Availability and Use of Audiovisual and Electronic Resources by Distance Learning Students in Nigerian Universities: a Case Study of National Open University of Nigeria (NOUN), Ibadan Study Centre

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Introduction

The challenge of providing educational opportunities for mature students and other people who are place-bound brought about the concept of distance education. Moore (2000) describes distance education as a system that promotes the self-teaching-learning process with potentially greater geographic coverage than traditional face-to-face education. Distance education can also be seen as the delivery of instructions to learners who do not have immediate interactions with teachers. Instructor and students are separated by time, location, or both (Umoru-Onuka, 2002). This form of education demands the use of print, audiovisual, and electronic resources for effective delivery.

Audiovisual and electronic resources have the potential for enhancing student learning. The role of these resources in teaching and learning is one of the most important and widely-discussed issues in contemporary education policy.

The importance and use of electronic resources in distance education has long been realized in Nigeria. The Federal Government plan of action for a decade of distance education in Nigeria (2001-2010) recognized that distance education can provide or improve access to education to large numbers of people who missed the opportunity earlier in life or whose present circumstances would not permit them to use the formal school system.

The inability of the Nigerian higher education system to accommodate all those seeking university admission gave birth to open and distance learning education, which started with Rapid Results college, Wesley Hall, and Benneth College as correspondence institutions in the 1950s and 1960s (Fagbamiye, 2000).

The re-establishment of Open University in 2003 was a sequel to the Open University established in 1983 by former president Shehu Shagari in order to bring education closer to the people. The National Open University of Nigeria (NOUN) is an umbrella university to coordinate and determine standards in distance education.

1

The extent of use of audiovisual and electronic resources by NOUN students is not known. This study investigates the application and use of audiovisual and electronic resources at NOUN.

Objectives of the Study

The specific objectives of this study are to:

- identify the range of audiovisual and electronic resources available for distance education at NOUN.
- determine the frequency of use of audiovisual and electronic resources by students of NOUN.
- Ascertain the competence of students in the use of audiovisual and electronic resources.
- identify the major inhibitors to audiovisual and electronic resources use by students of NOUN.

Research Questions

- What types of audiovisual and electronic resources are available at NOUN?
- What is the frequency of use of audiovisual and electronic resources by NOUN students?
- What is the level of competence of NOUN students in the use of audiovisual and electronic resources?
- What problems inhibit the NOUN students' use of audiovisual and electronic resources?

Hypothesis

H 1: Perceived ease of use and perceived usefulness will positively influence audiovisual and electronic resource use.

Scope of the Study

This study focuses on the audiovisual and electronic resources available for distance education at the Ibadan study centre of the NOUN. The study is limited to Undergraduate students at the Ibadan study centre of NOUN who are in the 200 and 300 level of study. It is assumed that this category of student would have adequate knowledge of resources available for use.

Literature Review

Rogers (2004) emphasized the physical separation of teachers and learners and the use educational technology that distinguishes distance education from traditional instruction, teach-yourself programs, and independent computer-assisted instruction. Distance education use a combination of media.

Distance learning can reduce costs and increase flexibility, access, and the number of learners (Umoru-Onuka, 2002). Since distance learning relies on technology, there is also a challenge to provide service to areas and learners with limited access to technology (Siddiqui, 2007). Distance learning can level the playing ground for rural and disadvantaged learners. To achieve this, Alausa (2006) emphasizes the need for electronic resources. According to Domingo (2006), audiovisual and electronic resources are credible tools in disseminating distance education. Audiovisual and electronic resources provide access to a full range of learning and teaching materials (Mcharazo, 2006). King and Bill (2002) assert that audiovisual and electronic resources have enhanced distance education. According to Adibe (2002) use of audiovisual and electronic resources in distance education is a landmark in it development.

Umoru-Onuka (2002) observes that the use of audiovisual and electronic resources is affected by their availability and ease of access. Access is affected by factors such as cost and power supply. Neal (2003) emphasizes the ability of these resources to transcend time and space, which makes asynchronous learning possible. Additionally, certain types technologies, such as teleconferencing, enable synchronous instruction as well.

According to Nwizu (2008) the use of audiovisual and electronic resources has broken the barriers of time, distance, and locale, which impeded the growth of formal education, just as Adeyemi (2004) emphasizes that students use these resource to complete major assignments.

Methodology

Survey research using a questionnaire was used for this research. A total of 149 were selected for the study across departments at the Ibadan study centre of NOUN. Twenty percent of the students in each department were randomly selected, except in departments where there are less than eight students, in which case, only one was chosen. Table 1 presents the distribution of respondents.

3

Table 1: Distribution of respondents

School	Department	Population	Sample
School of Arts and Social science	Criminology & Security studies	23	5
	Peace study & Conflict resolution	55	11
	Mass communication	15	3
	English	42	8
	French & International studies	5	1
	Christian Theology	12	2
	Islamic studies	3	1
	Total	155	31
School of Business and Human Resources	Cooperative Management	52	10
	Hotel & Catering Management	22	4
	Tourism studies	12	2
	Entrepreneurial & Small Business Management	32	6
	Total	118	22
School of Education	Agric Science Education	28	6
	Biology Education	11	2
	Chemistry Education	7	1
	Integrated Science	5	1
	Information Technology for Teachers	12	2
	Mathematics	6	1
	Physics	2	1
	Early Childhood Education	13	3
	English Education	15	3
	Primary Education	16	3
	Business Education	18	4
	Total	133	27
School of Science and Technology	Agric Extension & Management	9	2
	Communication Technology	42	8
	Computer Science	78	16
	Data Management	22	4
	Environmental Studies & Resource Management	7	1
	Nursing Science	3	1
	Mathematics	3	1
	Mathematics & Computer Science	16	3
	Physics & Computer Science	5	1
	Total	185	37
School of Law	LL.B. Law	158	32
Total		749	149

Data Analysis and Interpretation

A total of 149 questionnaires were administered, of which 137 were returned, a response rate of 91.3 percent.

Table 2. Availability of audiovisual and electronic resources

Audiovisual and electronic resource	Available through Institution					Available through Personal Provision				
	SASS	SBHRM	SE	SST	Total	SASS	SBHRM	SE	SST	Total
A-V resources-Instructional audio tapes	-	4 (18.2 percent)	18 (32.7 percent)	29 (67.4 percent)	51 (37.2 percent)	17 ((100 percent)		26 (47.3 percent)	9 (20.9 percent)	52 (38.0 percent)
Instructional video tapes VCD/DVD		22 (100 percent)	14 (25.5 percent)	38 (88.4 percent)	74 (54.0 percent)	17 (100 percent)		26 (47.3 percent)	9 (20.9 percent)	52 (38.0 percent)
Posters	8 (47.1 percent)	22 (100 percent)	34 (61.8 percent)	25 (58.1 percent)	89 (65.0 percent)	17 ((100 percent)		28 (50.9 percent)	9 (20.9 percent)	54 (39.4 percent)
Charts	-	22 (100 percent)	13 (23.6 percent)	19 (44.2 percent)	54 (39.4 percent)	17 ((100 percent)		21 (38.2 percent)	9 (20.9 percent)	47 (34.3 percent)
Pictures	-	18 (81.8 percent)	13 (23.6 percent)	7 (16.3 percent)	38 (27.7 percent)	17 ((100 percent)		33 (60.0 percent)	9 (20.9 percent)	59 (43.1 percent)
Radio	-	18 (81.8 percent)	9 (16.4 percent)	7 (16.3 percent)	34 (24.8 percent)	17 ((100 percent)		42 (76.4 percent)	20 (46.5 percent)	79 (57.5 percent)
Television	-	9 (40.9 percent)	9 (16.4 percent)	13 (30.2 percent)	31 (22.6 percent)	17 ((100 percent)		12 (21.8 percent)	19 (44.2 percent)	48 (35.0 percent)
Multimedia Projector	19 (44.2 percent)	4 (18.2 percent)	24 (43.6 percent)	14 (32.6 percent)	42 (30.7 percent)	17 ((100 percent)		12 (21.8 percent)	21 (48.8 percent)	50 (36.5 percent)
E-resource-Electronic databases e.g JSTOR, ERIC, etc.	-	4 (18.2 percent)	25 (45.5 percent)	25 (58.1 percent)	54 (39.4 percent)	17 ((100 percent)		12 (21.8 percent)	19 (44.2 percent)	48 (35.0 percent)
E-Document	-	4 (18.2 percent)	8 (14.5 percent)	7 (16.3 percent)	19 (13.9 percent)	17 ((100 percent)		12 (21.8 percent)	21 (48.8 percent)	50 (36.5 percent)
Internet/E-mail facility	-	9 (40.9 percent)	34 (61.8 percent)	24 (55.8 percent)	67 (48.9 percent)	8 (47.1 percent)		19 (34.5 percent)	26 (60.5 percent)	53 (38.7 percent)
CD-ROMS	-	13 (59.1 percent)	26 (47.3 percent)	12 (27.9 percent)	51 (37.2 percent)	9 (52.9 percent)	4 (18.2 percent)	34 (61.8 percent)	26 (60.5 percent)	73 (53.3 percent)
Computers	-	18 (81.8 percent)	15 (27.3 percent)	15 (34.9 percent)	48 (35.0 percent)	17 (100 percent)		48 (87.3 percent)	25 (58.1 percent)	90 (65.7 percent)
Telephone facility (GSM/Landline)	-	18 (81.8 percent)	13 (23.6 percent)	10 (23.3 percent)	41 (29.95)	17 ((100 percent)	4 (18.2 percent)	27 (49.1 percent)	33 (76.7 percent)	81 (59.1 percent)
VSAT	-	18 (81.8 percent)	6 (10.9 percent)	5 (11.6 percent)	29 (21.2 percent)	17 ((100 percent)	4 (18.2 percent)	47 (85.5 percent)	33 (76.7 percent)	101 (76.5 percent)
Printer		9 (40.9 percent)	17 (30.9 percent)	5 (11.6 percent)	31 (22.6 percent)	17 ((100 percent)	22 (100 percent)	47 (85.5 percent)	30 (69.8 percent)	116 (84.7 percent)
Digital Camera	-	4 (18.2 percent)	6 (10.9 percent)	-	10 (7.3 percent)	17 ((100 percent)	22 (100 percent)	53 (96.4 percent)	38 (88.4 percent)	130 (94.9 percent)

Table 2 above presents responses on the type of resources available and means of availability, which could be through institutional or personal provision. All respondents from School of Arts and Social Sciences (SASS) had personal provision of audiovisual and electronic resources, with the exception of email.

A majority of the respondents from School of Business and Human Resources Management (SBHRM) had institutional provision of most resources.

5

The School of Education (SE) had some institutional provision of resources, but person provision of the largest number.

Respondents from the School of Science and Technology (SST) had mostly personal provision of resources.

Table 3: Frequency of use of audiovisual and electronic resources

	SASS		SBHRM		SE		SST	
Audiovisual & electronic resources	Regular use	Occasional use	Regular use	Occasional use	Regular use	Occasional use	Regular use	Occasional use
Instructional audio tapes	-	17 (100 percent)	-	22 (100 percent)	19 (34.5 percent)	36 (65.5 percent)	9 (20.9 percent)	34 (79.1 percent)
Instructional video tapes/VCD/DVD	-	17 (100 percent)	-	22 (100 percent)	26 (47.3 percent)	29 (52.7 percent)	4 (9.3 percent)	30 (90.7 percent)
Posters	-	17 (100 percent)	18 (81.8 percent)	4 (18.2 percent)	29 (52.7 percent)	26 (47.3 percent)	9 (20.9 percent)	34 (79.1 percent)
Charts	9 (52.percent)	8 (47.1 percent)	18 (81.8 percent)	4 (18.2 percent)	37 (67.2 percent)	18 (32.7 percent)	25 (58.7 percent)	18 (41.9 percent)
Pictures	-	17 (100 percent)	18 (81.8 percent)	4 (18.2 percent)	11 (20.0 percent)	44 (80.0 percent)	16 ((37.2 percent)	27 (62.7 percent)
Radio	8 (47.1 percent)	9 (52.9 percent)	18 (81.8 percent)	4 (18.2 percent)	37 (38.2 percent)	18 (32.7 percent)	21 (48.9 percent)	22 (51.1 percent)
Television	-	17 (100 percent)	13 (59.1 percent)	9 (40.9 percent)	21 (38.2 percent)	34 (61.7 percent)	27 (62.7 percent)	16 (32.6 percent)
Multimedia projector	-	17 (100 percent)	9 (40.9 percent)	13 (59.1 percent)	34 (61.7 percent)	21 (38.2 percent)	29 (67.4 percent)	14 (32.6 percent)
Electronic database e.g. JSTOR, ERIC etc	-	17 (100 percent)	9 (40.9 percent)	13 (59.1 percent)	22 (40.0 percent)	33 (60.0 percent)	12 (27.9 percent)	31 (72.2 percent)
Internet/E-mail facility	-	17 (100 percent)	5 (22.7 percent)	17 (77.3 percent)	32 (58.2 percent)	23 (41.8 percent)	14 (32.6 percent)	29 (67.4 percent)
CD-ROMS	9 (52.9 percent)	8 (47.1 percent)	14 (63.6 percent)	8 (36.4 percent)	32 (58.2 percent)	23 (41.8 percent)	21 (48.9 percent)	22 (51.1 percent)
Computers	9 (52.9 percent)	8 (47.1 percent)	22 (100 percent)		45 (81.9 percent)	10 (18.1 percent)	26 (60.45)	17 (39.55)
Telephone facility	9 (52.9 percent)	8 (47.1 percent)	22 (100 percent)		45 (81.9 percent)	10 (18.1 percent)	22 (51.2 percent	21 (48.8 percent)
Printer	-	17 (100 percent)	22 (100 percent)		26 (47.3 percent)	29 (52.7 percent)	34 (79.1 percent)	9 (20.9 percent)
Digital Camera	9 (52.9 percent)	8 (47.1 percent)	13 (59.1 percent)	9 (40.9 percent)	20 (36.4 percent)	35 (63.6 percent)	24 (55.8 percent)	19 (44.2 percent)

Table 3 presents frequency of use of various audiovisual and electronic resources by college.

Table 4: Competency Level

Audiovisual & electronic resources	SASS High competency level	Low competency level	SBHRM High competency level	Low competency level	SE High competency level	Low competency level	SST High competency level	Low competency level
Instructional audio tapes	17 (100 percent)	-	4 (18.2 percent)	18 (81.8 percent)	39 (71.0 percent)	16 (29.1 percent)	29 (67.5 percent)	14 (32.5 percent)
Instructional video tapes/VCD/DVD	17 (100 percent)	-	4 (18.2 percent)	18 (81.8 percent)	39 (71.0 percent)	16 (29.1 percent)	38 (88.4 percent)	5 (11.6 percent)
Posters	17 (100 percent)	-	18 (81.8 percent)	4 (18.2 percent)	33 (60.0 percent)	22 (40.0 percent)	35 (81.4 percent)	8 (18.6 percent)
Charts	17 (100 percent)	-	22 (100 percent)		44 (80.0 percent)	11 (20.05)	24 (55.8 percent)	19 (44.2 percent)
Pictures	17 (100 percent)	-	18 (81.8 percent)	4 (18.22 percent)	36 (65.5 percent)	19 (34.5 percent)	17 (39.6 percent)	26 (60.4 percent)
Radio	17 (100 percent)	-	22 (100 percent)		55 (100 percent)	-	38 (88.4 percent)	5 (11.6 percent)
Television	17 (100 percent)	-	22 (100 percent)		55 (100 percent)	-	43 (100 percent)	-
Multimedia projector	-	17 (100 percent)	4 (18.2 percent)	18 (81.1 percent)	33 (60.0 percent)	22 (40.0 percent)	28 (65.1 percent)	15 (34.9 percent)
Electronic database e.g. JSTOR, ERIC etc	-	17 (100 percent)	-	22 (100 percent)	31 (56.4 percent)	24 (43.6 percent)	11 (25.6 percent)	32 (74.4 percent)
Internet/E-mail facility	9 (52.9 percent)	8 (47.1 percent)	4 (18.2 percent)	18 (81.8 percent)	25 (45.5)	30 (55.5 percent)	21 (48.9 percent)	22 (51.5 percent)
CD-ROMS	-	17 (100 percent)	4 (18.2 percent)	18 (81.8 percent)	48 (87.3 percent)	7 (12.6 percent)	31 (72.1 percent)	12 (27.9 percent)
Computers	9 (52.9 percent)	8 (47.1 percent)	4 (18.2 percent)	18 (81.8 percent)	48 (87.3 percent)	7 (12.6 percent)	33 (76.7 percent)	10 (23.3 percent)
Telephone facility	17 (100 percent)	-	22 (100 percent)	-	48 (87.3 percent)	7 (12.6 percent)	36 (83.7 percent)	7 (16.3 percent)
Printer	17 (100 percent)	-	13 (59.1 percent)	9 (40.9 percent	48 (87.3 percent)	7 (12.6 percent)	38 (88.4 percent)	5 (11.6 percent)
Digital Camera	-	17 (100 percent)	-	22 (100 percent)	44 (80.0 percent)	11 (20.0 percent)	28 (65.1 percent)	15 (34.9 percent)

Table 4 presents data on the competency level of respondents in the use of audiovisual and electronic resources.

Table 5: Constraints on the use of audiovisual and electronic resources

Constraints	SASS	SBHRM	SE	SST
Poor power supply	17 (100 percent)	22 (100 percent)	48 (87.3 percent)	24 (55.8 percent)
Poor infrastructural facility	17 (100 percent)	22 (100 percent)	48 (87.3 percent)	22 (51.2 percent)
Lack of adequate skill to use the audiovisual and electronic facilities	17 (100 percent)	18 (81.8 percent)	31 (56.4 percent)	22 (51.2 percent)
High cost of accessing the resources	17 (100 percent)	18 (81.8 percent)	40 (72.7 percent)	14 (32.6 percent)
High cost of purchasing the resources	17 (100 percent)	22 (100 percent)	44 (80.0 percent)	14 (32.6 percent)
Unavailability of audiovisual and electronic Resources	17 (100 percent)	18 (818 percent)	21 (38.2 percent)	14 (32.6 percent)
Lack of adequate access to audiovisual and electronic resources	17 (100 percent)	18 (81.8 percent)	31 (56.4 percent)	22 (51.2 percent)
Inadequate availability of audiovisual and electronic resources	17 (100 percent)	18 (81.8 percent)	31 (56.4 percent)	22 (51.2 percent)
High cost of accessing and use of resources	17 (100 percent)	18 (81.8 percent)	29 (52.7 percent)	14 (32.6 percent)

Table 5 reveals the constraints including poor power supply, poor infrastructure, lack of skill, and high cost

H1: Perceived usefulness (PU) and perceived ease of use (PEU) will positively influence e-library usage.

Table 6: Relationship among perceived ease of use, perceived usefulness, and e-library use

Independent variable	Std Beta
PEU	.335
PU	-.237
R2	.163
Adj R2	.150
F value	12.941
P	.000

The R^2 value of .163 suggests that 16.3 percent of the variance in audiovisual and electronic resources usage is explained by PEU and PU. The standardized beta value of 0.335 ($P < 0.05$) and -0.237 ($P < 0.05$) for PEU and PU respectively suggest that PEU directly influences audiovisual and electronic resources usage while PU does not have a direct relationship with audiovisual and electronic resources usage. Thus H1 is partially supported

Discussion of Findings

The study revealed that reveals institutional provision of videorecordings, posters, charts, electronic databases, and email, while students make personal provision of audio recordings, pictures, radio, television, multimedia projectors, e-documents, CD-ROMs, computers, telephones, printers, and digital cameras.

8

Students of SBHRM, SE, and SST make regular use of audiovisual and electronic resources, while SASS students make occasional use. The study generally reveals regular use of audiovisual and electronic resources by distance learning students at the Ibadan Study Centre of NOUN.

Distance learning students from SASS and SBHRM make most use of audiovisual and electronic resources for carrying out assignments, while only a few from SE and SST make use of them for any other purposes at all. This is in contrast to Adeyemi's (2004) views that electronic resources are used by students for assignments, seminar presentations, and project writing.

The major constraints hindering the use of audiovisual and electronic resources include poor power supply, poor infrastructure, lack of adequate skill, high cost, and unavailability. This corroborates Adeyemi's (2004) findings.

The study further revealed that perceived ease of use has a positive relationship with the use of audiovisual and electronic resources, while there is a negative relationship between perceived usefulness and use of audiovisual and electronic resources.

Conclusion

Audiovisual and electronic resources facilitate the success of open and distance learning. These resources were identified as a major component of open and distance learning education. This study has confirms the relevance of audiovisual and electronic resources at NOUN, and the effectiveness of the availability and regular use of audiovisual and electronic resources in distance learning delivery at NOUN were also established. Poor power supply, poor infrastructure, lack of skill, and high cost are the major constraints on the use of audiovisual and electronic resources by NOUN students.

Recommendations

- Infrastructure, including an adequate power supply, for the effective application of audiovisual and electronic resources at NOUN should be put in place and should not be limited to urban areas. This will enable distance learners in rural areas to benefit from modern technology.
- Train NOUN students on the use and application of audiovisual and electronic resources in their academic activities. This will enable them to use the resources in carrying out their academic activities, including research.
- Government and other policymakers should explore, encourage, and promote the development and use of emerging modern audiovisual and electronic resources at all levels of education.
- Government and other stakeholders should advance and support the use of audiovisual and electronic resources and develop distance education programs of the highest quality
- The cost audiovisual and electronic resources must be made affordable for students. Universities can always find ways to make DE technologies available to staff, but students must also be considered in the cost equation. The cost of these resources must be considered when selecting technologies to support distance education.

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