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E- LEARNING IN NIGERIA TERTIARY INSTITUTIONS: A PANACEA TO QUALITY EDUCATION FOR NATIONAL DEVELOPMENT

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ABSTRACT

This study examined the level of implementation and the use of e-learning facilities in the Nigerian Universities for quality education, a case study of Nnamdi Azikiwe University Awka. The problems, challenges and benefits of implementing E-learning were discussed by reviewing the consciousness and willingness of the selected University. Survey research design was adopted for this study, since a large number of students were involved. Population of the study comprise all the students in the five faculties selected. Questionnaire was used as instrument for data collection. The copies of 120 questionnaires responded to were returned and analysed using descriptive statistics (frequency count, mean score and percentage). Findings show that e-learning is averagely implemented in the NOUN as the facilities available were being used to access the students. It was recommendeded that the University should provide the materials not yet available, in order to enhance higher level of quality education which will invariably improve national development.

KEYWORDS: E-learning, Tertiary Institutions, Quality Education, National development Project 200.

1.0 Introduction

The purpose of educational system is to achieve efficient communication which involves transmission of information, knowledge, skills, values and attitudes to the learner. The demand for higher education is expanding exponentially throughout the world and by 2020 as many as 150 million people would be seeking higher education. The e-learning is not a new phenomenon in promoting education in some parts of the world. Presently, some institutions in Nigeria are using it to promote distance education (DE) and lifelong learning.

According to Ayodele (2010), many developed nations of the world have in recent times, applied the use of mobile learning which means the use of wireless electronic technology to deliver and receive knowledge and skill. However, Nigeria tertiary institutions can be said to be behind in the adaptation of these technologies as there is evidently an extremely low rate of diffusion of e-learning and as a consequence, a low rate of usage. The reason for this is not only that Nigeria, a developing country has inadequate education finance policy, but she is also highly deficient in the area of engineering and technological development (Salawudeen, 2010).

The unprecedented increase in students' enrolment at all levels in tertiary educational institutions in Nigeria has exposed the poor infrastructural situation in the country. This is evident in the unimaginable nature of the school system, resulting from crowded classroom, dilapidated and uninhabitable structure, poor and inadequate facilities that should support teaching, learning and research. The result of this is the production of low quality graduates that are not marketable in the world driven by technology.

The need for e-learning implementation has now become an important move than ever before as the objective of university education in Nigeria as defined by the National Policy on Education (FRN,2004), which states that "the Government shall provide facilities and necessary infrastructure for the promotion of ICT and e-learning". The policy also targets production of high level manpower for national development through impactful teaching, learning and research.

Electronic learning can help adults in the developing their literacy and innumeracy skill, while also building information and communication technology (ICT) skills for life and work (CILIP, 2005). Also the use of new multimedia technologies such as computer scanner, printer intranet, internet, e-mail, videophone system, teleconferencing devices, wireless application protocol (WAP), radio and microwave, television and satellites among others in learning are seen as a means to improve accessibility, efficiency and quality of learning by facilitating access to information resources and services as well as remote exchanges and collaboration. Moreover, in learning, curriculum content in the form of texts, visuals such as pictures, posters videos audio/sound, multicolour images, maps and graphics can simultaneously be presented online to students in both immediate locations (Classroom Model of E-learning) and various geographical distances (Distance Education Model of E-learning.

Despite the wide use of information and communication technology in university teaching, research on e-learning adoption suggests that it has not reached its full potential (Zemsky et al., 2004). This implies that a lot more need to be done in order for university teaching to be improved via ICT. E-learning adoption is hampered when there is absence of improved technology in any university system. As noted by Psycharis (2005), the successful implementation of e-learning by an educational system should fulfil certain criteria such as the acquisition of adequate technological infrastructure and adequate educational content of persons with university skills and a developed culture which encourages learning and sharing In the recent time, many developed countries of the world have adopted the use of various multimedia to deliver and receive knowledge. This has infused and injected efficiency and effectiveness in their curriculum implementation.

However, in the developing countries like Nigeria, e-learning is challenged with the problem of the new technology in terms of availability and use of the multimedia system and courseware, digital classrooms, videophone system among others by the students.(Global Information Technology Report 2012). This has resulted in production low quality graduates that are not marketable in the world driven by technology. Again, the unprecedented increase in students' enrolment at all levels in the tertiary institution in Nigeria has exposed the poor infrastructural situation and also dearth of trained teachers for e-learning. (Ikemnjima,2005; Jegede & Owolabi 2008).

It is against this background that this study tends to determine the extent of availability and use of e- learning materials to improve quality education in Nigeria tertiary institutions.

Objectives of Study

The main objective of this study is to determine the extent of implementation and use of e-learning facilities in teaching and learning in the Nigerian universities with a special study of Nnamdi Azikiwe University, Awka. From the above, the researchers deduced these specific objectives:

1. To determine the level of implementation and availability of e-learning facilities in the institution.
2. To determine the level of accessibility of the e-learning facilities by the student of the institution.
3. To determine how the use of e-learning facilities in teaching and learning in the institution has enhanced quality education.

2.0 Literature Review

Conceptual Framework

E-learning which means "Electronic learning" as defined by Rosenberg (2001) is "the process by which people acquire new skills or knowledge for the purpose of enhancing their performance". He explains that the perceptions of learning in organisations are undergoing a distinct transformation.

Another author, Ravichandra (2005), said that E-learning in the broadest sense concerns itself with learning that occurs online through the internet, off the using the CD-ROM or other facilities such as radio, television and telephony.

Drawing from the above, these definitions of e-learning by the various authors are perceived according to their personal knowledge and perspectives, but all seem to agree that e-learning comprises all forms of electronically supported learning and teaching which areprocedural in character and aim to effect the construction of knowledge with reference to individual experience, practice and knowledge of the learner.

Origin of E-Learning in Nigeria

The development of telecommunication in Nigeria in 1996 gave rise to the development of e-learning when e-cable connections was established by the colonial masters between Lagos and the colonial office in London to transmit information and receive feedback. By 1993, all government offices in Lagos were provided with telephone services for easy communication and later, other parts of the country were provided with telephone services (Ajadi, Salawu, & Adeoye, 2008). By then, the commonest type of e-learning adopted was in form of lecture note on CD-ROM which can be played when the learner desire. This has its challenge of overcrowded students per computer and thus unattractive method compare to when lectures are being received in the classroom.

2.3 Theoretical Framework

E-learning is not a new phenomenon in promoting education in some part of the world. Presently, some institutions in Nigeria are using it to promote distance education (DE) and lifelong learning. One key advantages of employing e-learning for maintenance management

training is related to the flexibility it offers and the ease of adoption of how the training is delivered to individual learners (Yusuf,1999).
There are three main learning theories which have been influencing e-learning (Keegan,1993). They are:

- **Behaviourism theory**

This treats learning as a set of changes to the learner as he/she react to environmental events. Memorization and limitation are critical in this learning process. The focus here is always on the teacher or the computer providing the carefully arranged materials but not the learner.

- **Cognitive science theory**

It bases learning on alteration, motivation, perception and other internal process. It focuses on screen design and on human/computer interaction, where the teacher usually has the role of the facilitator or partner.

- **Constructive theory**

This is a paradigm which postulates that learners can construct their knowledge as they react with and interpret their environment. Thus, the aim is to provide stimuli and support for the users to construct their knowledge. The most important focus is on the learner.

Drawing from above, (Sam, 2011) argued that e-learning is a logical and strategic approach to achieve technological transformation in Nigeria, adding that the development of ICT is critical in the implementation of education road-map which is designed to revamp the education sector. He opined that e-learning is expected to redefine education. For example, the classroom will no longer be demarcated by brick walls rather students can communicate with their teacher from their bedroom or wherever they are, especially during strikes. While housewives can receive lectures from their kitchen without having face to face interaction with their teachers.

Sam (2011) also identified infrastructure availability as the bane of e-learning in Nigeria especially with the epileptic power supply situation compounded by lack of access to technology. On the problem of implementing e-learning in Nigeria universities Kamba (2009) argued that investment and commitment to develop an e-learning application is very poor and below expectation in the universities. (Sharma & Ng, 2009) suggest that a nation route to becoming a successful knowledge economy is its ability to also become a learning society.

E- Learning Versus Quality Education for National Development

According to (Lorvaa, 2010), Quality Education is better judge from its practice, that is, utility function towards successful attainment of social, economic and political objectives designed by a particular society. Adamu (2006) views Quality Education as a dynamic concept which has been adopted in a country that is undergoing profound social and economic transformation. In other words, quality education is a pre-requisite for national development. It is obvious that the concept of e- learning is considered to be very attractive as anew learning paradigm whose effect will be a positive one to the development of quality education in the developing countries like Nigeria.

Senwua (2010) is of the view that education without quality is rather a waste and even poses danger to the individual beneficiary and the society at large. Nigeria stand the chance to gain if quality education through e-learning implementation is provided to her citizen. The researcher is of the opinion that quality education will enhance national development through:

Reducing the number of unemployable graduates of our educational institutions: Graduate is regarded as "unemployable" when he/she lacks skills that match the requirement of the available jobs, while a graduates can be said to be unemployed where he/she is appropriately skilled but the jobs are not available. Therefore, E-learning can improve the level of quality education by providing graduates with the skills needed for the jobs in terms of knowledge and competence.

Improving standard of living of citizen: with the e-learning implementation quality education is assured and this will invariably improve the standard of living, income generation, poverty reduction and environmental protection through improvement in the peoples' skills and ability to shape their lives, strengthen their function in the society and contribute to their welfare directly (Ekeocha, 2007).

Curbing of crime among the youth: With improve quality education through e-learning, unemployable graduates who because of frustration engaged themselves in social vices like robbery, vernalisation of NNPC pipe lines, kidnapping among others, will be employed either in the private, public or being self-employed due to saleable skill acquired.

Technological development: As mentioned before, quality education is the pre-requisite to technological development of a nation. A country that is technologically developed stands the chance of being self-sufficient and depends less on imported technologies, thereby saving her foreign exchange.

National development: The quality education acquired due to e-learning strategies, the economic, social and political development of the nation will be achieved. According to Ekeocha (2007) quality education generates positive externalities, that is, the benefits to the society exceed those of individual beneficiaries. Again, he posits that a stable democracy in impossible without a minimum degree of functional education that enable citizen to know their civic right, voice out their feelings. All these invariably will enhance National development in terms of building democratic institutions, improve governance and fight corruption. Thus, agreeing with Senwua (2010) that education without quality is rather a waste and even poses danger to the individual beneficiary and the society at large.

Challenges of Integrating E-Learning in Tertiary Institutions in Nigeria

Due to poor ICT infrastructure and other socio-economic reasons, E-learning in Nigerian tertiary institutions is still a dream. Again, high primary cost of infrastructural development and to increase public access to internet and other ICTs, the developing countries in Sub-Sahara Areas are still far behind from getting benefit from the e-learning.

The major problems facing the implementation of e-learning in Nigeria tertiary institutions according to Salawudeen (2010) in general are as follows:

Inequality of access to the technology itself by all the students: The cost of a Personal Computer(PC) and laptop are still very high in Nigeria considering the income level of an average worker in the country. Few students that are privilege to have a PC/Laptop are not connected to the internet as this do attract extra cost which they cannot afford.

Technophobia: Most of the students have no knowledge of computer education, some are afraid of operating one, to the extent of hiring expert at a cost to fill their admission, registration and other documents meant for them to fill online. However, the very few who have access to the computer do not know how to use it and maximize its usage.

Internet connectivity: The cost of accessing internet is still very high in Nigeria. Most students make use of cyber cafe' who charges between ₦200.00 and ₦300.00 per hour despite their poor services and slow rate of their server.

School Curriculum: Most of the students admitted have no information technology/computer education knowledge because it was not introduced in the curriculum at their elementary and secondary education level. Not until recently, when computer education is being introduced at elementary level but is not yet a compulsory subject at the secondary level of our education. Attitude of students: ICT gives room for independent learning and most students are reluctant to take responsibility for their own learning, but they preferred to be spoon-fed at all times.

Software and license cost: Itis very expensive to get some of the soft-wares because they are not developed locally, they are developed in Europe and other developed countries to suit their own system and make their own living. The cost and even the interpretation of some of the soft-wares put off some of the students who showed interest.

factors affecting the successful implementation of e-learning in Nigeria are based on the following basic elements according to the findings of the study: 1) Instructional material is important. Learners take online courses more seriously if they receive material to work with: e.g., books, CD-ROMs, which also save online time. 2) Tutorial support provides motivation. Learners often need guidance and support from instructors, coaches, tutors or technical staff. However, this is also a question of costs—how much financial means an online course has. 3) Communication. Using telecommunication tools like the Internet facilitates not only the distribution of information but also the interaction between learners and instructors, as well as among learners themselves. Giving them the opportunity to hare knowledge, experience and perspectives is a central demand of instructional theories. 4) Collaboration combines the demand for social communicative learning with the instructional demand for active learning. 5) Lack of electricity supply. 6) Insufficient funds to upgrade and maintain the equipments and the facilities. 7) Lack of good policy implementation. 8) Lukewarm attitudes by the side of staff and students in the e-learning processes. The findings of the study further found that most common encountered are issues such as unreliable Internet connection and phone lines, slow access to web sites due to narrow bandwidth and limited numbers of computers connected to the Internet. Therefore, a key challenge is that technological

requirements must be kept to a minimum in order to increase the participation of Nigeria into the implementation of e-learning. Easy access to all course materials is essential. Given the technological constraints that users in developing countries have to face, asking them to download or print documents from a web site is just too much. Most of the users of the e-learning programmes do not own a computer and have Internet access only from the universities internet cafes.

Benefits of E-Learning in the Nigerian Tertiary Institutions

The benefits of the e-learning must outweigh its disadvantages for its implementation to be worth-while. The e-learning facilities when judiciously and fully implemented would:

- Reduce time of learning by making use of multimedia in practice and assessment according to learners' abilities.
- Make slow learners go on their own pace by eliminating frustration within themselves, their fellow learners and the subject matter.
- Make learning takes place anytime anywhere and greatly increases knowledge retention.
- Enhance evaluation as it become self–paced because e-learning is a networked phenomenon and it supersedes training and instruction as it is a tool that improve behaviour performance.
- Reduce or eliminate the costs for instructor fees and materials to a certain level.

Empirical Review

Manir (2009), examined the problems, challenges and benefits of implementing e-learning in Nigerian tertiary institutions by reviewing the consciousness and willingness of the selected Universities. The study also identifies the enabling factors, the traffic-jam and, forecasts the future growth of E-learning in Nigeria. Survey research method was adopted for the study, and questionnaire was the only instrument used for the data collection. The findings of the study show that out of the 18 universities selected from different specialization areas, i.e three universities from each Geopolitical zone, only 12 responded with usable answers. The response rate was 67%, which is an expected rate for such surveys. Awareness of e-learning among the Universities is very high but investment and commitment to develop an e-learning application is very poor and below expectation according to the study. Most of the staff and students in the universities only use Internetrelated e- learning site just for the sake of finding related information for their research, since their libraries cannot afford to provide them with adequate and current materials but not for the sake of real online learning. The study also found out that some of the universities have web page and others are in the trend of creating a web page, which isusually for advertisement of the universities but not for the e-leaning activities. Furthermore, the findings also reveal that staff and the students have also been using e-mail and Internet in addition to developing web pages for transaction of students. The Universities are planning to invest some funds in future in the selected areas of the e-learning application. The Statistical analysis result shows that there are significant differences across both forms of e-learning activities and type of universities in Nigeria.

Kamba (2009), empirically investigated the level of implementation of e-learning using three universities from each geopolitical zone in Nigeria. The findings revealed that though considering the universities in Nigeria as the producer of e-learning inputs in the forms of skills in ICT, both the students and the staff in the universities administration are aware of the

existence and benefit of e-learning, but on the issue of implementation, the universities have not given much priority because it has major demand to track product (transcript, courses, facilities, staff, etc.). In Nigeria, the entire operation of most universities (with the possible exception of payroll) is performed manually.

Bassey et.al., cited in Eteng and Ntui (2009) investigated the Nigerian graduating students access to e-learning technology in universities in South-South Nigeria. Result of the survey indicate that the number of graduating students in Nigeria higher institutions who has access to e-learning technology was negligible.

Another research was conducted by (Akuchie,2008), in five universities in North central zone of Nigeria. The findings revealed that lecturers and students are not literate in the use of most aspects of ICT. He stressed that most e-learning facilities are not available in the institution and where they exist, they are either not functional or inadequate and lecturers/students do not employ ICT facilities in teaching and learning respectively.

Also, in a research conducted by Ololube, Ubogu and Egbezor (2007), on the availability of ICT infrastructural facilities in the Nigerian tertiary institutions, the result reveals that the e-learning facilities are inadequate for instructional delivery. This is in line with the Global Information Report (2012, p. xxiii) which revealed that Nigeria ranked 112 out of 142 countries survey for network readiness to participate and benefit from ICT development.

3.0 Research Methodology

This study adopted a survey design. The population of the study comprises all students in the Nnamdi Azikiwe University, Awka. A total of 150 students from across the levels were involved as sample for the study. The sample was composed through a multi-stage sample techniques using proportional random sampling. First, the university was group into strata based on faculties. A total of five(5) Faculties/Schools out of six (6) schools in the university was selected. Again, random sampling was used to select one department across from each of the strata. A copies of Questionnaire and interviews from both the facilitators and students were used as instrument for data collection. Data collected were analysed with the use of descriptive statistics (frequency count, mean score and percentage).

4.0 DATA PRESENTATION AND DISCUSSION OF RESULTS

The result on questionnaire administration and retrieval is shown in Table 1:

Table 1: Details of Sample Departments

Faculties/schools	Sample Dept.	No. Administered	No. Retrieved
School of Business and Human Resources Management	Dept. of Accountancy	30	25
School of Law	Dept. Of Criminal law	45	36
School of Science and Technology	Dept. Of Computer science	35	29
School of Education	Dept. Of Early Childhood Education	20	19
School of Diploma Studies	Dept. of English Diploma	20	11
Total		150	120

Source: Field Survey, 2021.

About 80% of the respondents responded and returned their completed copies of questionnaire.

Table2: Availability of E-Learning Materials in the University

S/N	Items: Availability of materials	Strongly Agree	Agree	Undecided	Strongly Disagree	Disagree	Mean (x)	Decision
1	Internet computer	50	32	5	16	17	3.7	AV
2	Computer laboratory	100	20	_	_	_	4.8	AV
3	Scanner/fax	63	20	_	7	10	3.5	AV
4	Photocopies	40	47	3	11	19	3.7	AV
5	E-mail facilities	90	13	_	5	12	4.4	AV
6	Digital classroom	29	11	19	32	29	2.8	AV
7	LCD projector	10	7	3	50	50	2.0	NA
8	E-books	20	17	4	43	36	2.5	AV

Source: Field Survey, 2021.

Drawing from above, table 2 shows that items number 1, 2, 3, 4, 5, 6, and 8 with the mean score range of 3.7, 4.8, 3.5, 3.7, 4.4, 2.8 and 2.5 respectively are available(AV) in the institution. Whilst item number 7 which is below the average acceptance of 2.5, thus, mean score rating of 2.0 is not available(NA). Table 2 above.This shows that there is high availability of e-learning facilities in the university due to e-learning implementation.

Table3: The Accessibility of E-Learning Facilities in the Institution

S/N	Items: use of available materials	Strongly Agree	Agree	Undecided	Strongly disagree	Disagree	Mean (x)	Decision
1	Internet computer	60	38	_	12	10	4.1	IU
2	Computer laboratory	104	16	_	_	_	4.9	IU
3	Scanner/Fax	77	23	_	10	10	4.2	IU
4	Photocopies	63	29	_	13	15	3.9	IU
5	E-mail facilities	13	80	10	5	12	3.6	IU
6	Digital classroom	80	10	_	12	8	3.9	IU
7	LCD projector	5	8	21	56	30	2.2	NIU
8	E-books	37	54	1	11	17	3.7	IU

Source: Field Survey, 2021

Table 3 shows that items number 1, 2, 3, 4, 5, 6, and 8, with mean range of 4.1, 4.9, 4.2, 3.9, 3.6, 3.9and 3.7 respectively are in use (IU) by the students of the institution under study in their learning. Whilst item number 7 is scarcely used or not in use(NIU).

Table 4: Use of E-Learning Facilities in Teaching and Learning in the Institution to Enhance Quality Education.

S/N	use of the available facilities for teaching and learning	Strongly Agree	Agree	un-decided	strongly disagree	agree	mean (x)	Decision
1	Internet computer	70	28	2	10	10	4.2	AP
2	Computer laboratory	100	20	_	_	_	4.8	AP
3	Scanner/Fax	27	63	17	9	4	3.8	AP
4	Photocopies	39	37	5	15	24	3.4	AP
5	E-mail facilities	67	21	12	11	9	4.1	AP
6	Digital classroom	69	24	_	17	10	4.0	AP
7	LCD projector	5	12	24	39	40	2.2	NAP
8	E-books	69	28	1	11	11	3.4	AP

Source: Field Survey, 2021.

From Table 4 above, items number 1, 2, 3, 4, 5, 6, and 8, with mean rating of 4.2, 4.8, 3.8, 3.4, 4.1, 4.0, and 3.4 respectively are applicable (AP) by the facilitators of the institution in teaching and in learning in order to enhance the quality of education in the Nnamdi Azikiwe University, Awka (UNIZIK). Whilst item number 7, is not applicable(NAP) in the institution.

5.0 Findings, Conclusion and Recommendations

This study has examined the implementation of e-learning in Nigeria tertiary institutions with particular emphasis on Nnamdi Azikiwe University, Awka. It has been observed that the institution implemented e-learning in their education curriculum. The facilities available in the institution are moderately enough and the facilitators/students make use of the available materials in teaching and learning in order to enhance quality education in the university.

Conclusion

In UNIZIK, the computer laboratory which are used for writing e-exam has helped to minimize the chances of exam malpractice as the computer will sign the candidate out once the time is over. Again the availability of the e-books in the internet has reduced the issue of exploitation of students by their facilitators. However, with the multimedia technology, the quality of graduates produce in the UNIZIK are better than those produce from conventional universities in Nigeria. The researcher therefore indulged other universities who have not implemented the use of e-learning to do so, as the advantages of its implementation outweigh the disadvantages.

Recommendations

E-learning in Nigerian universities should be embraced and fully implemented since the learning approach is a common phenomenon globally. Nigeria government should comply with the UNESCO recommendation that at least 26 percent of every country's annual budget be spent on education.

Again, massive computer training for all the teachers and the learners should be organized by the management nation-wide through in-service training of workshop and conference. Also, computer education should be included in the school curriculum and should be made compulsory.

Multimedia system like computer and multimedia projectors should be made available by the school management for quality e-learning.

Furthermore, the university administration should influence policies and provide enabling environment for e-learning by setting up standby generators and uninterrupted power supplies (UPS devices)to solve the problem of epileptic power supply. Along with these, is the employment of technologists and technicians to take care of the internet facilities and equipment in terms of repair for effective e-learning.

Digital library with server for storage, retrieval, uploading and downloading of information should be made available as library is the highest reservoir of knowledge and no educational institution can do without it.

When these and others are put in place, in Nnamdi Azikiwe University, will bring about transformation by enhancing the quality of education, which will result in producing competent graduates in the labour market of the economy and at large lead to the achievement of "Propose Project 200'.

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