mail is one the most widely used internet facility. It is fast in information exchange, very cheap to use, reduce physical distance between people and increase in personal capabilities to explore and communicate with peers around the world.
- (5) CD ROM: This stands for "Compact Disc Read Only Memory." A CD-ROM is a CD that can be read by a computer with an optical drive. The "ROM" pan of the term means the data on the disk

is 'read only' or cannot be altered or erased. CD ROM contains a huge amount of information that can be played and replayed from time to time.

- (6) Virtual classroom: This is an online learning environment; the environment can be web-based and accessed through a portal or software-based and rapine a downloadable executable file. A student in a virtual classroom participates in synchronous instruction which means the teacher and the students are logged into the virtual learning environment at the same time. This e-learning be used to coordinate meetings, workshops etc.

E-learning in Nigerian Schools

The e-learning techniques mostly adopted by most of the Nigerian institutions of prepared lectures on a CD-Rom that can be played as at when the need arises, This has limited advantage because of number of students per computer system in which most of this facilities are not interactive enough compared to when the lecture is being received at the same time over the internet. The internet facilities adopted in most schools aid not well maintained because of their high cost of running especially in the absence of adequate power supply. Mostly the students take the challenges upon themselves to go to public internet cafes where there exist diverse attentions because of people with diverse interest in the net at the same time. The Bandwidth shared on various systems at the cafe is very low hence: a multimedia interactive lecture will not be obtainable bandwidth. The population of student is enormous and the facilities are inadequate. Despite all the hindrance/threats faced by e-learning in Nigeria, institutions such as Federal School of Surveying, Oyo, University of Ibadan, Obafemi Awolowo University (OAU), Ile-Ife and Rivers State University of Science and Technology. Port Harcourt have e-learning facilities for teaching and learning. The remoteness of the locations for some institutions has also contributed to the low level of the availability of e-learning facilities. Though, most of the institutions of higher learning in Nigeria have started building their ICT centres yet the focus is mainly to put up an internet facility alone without considering other components that make up an e-learning centre.

Types of online learning

Olojo, Adewumi and Ajisola (2012) outlined fundamentally two types of e-learning below:

- (1) Synchronous which means "at the same time." This involves interaction of participants with an instructor via the web in real time. For example - VCRs or virtual classrooms that are nothing else but real classrooms online participants interact with each other and instructors through instant messaging, chat, audio and video conferencing etc. and all the sessions can be recorded and played back. The benefits of synchronous training include:
- Ability to log or track learning activities
 - Continuous monitoring and correction is possible
 - Possibilities of global connectivity and collaboration opportunities among learners
 - Ability to personalise the training for each learner
- (2) Asynchronous which means "not at the same time" allows the participant to the web-based training (WBT) at their own pace without live interaction with the instructor. Basically, it is information that is accessible on a self-help basis 24/7. The advantage is that this type of e-learning offers the learners the information they need whenever they need it. It also has interaction amongst participants through message boards, bulletin boards, and discussion forums. These include computer-based-training (CBTs) modules on CD-Rom, web-based training accessed through intranet (WBTs) or through well written articles and other write-' ups.

Advantages of Online Learning

- Availability "just in time" for instant learning and reference
- Flexibility of access from anywhere and anytime
- Ability to simultaneously reach an unlimited number of learners
- Uniformity of content and one-time cost of production

Benefits of Online learning Nigeria Universities

E-learning is important for education in the following ways:

- It can improve the quality of the learning experience and extend the reach of every lecturer and tutor.
- E-learning can help remove barriers to achievement by providing new and creative, ways of motivating and engaging learners of "all abilities, enabling and inspiring everyone to attain their educational potential.
E-learning offers a wide range of tools to enable teachers and learners to be innovative, creative, and resourceful in all learning activities. Teachers and learners. can easily customise digital learning resources to suit pace and level appropriate to any learning style and ability.
- Online learning creates on-line communities of practice. The internet *cm.* bring learners, teachers, specialist communities, experts, practitioners and interest share ideas and good practice.
- Online learning can provide an individualized learning experience for all learners including those who are disadvantaged, disabled, exceptionally gifted, or who are away from their usual place of learning.
- E-learning provides virtual learning worlds where learners can take part in active and creative learning with others through simulations, role play, remote control of real-world tools and devices, on-line matter classes or collaboration with other education providers.
- E-learning can facilitate under participation and fairer access to further and higher education by creating the opportunity to start learning and to choose courses and support according to the learner's needs.
- E-learning can reduce travel cost to and fro school.
- Successfully completion on-line or computer-based courses build self-knowledge and confidence and encourage students to take responsibility for their learning.

Methods and Strategies in Implementation of Online Learning of Higher Education

Facilities management according to Technopedia involves the management of all services such as housekeeping, security maintenance, general administration, transportation etc. within the specified budget and in timely manner. Facilities management creates the optimal environment for employees to execute the organisation's primary functions in schools. The packaging of facilities such as the school building, school furniture, classroom, electronic learning gadgets and so on is done with the aim of adding values to the school. This added value is believed will deliver students satisfaction and will also create an enabling environment for teaching and learning.

Planning as in all management processes is the first logical step in facilities management According to Dror in Sunday (2014) planning is the process of preparing a set of decisions for action in the future directed at achieving goals by optimal means. E-learning facilities management plan starts with the educational philosophy that serves the needs of the individual in a dynamic and knowledge-based economy and so e-learning facility management plan should therefore give meaning to the educational philosophy.

An aspect of school management that is generally overlooked is facilities maintenance. When new facilities are brought in and taken over by the appropriate authorities, practically no attention is paid to the maintenance of the old ones. Several e-learning facilities have never undergone maintenance of any sort in order to still keep it in shape. School managers and lecturers who use e-learning facilities lack knowledge of facilities maintenance planning. The issue of facility maintenance is haphazardly addressed in higher institutions and other levels of educational system. Repairs take place only when problem arise due to breakdown of the existing facility. Facility maintenance entails providing clean and safe environment for teaching and learning as well as the provision of adequate facilities. The following types of maintenance should be adopted in the facility maintenance plan:

- (1) Preventive maintenance of Online Facilities: This type of maintenance carried out on e-learning facilities is to avoid breakdown and ensure optimal performance of the facilities. This type of

maintenance saves cost and time and is usually an integral part of the management practice in societies where maintenance culture is well established.

- (2) Routine maintenance: This is carried out periodically as scheduled by school administrators. The e-learning facilities may be serviced monthly, quarterly and so on depending on the agreed schedule.
- (3) Emergency Repairs: This is very common in the management of e-learning facilities as well as other school facilities in societies where maintenance culture is not well established. It takes place when a facility breaks down and urgent measures or steps had to be taken to remedy the situation. This type of maintenance may be expensive because due to lack of maintenance, the extent of damage may require total replacement of the facility or high cost of repair.
- (4) Predictive maintenance: This involves the use of computer software to predict equipment failure based on age, user demand and performance measures.

Management of Online Learning Facilities in Universities by Administrators

Facilities management is an integral part of the overall management of an institution. The actualization of the goals and objectives of education requires the provision, maximum utilization and appropriate management of facilities. Furthermore, advances in science and technology necessitate that the school manager or administrator should adopt modern methods of facilities management which will improve the quality of teaching and learning,

The Federal Republic of Nigeria NPE (2004) mentioned as one of the goals of education the training of students to live in and contribute to societal developments. Educational goals cannot be achieved in a vacuum; the needed resources must be in place. Nwafor (2012) noted that for educational administrators to achieve educational goals efficiently, they need three basic resources which are:

- (1) Human resources which consist of all the personnel in the school.
- (2) Financial resources which is the fund necessary to run the organisation.
- (3) Capital equipment which includes the physical, facilities such as e-learning facilities, materials and equipment which provide support services in the accomplishment of the school goals.

Educational institutions require an environment where lecturers and students as well as other personnel will enjoy their stay and perform their duties effectively. According to Akubue in Sunday (2014), good school environment will foster desirable behaviour, creativity, harmonious relationship and problem solving skills among students. In the educational institutions e-learning facilities constitute essential inputs which would generate favourable learning environment, facilitate interaction and enhance achievement of educational objectives.

Management of e-learning facilities is very vital to the achievement of educational objectives and application of appropriate management techniques would assist in taking care of all available e-learning facilities. In other words, e-learning facilities which might have suffered neglect as a result of carelessness, ignorance, lack of commitment and lack of resources for management would receive attention from school administrators. Also e-learning facilities which are well managed are likely to be durable and this will save cost of replacement of the available few e-learning facilities within a short period of procurement.

Security of E-learning Facilities

This is another dimension of managing e-learning facilities that school managers or administrators can apply in the course of managing these facilities. These institutions exist in communities and it is obvious that the school and the community are not two strange bedfellows but rather both play complementary roles to each other. Unfortunately, in these communities there are burglars who exist and they are in the habit of stealing as well as damaging school facilities hence the presence of security personnel on school premises will minimize the rate of stealing these facilities. This agrees with the view of Agabi (1999) in his discussion of the challenges to resource provision in public schools. Vandalisation of facilities most times is facilitated by some unpatriotic community members without being challenged. This happens

because in most cases the communities see the school as not their own but that of the government and for this reason a close and harmonious relationship by the school administrator with the schools host community is very necessary in order to secure available e-learning facilities in institutions of higher learning in Rivers State.

Benefits of Facilities Management in Schools

It costs money to have good facilities on ground no doubt, but it pays. Below are some benefits of facilities management in schools.

- (1) Maintenance of minimum standards. The Federal Ministry of Education (FME) (2005) in stating the minimum standards for establishment of schools demanded amongst others the provision of:
 - a healthy school,
 - Adequate and suitable furniture and learning materials/aids (provision of water, Electricity, firefighting equipment, well ventilated classrooms and staff rooms etc). Because school administrator's stand in loco parent is to the students while in school, facilities on ground that do not meet safety standards school be replaced or maintained.
- (2) Avoidance of law suits undue exposure of students to unsafe facilities and environment could amount to a law suit as in case of Ray Alber Vs independent school District No. 302 of Lewis country where a minor was injured in a I basketball pitch and the judge ruled against the school saying the school principal must exercise extra care to keep its premises and facilities in reasonably safe conditions for the use of the premises and facilities (Igwe, 2003).
- (3) Effective administration: Adesina in Abraham (2013) asserts that the quality of education children get bears direct relevance to the availability or non-availability of physical facilities and the overall atmosphere where the learning takes place. Abraham (2013) also states that since the basic aim of the school is to create relatively permanent changes in the behaviour of children through organised instructional activities, the attainment of this objective is therefore a yardstick for measuring administrative effectiveness.
- (4) Adequate provision of support services: Nwafor (2005) gave one fundamental condition for the effective realization of an[^] organisation's goal as the adequate provisions and maintenance of physical facilities. These facilities such as e-learning facilities are designed support the process of teaching and learning in schools. This is because of the realization that physical facilities form the hob in which teaching and learning revolves.
- (5) Competitive advantage: There is need for an organisation to have competitive advantage and one way of achieving this is having functional facilities on ground. This stimulates and motivates workers and students, and parents are naturally attracted to such schools that are well equipped (Agi, 2005).

A sure way of having functional facilities in schools is through facilities management. A routine check on facilities ensures that proper maintenance is done as at and when required. This provides the most suitable teaching and learning conditions for teachers to deliver student's satisfaction. Administrators serve as a link between the institutions and the stakeholders. They have an important role to play on provision of facilities. If they are charged with procurement by any other stakeholders, they should ensure that materials of good quality are purchased. It is part of their professional ethics that they should not divert money for procurement to another use. Moreover, administrators are to advice the government and other stakeholders on the type of facilities needed in schools. Thus, accurate information on the needs of the school should be given. Administrators are responsible for safe keeping of the facilities. As much as possible, the facilities should be protected from fire, theft and any other form of disasters. Another role of the administrators is accurate record-keeping. All facilities in their custody should be on their records. Reference should be made regularly to the records for updating and confirmation of available facilities. They should guide against falsification of records. Finally, administrators must ensure that the e-learning facilities are handled by experts during usage, maintenance and improvement service. Training of these experts in relevant fields is also essential.

Challenges in Managing Online learning Facilities in Nigerian Universities

There are numerous challenges in the management of e-learning facilities in universities however, below some are identified;

- (1) **Fund Inadequacy:** Inadequate finance is a major challenge to the management of e-learning facilities because these facilities cannot be maintained effectively without financial resources. Inadequate funding of the educational system has resulted in non-payment of salaries which has led to uncountable strikes by lecturers, inadequate instructional materials etc. It is the government's responsibility to provide facilities such as computers and learning materials but approximately eight out of ten universities lack these e-learning facilities (Nwabueze,2011).
- (2) **Lack of skilled and trained personnel:** Lack of skilled and trained personnel stands in the way of adequate utilization and maintenance of facilities as these e-learning facilities if provided cannot function on their own and so it needs trained personnel in that area to make it work.
- (3) **Corruption and greed:** Funny and alarming as this may sound, the problem of corruption and greed from the grass root to the top in the system is a general problem. Even in our universities sometimes these e-learning facilities that are needed to increase the standard of learning in schools and the students potential elevated are made available by the government but when they are commissioned, greed and corruption inhibits its usage whereby administrators or school heads keep these e-learning facilities to themselves for their selfish and personal use. Better still these e-learning facilities are sold off or auctioned by the school heads and the money used for their personal needs.
- (4) **Lack of workshops:** Government or school authorities' inability to carry out seminars, conferences and workshops on facilities management for administrators from time to time is also a barrier.
- (5) **Indiscipline among lecturers and students in the use of e-learning facilities in universities** is a serious challenge to the administrators on how to manage these facilities. Indiscipline is the lack of controlled behaviour of people which makes them behave badly. Bello in Yarson (2004) also defined indiscipline as the breaking of rules and regulation of an institution. It is also the inability of a person to live in accordance with rules and regulations. Utilisation of e-learning facilities requires discipline but unfortunately majority of the students in public institutions are not disciplined, students are often in the habit of over-using and misusing available e-learning facilities which in turn makes these facilities not last as long as expected. Some students also end up stealing these available e-learning facilities home which is an act of indiscipline.
- (6) **Internet connectivity:** The cost of accessing the internet in Nigeria is still on high side and so some students find it challenging to afford. Aduke suggested that the government should make internet connectivity a priority higher education to be able to leverage on the promises and opportunities presents.
- (7) **Energy related problem:** Irregular and frequent interrupted power supply in Nigeria is a perennial problem affecting almost every aspect of the economy. Most rural areas in Nigeria are not even connected to the national grid and the consequence of this is that students residing in such areas may find it difficult to use ICT effectively.

Challenges in Adoption E-Learning

- Students-related challenges

- a. **Insufficient internet connectivity** – insufficient internet connectivity is one of the major problems affecting the adoption of e-learning by both students and lecturers.
- b. **Lack of computers/laptops**
- c. **Inadequate computer laboratories**
- d. **Limited computer skills**
- e. **Inadequate time to interact online.**

- Strategies to the adopted for effective implementation of open and distance learning

- a. Know your learners
- b. Set clear learning objectives
- c. Make your learning programmes
- d. Keep your E-learning courses organized
- e. Keep your learning modules short
- f. Make your E-learning course visually appealing

CONCLUSION

E-learning as one of the most important and potentially significant and efficient instructional methods was established to improve teaching and learning. E-learning is the appropriate application of the internet to support delivery of skills and knowledge in a holistic approach not restricted to a particular course, technologies or infrastructure. Facilities management is an integral part of the overall management of an institution. The actualization of the goals and objectives of education requires the provision, maximum utilization and appropriate management of facilities. An aspect of school management that has been generally overlooked has been facilities maintenance. It has been observed that school managers or even lecturers who use e-learning facilities lack knowledge of facilities maintenance planning and as such repairs take place only when there is a breakdown of an existing facility. Facility maintenance entails providing clean and safe environment for teaching and learning. The Preventive maintenance, Routine maintenance and Predictive maintenance should be adopted in the facilities maintenance plan.

RECOMMENDATIONS

Based on the review of related literature or studies the researcher make the following recommendations.

1. Government through the management of higher education should adopt or implement the uses of e-learning hence it enhance the level of literacy in the society.
2. Higher education management should address the problem or challenges in implementing e-learning in the study area.
3. Government through the higher education management should make more funds available and e-learning facilities to enhance teaching and learning.

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