

ACCESSIBILITY AND THE UTILIZATION OF ONLINE TOOLS FOR LEARNING AMONG UNDERGRADUATES OF NATIONAL OPEN UNIVERSITY IN SOUTH-WEST, NIGERIA

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Abstract

Online learning tools refer to any program, app, or technology that can be accessed via an Internet connection and enhance a teacher's ability to present information and a student's ability to access that information. To be successful in a distance education environment, distance education students must use online learning tools in their day to day learning activities. This study examined the accessibility and the utilization of online tools for learning among undergraduates of National Open University in South-west, Nigeria. The study was limited to NOUN undergraduates in South-west, Nigeria. A total of 294 undergraduates were sampled in Lagos and Ibadan NOUN study centres. A researcher-designed questionnaire with reliability coefficient of 0.84 was employed. Mean and standard deviation values were used to answer research questions, while t-test was used to test the hypothesis at 0.05 level of significance. Findings of this study revealed that few online tools were accessible for learning by NOUN undergraduate, online tools were sparsely utilized for learning by NOUN undergraduates, there was no significant difference between male and female undergraduates in the utilization of online tools for learning. The study concluded that only few online tools were accessible for learning but they were utilized by the undergraduates. It was therefore recommended among others that trainings and workshops should be organised for students on the benefits and use of online tools for learning.

Introduction

Education is seen as a reflection of the society. The word 'education' is used wholly for the development of individuals in the cognitive, affective, and psychomotor domains (Amaele, 2003). Additionally, the five main national goals as stated in the Nigerian constitution, which formed the basis of the National Policy on Education (Federal Republic of Nigeria, FRN, 2013), are to build a free and democratic society; a just and egalitarian society; a united, strong and self-reliant nation; a great and dynamic economy; and a land full of bright opportunities for all citizens. Education also has not been left out in the penetrating influence of ICT (Ifinedo, 2006). The researcher added that higher education settings across the world have been embracing Information and Communication Technology (ICT) in teaching-learning process with determination to engage in collaborative learning and gain access to information for both students and their instructors.

The emergence of ICT and the introduction of globalization has ensued the transformation of communication, teaching and learning process. This has brought about radical changes in the educational needs of people and society at large, and is reflected in the developing requirement for extra specializations in teaching (Freeman, 2004). ICT is significantly modifying the ways things are done in nearly every field of human activity. In Nigeria, as well as in other countries of the world, ICT has taken over the operation of every facet of life such as Banking, Agriculture, Law, Medicine, Communication, Sports and Games. Information and Communication Technologies (ICTs) have turn out to be within a very short time, one of the basic edifices of contemporary society. Lots of countries now regard understanding concepts of ICT

and learning basic ICT skills as central part of education, alongside reading, writing and numeracy (Daniels, 2002).

Information and Communication Technology might be viewed as the blend of Informatics technology with other related technology, specifically communication technology (United Nations Educational, Scientific and Cultural Organization (UNESCO, 2008). The several types of ICT tools available that are of relevance to education include teleconferencing, audio conferencing, email, radio broadcasts, audiocassettes, television lessons, CD ROMs, interactive radio counseling and voice response system have been used in education for numerous purposes (Bhattacharya & Sharma, 2007). The field of education has been affected by ICTs, which have unquestionably affected teaching, learning, and research (Yusuf, 2005). As a result, the use of ICT will not only enhance learning situations be that as it may, likewise get ready cutting edge for future lives and careers (John & Wheeler, 2008). Countless number of teachers will be saddled with the responsibilities and skill sets for future teaching involving high levels of ICT and the need for more facilitative than didactic teaching roles (UNESCO, 2008).

Cabero (2009) pointed that the flexibility in time-space represented by the incorporation of ICT into teaching and learning processes contributes to an upsurge in the interaction and reception of information. Such possibilities suggest changes in the communication models and the teaching and learning strategies utilized by educators, offering approach to new situations that favour, individuals and collaborative learners. The utilization of ICT in instructive settings as well as independent learning goes about as an impetus for change in this area. By their extreme nature, ICTs are instrument that empower and bolster independent learning (Charles, 2012).

Encouraging the development of a society through distance education is one of the strategies progressively adopted lately by governments around the world to encourage economic development at the local, state and national levels. Encounters both nationally and internationally have proven that conventional education is greatly unable to meet the demands of today's socio-educational milieu, particularly to developing nations like Nigeria (Afolabi, 2003). In Nigeria, there exists a wide gap between the requests for spots in the educational system at the tertiary level and the available spots. This absence of capacity has brought to limelight the issue of Open and Distance Learning (ODL) as a ground-breaking and cost effective way to deal with the educative procedure.

Distance education, also known as open or distance learning is a form of education in which there is usually a separation between teachers and learners. Therefore, it is one which includes the use of printed and written word, the telephone, computer conferencing or teleconferencing used in bridging the physical gap between the instructor and the learner. Online tools are the learning tools that its transmission take place through internet connected devices; while distance learning concept occurs where students and teachers do not need to be in the same place at the same time. To conquer any hindrance between participants in the teaching and learning process, ODL offers organized learning where the instructor and students separated by time and space, using instructional materials such as television and radio broadcasts, CD ROMs, audio and video cassettes, print materials, as well as multimedia devices such as computers and satellites transmission (Peat & Helland, 2002).

Research Questions

1. What are the accessed online tools for learning by undergraduates in NOUN?
2. What are the undergraduates' uses of online tools for learning in NOUN?
3. Does gender have an influence on undergraduates' use of online tools for learning in NOUN?

Research Hypotheses

H₀₁: There is no significant difference between male and female undergraduates' use of online tools for learning in NOUN.

Methodology

The study adopted a descriptive research design of the survey type. The population for this study comprised all undergraduates of National Open University in South-west Nigeria. The target population for this study was all NOUN undergraduates in Lagos and Oyo states study centres. The study centres were purposively selected for their active open and distance education programmes. More so, they were densely populated among other study centres in South-west Nigeria; thereby giving more sample population. Random sampling technique was also adopted for the selection of the respondents. A total of 294 undergraduates were sampled in Lagos and Ibadan NOUN study centres and the breakdown shows that Lagos study centre has 50, 200, Ibadan NOUN study centres has 18, 000. Hence, based on the estimated population of 68, 200 undergraduate for the study, research advisors model (2006) was used to select 382 undergraduates at 95% confidence level. 281 undergraduates were selected from Lagos study centre; while 101 undergraduates were selected from Ibadan study centre. This further allowed the researcher have a manageable sample size for the study is presented in Table 1:

Table 1:
Sampling Frame of Undergraduates in NOUN Lagos and Ibadan Study Centres Using Research Advisors Model (2006).

NOUN study centres	Estimated Population	Research Advisors (Sample Size)
Lagos study centre	50, 200	281
Ibadan study centre	18, 000	101
Total	68, 200	382

The research instrument that was used for this study was a researcher-designed questionnaire on assessment of the use of online tools for learning among undergraduates of National Open University in South-west Nigeria. The questionnaire was structured in a clear and simple language to enable student provide relevant answers to the questions based on their personal views. The questionnaire items were constructed to specifically reflect the research questions for the study. The questionnaire was divided into three sections A, B and C. Section A contained demographic information such as name of NOUN centre, level and gender; while section B obtained responses from undergraduates on online tools used for learning in NOUN, designed to elicit responses based on accessibility of online tools, in which "access (A)", "do not access (DA)" was used as the response mode. Section C consisted of items on undergraduates' use of online tools for learning, which elicited responses from the respondents based on their use of online tools for learning.

The researcher-designed questionnaire was validated by five lecturers in the Departments of Educational Technology and corrections recommended were effected before the reliability of the research instrument was determined through a pilot study conducted in NOUN, Ilorin study centre. A total of twenty (20)

undergraduates that were not part of the main study were randomly selected for the pilot study. This is to enable the researcher determine the degree of consistency of the research instrument when used for the main study. Cronbach Alpha was used to analyse and test the reliability coefficient at 0.05 level of significance. The reliability value on accessible online tools was given as 0.71, the reliability value on use of online tools was given as 0.85. The instrument was thereafter randomly administered 382 respondents by the researchers. A total of 382 copies of questionnaire were distributed to undergraduates at the two NOUN study centres in South-west, Nigeria. However, 294 were returned as valid and thus amounting to about 77% response rate. Mean and standard deviation values were used to analyze and answer research questions, while *t*-test was used to test the hypotheses at 0.05 level of significance.

Results

Table 2:
Respondents' Percentage Distribution Based on Study Centre

NOUN Study Centre	Frequency	Percentage	Cumulative Percentage
Lagos Study Centre	207	70.4	70.4
Ibadan Study Centre	87	29.6	100
Total	294	100.0	

Table 2 reveals that, two hundred and seven (207) respondents which is 70.4% were from Lagos study centre, Lagos state, while eighty-seven (87) respondents which represents 29.6% were from Ibadan study centre, Oyo state. The data collected, therefore reveals that Lagos study centre has the highest number of respondents.

Research Question One: What are the accessible online tools used for learning by undergraduates in NOUN?

Table 3:
Respondents' Access of Online Tools for Learning

Online Tools	Mean	Std. Deviation
E-mail	1.13	.163
Google drive	1.24	.427
Online Radio	1.67	.471
Online Television	1.73	.444
Slide Presentations	1.38	.486
E-books	1.47	.373
Learning Management System (LMS)	1.57	.490
Course Management System (CMS)	1.63	.481
Interactive Video Conferencing	1.60	.491
Search engines (Google.com, Ask.com)	1.39	.284
Mobile Phone	1.45	.206
Blogs	1.27	.446
Audio-Visuals resources	1.52	.500
Dropbox	1.49	.501
Social Media	1.07	.252
Grand Mean	1.44	

Table 3 shows NOUN undergraduates' access based on each of the online tools listed on the table. Item one revealed that most of the undergraduates did not access E-mail, with a mean score of 1.13. Item 2 showed

that only few undergraduates accessed Google Drive, with a mean score of 1.24. Item 3, with a mean score of 1.67 revealed that undergraduates accessed online Radio. Item 4 revealed a high level of undergraduates' access of online Television with a mean score of 1.73. Item 5, with a mean score of 1.38 showed that not many undergraduates accessed Slide Presentations. It is revealed on item 6 with a mean score of 1.47 that undergraduates accessed E-books. Item 7 and 8 showed that undergraduates a high number of undergraduates accessed Learning Management System (LMS) and Course Management System (CMS), with mean scores of 1.57 and 1.63 respectively. Interactive Video Conferencing, search engines and mobile phones which are Item 9, 10 and 11 respectively revealed high accesses as it has mean scores of 1.60, 1.59 and 1.39 respectively. Item 12 showed that Blogs were not accessed by undergraduates, with a mean score of 1.27. Item 13 disclosed that undergraduates access Audio-Visual resources, with a mean score of 1.52. The mean score of 1.49 on item 14 revealed that undergraduates accessed Dropbox and item 15 showed that undergraduates did not access Social Media, with a mean score of 1.07.

The grand mean score of undergraduates' access of online tools for learning was found to be 1.44. Therefore, considering the benchmark of 1.5, it can be deduced that e-mail, Google drive, slide presentations, search engines, blogs and Social Media were sparsely accessed by NOUN undergraduates in South-west, Nigeria. On the other hand, online Radio, online Television, E-books, Learning Management System (LMS), Course Management (LMS), Interactive Video Conferencing, Mobile Phone, Audio-visual resources and Dropbox were highly accessed by NOUN undergraduates in South-west, Nigeria.

Research Question Two: What are the undergraduates' uses of online tools for learning in NOUN?

Table 4:
Respondents' Uses of Online Tools for Learning

S/N	Uses of Online Tools for Learning	Mean	SD
1	I use email facility to communicate with my lecturers and colleagues.	1.85	.872
2	I use Google drive for collaborative learning with my colleagues.	2.03	.925
3	I use Google drive for storing documents online.	1.92	1.015
4	I use Dropbox to share files with lecturers and colleagues.	2.46	.993
5	I use Slide presentations for my assignments and seminar presentations.	2.10	.990
6	I use E-books to access online materials.	2.56	.740
7	I use Learning Management System (LMS) for my tests and examinations.	2.59	.866
8	I use Course Management System (CMS) to access my course materials.	2.52	.869
9	I conduct searches online using search engines like Google.com, Ask.com.	2.59	.786
10	I use mobile phones to interact with lecturers and colleagues for immediate feedback.	1.75	.896
11	I use Interactive Video Conferencing for real time Audio-Visual chats with my lecturers and colleagues.	2.40	.989
12	I visit educational blogs for further studies.	1.85	.893
13	I connect with experts and professionals in my field using the Social Media.	1.95	.884
14	I do not use online Television for my learning activities due to costly internet subscription.	2.22	.943
15	I do not listen to online instructional radio due to unstable internet facilities.	2.27	.934
16	I do not use mobile phones for learning purpose to avoid distractions.	2.60	1.026
17	I do not use Audio-Visual resources to view or listen to instructional audio-visual packages due to epileptic power supply.	2.36	1.012

Table 4 showed the mean scores of undergraduates' use of online tools for learning. Using a benchmark of 2.5 of 4 point Likert scale, responses of NOUN undergraduates in South-west, Nigeria did not a reflect a

positive response to the use of online tools for learning based on the grand mean of 2.28 of items on the table. This implies that from item 1, few numbers of undergraduates in NOUN use email facility to communicate with their lecturers and colleagues with a mean score of 1.85. As shown on item 2 and 3, few undergraduates of NOUN used Google drive for collaborative learning with their colleagues and for storing documents with mean scores of 2.03 and 1.92 respectively.

The respondents showed high score in the use of Dropbox to share files with lecturers and colleagues, Slide presentations for their assignments and seminar presentations, E-books to access online materials, Learning Management System (LMS) for tests and examinations, and Course Management System (CMS) to access course materials, as revealed on items 4, 5, 6, 7, and 8 with mean scores of 2.46, 2.10, 2.56, 2.59 and 2.52 respectively. Item 9 and 10 were based on the respondents' conduct of searches online using search engines like Google.com, Ask.com, and their use of mobile phones to interact with lecturers and colleagues for immediate feedback, revealed mean scores of 2.59 and 1.75 respectively. This implies that respondents made searches online through the use of search engines, but only few used mobile phones to interact with lecturers and colleagues.

As shown on item 11 and 12, mean scores of 2.40 and 1.85 revealed that a significant number of NOUN undergraduates used interactive video conferencing for real time Audio-visual chats with lecturers and colleagues, while few of the respondents visited educational blogs for further studies. Based on item 13, NOUN undergraduates hardly connect with experts and professionals in their field using the social media, with a mean score of 1.95. Items 14 and 15 revealed mean scores of 2.22 and 2.27 respectively, the mean scores are slightly below the benchmark mean score, which implied that most of the respondents did use online television for learning activities due to costly internet subscription and also did not listen to online instructional radio due to unstable internet facilities.

On the other hand, respondents did not use mobile phones for learning purpose to avoid distractions with a mean score of 2.60, as revealed on item 16. With respondents' mean scores close to the benchmark score, it is revealed on item 17 and 18 that respondents did not use audio-visual resources to view or listen to instructional audio-visual packages due to epileptic power supply and also did use Google drive for word processing because of weak internet signal to retrieve files, with means scores of 2.36 and 2.39 respectively. On item 19, with a mean score of 2.48, it is revealed that respondents did not use social media for instruction to avoid unnecessary interferences during online study. Respondents agreed that they did not like to use online tools for learning activities because they are costly and unaffordable, with a mean score of 2.70 as revealed on item 20. The grand mean score of 2.28 which is below the required benchmark indicated that NOUN undergraduates did not have a positive response to the use of online tools for learning.

Ho₁: There is no significant difference between male and female undergraduates' use of online tools for learning in NOUN.

Table 4:

t-test Analysis on Male and Female Undergraduates' Use of Online Tools for Learning.

Gender	N	Mean	SD	Df	t	Sig(2-tailed)	Remark
Male	159	2.16	.40	292	1.94	.53	Accepted
Female	135	2.06	.45				

P>0.05

It can be inferred from table 4 that there was no significant difference between male and female undergraduates' use of online tools for learning. This is revealed in the results of the hypothesis tested; df (292) t=1.94, p>0.05. That is, the result of t-value of 1.94 resulting in .53 significance value was greater than 0.05 alpha value. Therefore, the hypothesis was not rejected. The above result implies that the stated null hypothesis was established thus: there is no significant difference between male and female undergraduates' use of online tools for learning.

Discussion of Findings

This study assessed the use of online tools for learning among undergraduates of National Open University in South-west, Nigeria. Undergraduates' access of online tools was examined in research question 1. It was found that some online tools have low access by undergraduates for learning. It was revealed that out of the 15 listed online tools, only 9 which were Online Radio, Online Television, E-books, Learning Management System (LMS), Course Management (LMS), Interactive Video Conferencing, Mobile Phone, Audio-visual resources and Dropbox were highly accessed; the remaining 6 online tools recorded low access. This finding is in support of a finding of Liebenberg, Chetty and Prinsloo (2012) on students' access to and skills in using technology in an open and distance learning context, which revealed that a large proportion of students were not accessing online tools for the purpose of learning. Unrecorded interactions with respondents revealed that large populations of NOUN students depended on computer business centre operators who produce course materials in hard copies for students' use; this disclosed why online tools have low access. Considering the benefits of accessing online tools for learning, students should endeavor to access these tools to help them in their day to day learning activities.

The use of online tools for learning by undergraduates was examined in research question 2. It was found that a great number of undergraduates were not using online tools for learning. This conformed to the conclusion made by Okorafor and Icu (2012) that students were not exhibiting positive attitude to e-learning, and thereby recommended that NOUN students' portal should contain the necessary online tools for their learning. Although this study was not concerned with students' use of online tools for purposes different from learning, there appears to be some other non-academic purposes that students are more interested in, than using online tools for learning; as a large population of students possessed computer or mobile phone that can be used to access online tools.

It was observed by the researcher in the course of data collection for this study that students of NOUN also attend physical classroom lessons; by implications, NOUN is not operating on a full time online education. The result recorded in the use of online tools for learning by undergraduates can be linked with students'

option of physical classroom lesson. If students' interest can be directed to the use of online tools for learning, there will be positive educational consequences.

The influence of gender in the use of online tools for learning by undergraduates as investigated in this study revealed that male and female undergraduates did not use online tools for learning. This implies that males' use of online tools is not different from females' use of online tools. This is in contrast with a research by Thanuskodi (2013) that concluded male students to be more technologically inclined than their female counterparts. Therefore, online tools should be used by all students, regardless of gender.

Conclusion

This study assessed the accessibility and the utilization of online tools for learning among undergraduates of National Open University in South-west, Nigeria. The result obtained from the data gathered and analyzed indicated that online tools have low access for learning by undergraduates in NOUN. The few online tools that were accessed showed that undergraduates only access online tools to attend online lessons or class through the use of Online Radio, Online Television, E-books, Learning Management System (LMS), Course Management System (CMS), Interactive Video Conferencing, Mobile Phone, Audio-visual resources and Dropbox. Findings on the utilization of online tools for learning revealed that undergraduates were not using online tools for learning; only few used online tools for sharing files with lecturers and colleagues.

Recommendations

On the basis of the findings, the following recommendations were made:

1. Government through the Federal Ministry of Education and National Open University of Nigeria should encourage students to use online tools for learning by providing the technologies needed.
2. Trainings, workshops and conferences should be organized for students in NOUN to educate them on the benefits of using online tools for learning; they should also be trained on its use.
3. Lecturers in NOUN should endeavour to improve learners' interest in the use of online tools for learning by integrating it in the teaching process; this will help the students realize the usefulness of online tools in their academic activities.
4. Adequate funding should be provided to make online tools accessible at an affordable rate in terms of electricity, internet facilities among others.

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