ASSESSMENT OF ELECTRONIC LEARNING RESOURCES IN OPEN AND DISTANCE EDUCATION CENTRES IN NORTH CENTRAL NIGERIA

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Abstract
This study assessed the availability and adequacy of electronic learning resources in Open and Distance Education Centres in North Central Nigeria. The research design adopted for this study was a descriptive survey design. 92 facilitators of National Open University of Nigeria in North Central which were randomly selected formed the sample of the study. Three research questions were formulated. The instrument used for data collection was a researcher designed checklist titled checklist on status of electronic learning resources at NOUN (CSELRN). Percentage and frequency distribution was used to analyzed the data obtained. Findings of this study revealed that electronic learning resources are available but not adequate and not accessible in Open and Distance Education centres. This study assessed the availability, adequacy and accessibility of electronic learning resources in Open and Distance Education Centres. It was recommended that the available electronic learning resources should be well maintained to serve the purpose they were being procured for while additional electronic learning resources that can serve the need of the students should be procured and also authority at National Open University of Nigeria should ensure that the learners have regular and consistent access to the electronic learning resources in order to utilize them for their study.

Keywords: Availability, Adequacy, Accessibility, Electronic learning resources, Open and Distance learning, Education

Introduction
In recent years, electronic-learning resources has become quite popular and widely used in schools because of the strong need for the quickest and inexpensive ways of generating and transmitting knowledge due to the rapid development of the modern world. This development is accompanied by the incredibly rapid development of science and technology which lead to the total computerization of society (Mirza, et al, 2012). The increasing popularity of e-learning is explained by the fact that it becomes more attractive to students, providing the same amount of knowledge and more free time for self-development, research, and information search (Mirza, et al, 2012). Kathleen (2014) described e-learning as learning facilitated and supported through the use of information and communications technology. It encompasses series of activities from the use of technology to support learning as part of a 'blended' approach (a combination of traditional and e-learning approaches), to learning that is delivered entirely online.

Hedge and Hayward (2004) perceived e-learning as an innovative approach for delivering electronically mediated, well-designed, learner-centered and interactive learning environments to anyone, at any place and at anytime. Its success is mainly based on its benefits and distinctive features; it is easily accessible, cost efficient, gives students the flexibility of learning, it helps provide uniform delivery to all users reducing chances of misinterpretations, as well as

promoting team learning and collaboration. Information and Communication Technology applied to education is being deployed in varying modes from sector to sector; these range from basic e-learning or distant learning to the use of small device such as mobile phones. However, these resources and services are not adequately provided in many universities institutions, due to varying factors (Jegede, 2009).

Hastle, Hung and Kinshunk, (2010) views e-learning as a subset of technology which help in recognizing the importance of technology to open and distance education learners. Technology enhanced learning, which includes distance and online instruction, are recognized as a viable tools necessary for preparing citizens to participate in the technologically driven global environment. The concepts computer-aided teaching and computer-aided learning have given birth to computer-aided instruction, which represents a combination of both teaching and learning. Access to instruction through the internet is flexible, ensures broad viability and availability of educational opportunities. It is cost effective system of instruction and learning materials can be accessed irrespective of time and space. The use of ICT in education has become more and more popular globally (Onwe, 2011).

Hastle, Hung and Kinshunk, (2010) view electronic learning resources as parts of ICT that involve computer access or any electronic product that delivers a collection of data inform of full text bases, electronic journals, image collections, other multimedia which may either be delivered on CD ROM, on tape, via Internet and so on**.** These are more useful due to inherent capabilities for manipulation and searching, providing information access is cheaper to acquiring information resources, savings in storage and maintenance. Hence, The development of Web 2.0 concept have focused on user generated content and applications for sharing which has led to the rapid development and popularity of electronic learning resources which has a great portion of the global literature. E-books, E-journals, Databases, CDs/DVDs, E-conference proceedings, E-Manuscripts, E/Theses, E-Newspaper, internet/Websites, Newsgroups among others are some of the e-resources that are used in distance learning institutions (Kpolovie, 2012).

The importance of e-learning in the effective delivery of course materials in open and distance learning institutions cannot be over emphasized. Without e-learning resources ,open and distance learning would not be efficient enough to achieve the targeted goal during teaching and learning activities. This is the reason why National Policy on Education incorporated the goals of open and distance learning in its policy for effective performance of the citizens in the country. The revised National Policy on Education (FRN, 2004) had specified the goals of distance education as follows: to provide access to quality education and equity in educational opportunities, to meet special needs of employers by mounting special certificate courses for their employees at their workplaces, to encourage internationalization, especially of tertiary education curricula, to ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing Nigerian experts as teachers regardless of their locations or places of work (FRN, 2004).Hence there is opportunity for those that are working to further their education without any hindrance to their work through open and distance learning.

Open and distance learning is a form of instruction that occur through the use of a mode rather than the face-to-face method, in which there is physical separation between the teacher and the learner, hence instruction takes place through a variety of media including print and modern ICT. It is a cost-effective instruction that is independent of time, location, pace and space which

can be used for a variety of learning situations, including primary, secondary, tertiary, vocational and non-formal education and thrives on economies of scale. The aspect of open and distance learning pertaining to the flexibility and availability of electronic learning resources is to provide educational opportunities to all.

Availability implies that electronic learning resources are obtainable by the students or they are at student's disposal every time. Hence information technology has made a great impact on availability of electronic learning resources by providing quick access to resources through the use of best tools and techniques. Among all academics electronic resources, the advent of e-journal has been the greatest revolution in the capture and dissemination of academic knowledge. Today, e-resources are in abundance, available individually from the publishers due to the fact that digital technology is available at our doorstep, which is capable of effectively creating and capturing information in various formats, making these available to others, Electronic learning resources are available with increased accessibility and adequacy beyond time and space restrictions (Chandel et al., 2012).

Adequacy denotes that electronic learning resources are sufficient for student's use in generating the needed information and knowledge therefore, in today's changing environment, electronic learning resources mean much more than the size of the library's collections. Access to these resources may in fact be seen as vital to judging their adequacy level. Though there are some factors like poor electricity supply, inexperienced training personnel and low level of internet knowledge of the students in using electronic resources which thereby make student's access to these resources difficult.

Accessibility refers to student's opportunity to reach or use the available electronic learning resources for the benefit of their learning thus, distance learners access electronic resources in various ways, which can be direct for example face to face, or mediated by printed material, for example manuals, brochure or mediated by technology, using a variety of media such as telephone, radio, the Internet and so on. Successful direct access is characterized by flexibility, reliability, availability, user-friendliness, portability, efficiency and service ability.

Statement of the Problem
With increase in population of geometrically separated learners in our tertiary institution in this country, Open Distance Education has been seen as an alternative to provide education for general populace in this country irrespective of distance, age, gender and location. However students undergoing open and distance learning still use the old course materials known as modules which has being in existence for many decades without revising them to meet the current trends in education and also many of these students are visiting e-library on the internet for them to access more information which has lead to the incapability of open and distance education learners not to be able to compete with their counterparts in convectional universities in terms of knowledge acquisition.. Electronic learning resources are essential in the learning process of open and distance institution mode if students will satisfactorily achieve the goals of registering for programmes in such institutions. Hence, this study was carried out to assessed the availability, adequacy and accessibility of electronic learning resources in Open and Distance education Centres in North Central Nigeria.

Objectives of the Study
The specific objectives are to:

(i)   Determine the availability status of electronic learning resources for open and distance education learners in North Central Nigeria.
(ii)   Determine whether electronic learning resources are adequate for open and distance education learners in Nigeria.
(iii)   Determine whether electronic learning resources are accessible by open and distance education learners in Nigeria

Research Questions
The following research questions were raised to guide the study:
(i)   Are electronic learning resources available in open and distance education learners at National Open University of Nigeria?
(ii)   Are the electronic learning resources adequate for open and distance education learners at National Open University of Nigeria?
(iii)   Are the electronic learning resources accessible by open and distance education learners at National Open University of Nigeria?

Methodology
The study adopted a descriptive survey research design. It involved the use of researcher's developed checklist to elicit the needed information from open and distance education learners. The population of this study was 3500 facilitators of National Open University of Nigeria in North Central Nigeria. 92 facilitators of National Open University of Nigeria were randomly selected for the study. The electronic learning resources used for this study was limited to twenty which are; Audio conferencing tools, CD ROM, TV/Radio Broadcast station, Video Tapes, Internet, e-Journal, e-book, e-library, Interactive white board, Audio graphic conference, Computer conferencing, Interactive Video, Video conference, Flip chart, Electronic Blackboard, Interactive instructional TV, Digital Video, LMS, Virtual laboratory and Web Conferencing. The Checklist named checklist on status of Electronic Learning Resources at NOUN (CSELRN) was used for data collection. The checklist was designed using 2-point scale of available, adequate and accessible (2point) and Not available, not adequate and not accessible (1point). The checklist contains four sections with 20 items listed in section B, C and D respectively. Section A was used to collects respondents' demograph. Section B, was used to examine the availability of electronic learning resources in the study centres, Section C, was used to determine the adequacy of electronic learning resources in the study centres and section D was used to determine the accessibility status of electronic learning resources in the study centres. The checklist was validated by three educational technology experts at Federal University of Technology, Minna as well as two computer experts at Centre for Open Distance and e-Learning (CODeL), Federal University of Technology, Minna. The checklist was administered to the respondents within the period of six weeks. The data gathered was analyzed using frequency distribution and percentage to answer the research questions using Statistical Package for Social Science (version 20).

Results

Research Question One: Are electronic learning resources available for open and distance education learners at National Open University of Nigeria.

Table 1: Frequency distribution of respondents on the availability of electronic learning resources for open and distance education learners at National Open University of Nigeria?

S/N	e-Resources	N	A	%	NA	%	REMARKS
1	Audio Conferencing tools	92	75	81.50	17	18.50	Available
2	CD-ROM	92	69	75.00	23	25.00	Available
3	TV/Radio Broadcast station	92	70	76.09	22	23.91	Available
4	Video Tapes	92	60	65.22	32	34.78	Available
5	Internet	92	65	70.66	27	29.34	Available
6	e-journal	92	67	72.83	25	27.17	Available
7	e-Book	92	80	86.95	12	13.05	Available
8	e-Library	92	70	76.09	22	23.91	Available
9	Interactive white board	92	67	72.83	25	27.17	Available
10	Audio graphic conference	92	75	81.50	17	18.50	Available
11	Computer conferencing	92	67	72.83	25	27.17	Available
12	Interactive Video	92	56	60.87	36	39.13	Available
13	Video Conference	92	67	72.83	25	27.17	Available
14	Flip Chart	92	65	70.66	27	29.34	Available
15	Electronic Blackboard	92	79	85.87	13	14.13	Available
16	Interactive Instructional TV	92	67	72.83	25	27.17	Available
17	Digital Video	92	80	86.95	12	13.05	Available
18	Learning Management System	92	31	33.70	61	66.30	Not Available
19	Virtual Laboratory	92	57	61.96	35	38.04	Available
20	Web Conferencing	92	67	72.83	25	27.17	Available
	Grand Total			**72.50**		**27.50**	**Available**

N- No of respondents
A- Available
NA-Not Available

Table 1 shows the responses of respondents on the availability status of electronic learning resources at National Open University of Nigeria. The table shows that all the electronic learning resources listed are available with 50% above except item 18 with 33.70 which is below the 50%. This implies that electronic learning resources are available with a grand total of 72.50% in Open and Distance education centres in North Central Nigeria

Research Question Two: Are the electronic learning adequate for open and distance education learners at National Open University of Nigeria?

Table 2: Frequency distribution of respondents on Adequacy of Electronic learning resources for open and distance education learners at National Open University of Nigeria

S/No	e-Resources	N	A	%	NA	%	REMARKS
1	Audio Conferencing tools	92	33	35.87	59	64.13	Not Adequate
2	CD-ROM	92	35	38.04	57	61.96	Not Adequate
3	TV/Radio Broadcast station	92	36	39.13	56	60.87	Not Adequate

		N	A	%	NA	%	
4	Video Tapes	92	34	36.96	58	63.04	Not Adequate
5	Internet	92	35	38.04	57	61.96	Not Adequate
6	e-journal	92	31	33.70	61	66.30	Not Adequate
7	e-Book	92	37	40.22	55	59.78	Not Adequate
8	e-Library	92	32	34.78	60	65.22	Not Adequate
9	Interactive white board	92	24	26.09	68	73.91	Not Adequate
10	Audio graphic conference	92	34	36.96	58	63.04	Not Adequate
11	Computer conferencing	92	25	27.17	67	72.83	Not Adequate
12	Interactive Video	92	34	36.96	58	63.04	Not Adequate
13	Video Conference	92	23	25.00	69	75.00	Not Adequate
14	Flip Chart	92	12	13.04	80	86.96	Not Adequate
15	Electronic Blackboard	92	15	16.30	77	83.70	Not Adequate
16	Interactive Instructional TV	92	36	39.13	56	60.87	Not Adequate
17	Digital Video	92	34	36.96	58	63.04	Not Adequate
18	Learning Management System	92	28	30.43	64	69.57	Not Adequate
19	Virtual Laboratory	92	35	38.04	57	61.96	Not Adequate
20	Web Conferencing	92	12	13.04	80	86.96	Not Adequate
	Grand Total			**31.79**		**68.21**	**Not Adequate**

N- No of respondents
A- Adequate
NA-Not Adequate

Table 2 shows the responses of the respondents on the adequacy status of electronic resources at National Open University of Nigeria. The table shows that all listed electronic learning resources have percentage scores below 50%. This implies that electronic learning resources are not adequate with a grand total of 31.79% to Open and Distance Education Learners in North Central Nigeria.

Research Question Three: Are the electronic learning resources accessible by open and distance education learners at National Open University of Nigeria?

Table 3: Frequency distribution of respondents on accessibility of electronic learning resources for open and distance education learners at National Open University of Nigeria?

SN	Resources	N	A	%	NA	%	REMARKS
1	Audio Conferencing tools	92	24	26.09	68	73.91	Not Accessible
2	CD-ROM	92	22	23.91	70	76.09	Not Accessible
3	TV/Radio Broadcast station	92	30	32.61	62	67.39	Not Accessible
4	Video Tapes	92	31	33.70	61	66.30	Not Accessible
5	Internet	92	23	25.00	69	75.00	Not Accessible
6	e-journal	92	26	28.26	66	71.74	Not Accessible
7	e-Book	92	34	36.96	58	63.04	Not Accessible

8	e-Library	92	29	31.52	63	68.48	Not Accessible
9	Interactive white board	92	34	36.96	58	63.04	Not Accessible
10	Audio graphic conference	92	32	34.78	60	65.22	Not Accessible
11	Computer conferencing	92	25	27.17	67	72.83	Not Accessible
12	Interactive Video	92	28	30.43	64	69.57	Not Accessible
13	Video Conference	92	34	36.96	58	63.04	Not Accessible
14	Flip Chart	92	32	34.78	60	65.22	Not Accessible
15	Electronic Blackboard	92	21	22.83	71	77.17	Not Accessible
16	Interactive Instructional TV	92	15	16.30	77	83.70	Not Accessible
17	Digital Video	92	32	34.78	60	65.22	Not Accessible
18	Learning Management System	92	35	38.04	57	61.96	Not Accessible
19	Virtual Laboratory	92	26	28.26	66	71.74	Not Accessible
20	Web Conferencing	92	32	34.78	60	65.22	Not Accessible
	Grand Total			**30.71**		**69.29**	**Not Accessible**

N- No of respondents
A- Accessible
NA-Not Accessible

Table 3 shows the responses of the respondents on the accessibility status of electronic learning resources at National Open University of Nigeria. The table shows that all listed electronic learning resources have percentage scores below 50%. This implies that electronic learning resources are not adequate with a grand total of 30.71% to Open and Distance Education Learners in North Central Nigeria.

Discussion
The responses of facilitators on the availability of electronic resources shows that all the listed electronic learning resources are available at National Open University of Nigeria. This finding is in agreement with findings of Omoike (2013) and Samuel (2015) who said most of the electronic learning resources are available at federal university of Technology Minna but against the findings of Anene, Imam and Odumuh (2014) who says learning resources are not available in most tertiary institution in Nigeria. This finding shows the reason why most of the students are ready to embark on distance learning in Nigeria through National Open University of Nigeria. Since this programme is mainly meant for working class all over the world and those that did not have the opportunities to attend school at normal time.

On the level of adequacy the finding reveals that most of the electronic learning resources that are available are not adequate at National Open University of Nigeria, this findings concur with that of Evarest and Laura (2011) who in their findings say that most of electronic learning material are not adequate at Federal University of Technology Minna. Also it also concur with findings of Gussen (2013) who says electronic learning resources are not adequate in most of tertiary institutions in Nigeria which is affecting the system of education in our country. This is the main reason why students find it difficult to get the course materials been allocated for every courses which thereby leads to increase in the level of failure at national open university

of Nigeria.. This finding disagrees with the findings of Omoike (2015) who says some learning resources are adequate in some tertiary institution in Nigeria. His findings was buttress by level of achievement in some courses in our tertiary institution in Nigeria

On the level of accessibility the finding reveals that most of the electronic learning resources are not accessible to the learners at National Open University of Nigeria, this finding support the findings of Samuel (2015), Gussen (2013) and Anene, Imam and Odumuh (2014) who found out that electronic resources are not accessible to the student in most of our tertiary institutions in Nigeria.

Conclusion

Findings that emanated from this study revealed that electronic learning resources are crucial in open and distance education centres for effective teaching and learning to take place. Though electronic learning resources listed in this study are available but not adequate to open and distance education learners. From this finding it can be deduced that most of electronic learning resources are not adequate in a National Open University of Nigeria in North central which has affected the achievement of students immensely compare to other study centres in other zones. Moreover, the finding of this study shows that most of the electronic learning resources are not adequate for students use at national Open University in Nigeria which is affecting their achievement. Also in this study, it has be found that the availability of this electronic learning resources is due to the fact that government have invest a lot in the procurement of these resources at National Open University of Nigeria as they are only distance learning institutions in Nigeria. But on the adequacy level it has been found that there is an increase in the number of students enrolment every year which has made the available electronic learning resources not to be adequate.

Recommendations

The findings of the study have made it necessary to proffer some recommendations. These are:
(i)   Available electronic learning resources should be well maintained to serve the purpose they were been procured.
(ii)   Sufficient e-resources that can simultaneous serve all open and distance education learners should be provided at open and distance learning institutions.
(iii)   Government should always project increase in enrolment and as such improve the quantity of supplied electronic learning resources.
(iv)   Authorities of Open and Distance learning institutions should ensure that open and distance education learners have regular and consistent access to electronic learning resources to utilize them while studying independently or collaboratively.

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