

**CHALLENGES OF ACCESSIBILITY AND UTILIZATION OF OPEN EDUCATION  
RESOURCES (OERs) IN SINGLE AND DUAL MODE OPEN EDUCATION (ODE)  
INSTITUTIONS IN LAGOS**

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**Abstract**

*The study investigated the challenges of accessibility and utilization of Open Education Resources (OERs) in single and dual mode Open Distance Education (ODE) Institutions in Lagos. The population of the study was made up of 58,090 students of National Open University of Nigeria (NOUN) Lagos study centers and Distance Learning Institute (DLI) University of Lagos. Six research questions and 1 hypothesis were raised to guide the study. A multi-stage sampling method was used in selecting 400 (232 from NOUN and 168 from DLI) respondents for the study. Researchers-developed 4-point Likert scale questionnaire was used in eliciting information from the respondents. Simple percentages, mean and standard deviation were used to answer the research questions raised while independent t-test was used to test the null hypothesis stated. The findings of the study revealed that there is a relatively high awareness level of OERs among the students. It also revealed that OERs are readily available in the two institutions. It was found out also that the students have access to the OERs. However, the study showed that the students face a lot of challenges in accessing the OERs. Based on the findings of the study, recommendations were made which include that training on the use of the OERs and other internet-based educational materials should form part of the orientation programme for ODE students in Lagos.*

**Introduction**

Open distance education (ODE) provides access to higher education for the teeming population of interested candidates who are not admitted into the formal system of education. Open distance education provides opportunity for learners who are separated in time and space from their facilitators and who have to study on their own using different types of learning media. Open educational resources (OERs) are one of such media through which open distance students learn on their own with little or no assistance from the facilitators. Open educational resources have been defined by different authorities. Atkins (2007) sees open educational resources (OERS) as teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or repurposing by others.

Hylen (2007) also sees open educational resources as digital materials that can be re-used for teaching, learning, research and more, made available freely on the internet. According to Hylen(2007) the term open education resources first came to use in 2002 at a conference hosted by UNESCO. Open education resources are types of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-solve them. Open education resources (OERs) range from textbooks to curricula, syllabi, lecture notes, assignments, tests,

projects audio, video and animation. Dutta (2016) says open education resources (OER) constitute one of the ways of sharing the resources, specifically, the faculty and the content by keeping it in public domain. Dutta (2016) further stated that the vision behind creating open educational resources is to lower the cost of educational materials, develop innovations and improve the quality of content and they can be accessed anytime, anywhere and any place by anyone.

The 2012 Paris OER Declaration define OER as “teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restriction. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work (UNESCO 2012).

Butcher (2011) says that OERs are educational resources including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts and any other materials that have been designed for use in teaching and learning that are openly available for use by educators and Learners, without the accompanying needs to pay royalties or license fees.

Commonwealth of Learning (COL, 2017) reveals that OER projects can expand access of learning for everyone, but most of all for non-traditional groups of learners, thus widening participation in higher education. Organization for Economic Co-operation and Development (OECD, 2007) added that OER can be an efficient way of promoting lifelong learning both for individuals and for governments and can bridge gaps between non-formal, informal and formal learning. Hence enhancing quality, currency and affordable educational materials adaptable to the broadcast range of teaching and learning needs.

There are a lot of benefits for using open education resources for the government institutions, educationists and learners as noted by Hodgkinson Williams (2010). In Nigeria, the benefits of OERS according to commonwealth of learning (COL, 2017) are numerous. Some of the benefits include:

- Access to relevant learning resources which promotes lifelong learning
- Addressing the challenge of ensuring inclusive and equitable quality education and lifelong learning opportunities for all and supporting citizens in gaining sustainable livelihoods.
- It provides government, institutions, organizations and individuals with access to some of the best materials available globally, allowing them access to education in a truly scalable manner. Onaifo (2016) noted that the advent and growth of open resources are facilitating creative new ways of supporting teaching and learning.

Navarrete, Lujan- Mora and Penafiel (2016) say that OERs are becoming a valuable alternative to improve access to high quality educational content released under open license by outstanding universities worldwide that OER can be used worldwide.

McGreal, Kinuthia& Marshall, (2013) noted that by using OERs learners are exposed to different educational resources that are in accordance with their learning styles. Also, learners can become more active participants in the educational process through collaboration in virtual communities of learning. It would also help teachers to compare their teaching materials with other teachers all around the world. They can learn how to

release their work under an open license and to improve quality of teaching practice and encourage pedagogical innovations. Also, OER reduce the cost of accessing educational materials.

Harsasi (2015) agrees that OER can be an asset to expanding education, in the same vein, Mc Dowell (2010) says that OER offer a dramatically new approach to the sharing of knowledge which can lead to economic success of individuals, communities, companies and ultimately entire countries.

The advantages or gains of OERs notwithstanding, many authorities have pointed out some of the challenges or barriers to using OERs in higher institutions. D'Antonio (2010) listed the following as some of the barriers in using OER.

- Technical, such as lack of broadband access,
- Economic, such as inadequate resources to invest in the necessary software and hardware e.g buying a laptop,
- Social, such as lack of skills needed to use technology,
- Policy-orientated, such as lack of academic recognition of the development of OER by teaching staff, and
- Legal, such as the time and expense associated with gaining permission of use of third party owned copyrighted materials or its removal from materials.

Different authorities have studied accessibility, utilization and challenges faced by learners and staff in the use of OERs. Samzugi and Mwinyimbegu (2013) studied accessibility of open educational resources for distance education learners in Open University of Tanzania. The finding of their study revealed that the learners and staff are aware of OER availability in the University and that the major use of the information was for self-learning. The challenges encountered by the respondents in their study include heavy reliance on library staff to access the OER materials in the library, inadequate number of computers, poor internet connectivity, and unreliable power supply among others. Onwubere (2013) studied harnessing the benefits of open educational resources (OERs), the prospects and challenges for National Open University of Nigeria. The study revealed that the workload on the staff is much and does not give the needed time to go through the rigours of becoming members of Open Course Ware consortium, the University's broad band is not sufficient to carry out the functions required for the process, funding and other challenges. Akomolafe and Olajire (2014) studied utilization of open educational resources and quality assurance in Universities in Nigeria, the study revealed that the level of awareness of undergraduates on the availability and usage of OER was moderate, that the undergraduates were faced with series of challenges on the utilization of OER, such as erratic electricity supply, lack of familiarity with OER websites, university not internet connected, ignorance of OER availability. It was also revealed in the study that usage of OER enhanced sharing of common knowledge, course structure, access to quality learning materials and use of real instructional materials online. They also found out that there were lots of benefits of OER to undergraduates that include sharing world learning resources and students' capacity building. Gambo and Sani (2017) studied the use of open educational resources and print educational materials by Federal College of Education Kastina, the study revealed that OER enjoy an overwhelming patronage of students. It was also discovered that the unrestricted nature of open educational resources coupled with its ease of access, freeness, proximity, relevance and IT infrastructural advancements are what make it an educational hotcake of the time. Nwaokolo-Ojo, Igwe and Umar (2016) in their study found out that e-learning and open education resources for teaching and learning of metalwork trade courses are available in all the technical college.

Onaifo (2016) discovered that learners make use of OER without most of them being aware of what OER is all about. The findings also revealed that the learners face a lot of challenges in accessing the OER. These challenges include cost for internet subscription, inability to purchase and own internet-enabled devices, poor, irregular and lack of access to the internet and lack of sufficient skills to use OERs. Open educational resources can be used by students in both the single and dual mode institutions of higher learning. Single mode institutions are institutions that have only one form, either conventional (regular) mode or Open educational mode. While the dual mode institutions are those institutions that adopt both the conventional (regular) mode and the unconventional Open and Distance mode in providing education for their clientele. In Nigeria, at the moment, the National Open University of Nigeria; NOUN is the only single mode Open education mode in Nigeria. All the other Universities that have existed before as single mode conventional or regular universities are now transforming into dual mode system.

### **Statement of problem**

Despite the fact that OER movement is witnessing increased patronage and participation by universities and institutions of higher learning all over the world, there exist a lot of barriers or challenges that are making it difficult for both learners and lecturers to adequately use these OER materials in the process of teaching and learning. Such challenges affect awareness, access, utilization of OER among learners and lecturers. This study therefore aims at investigating the challenges faced by learners in the accessibility and utilization of OERs in Open distance education institutions in Lagos.

### **Purpose of the study**

The main purpose of the study was to assess the challenges faced by learners in accessing and utilizing OERs in ODE institution. Specifically, the study aims at:

- ascertaining the forms of OERs available in the ODE Institutions in Nigeria;
- determining level of awareness of OERs among the learners in ODE institutions;
- ascertaining level of access to OERs by learners in ODE institutions;
- assessing extent of utilization of OERs among learners in ODE institutions;
- identifying challenges faced by learners in using OERs; and
- determining whether there is difference in awareness, level of access, utilization and challenges between the two institutions under study.

### **Research Questions**

The following research questions were raised to guide the study.

- What forms of OERs are available for learners in ODE Institutions in Nigeria?
- To what extent are the learners aware of OERs in ODE institution?
- What is the extent accessibility of OERs to Learners in ODE institutions?
- To what extent do learners of ODE institutions utilize OERs in their learning?
- What are the challenges faced by learners in ODE institution in the utilization of OERs?
- Is there is a difference in awareness, level of access, utilization and challenges between the two institutions under study?

### **Hypothesis**

- i. There is no significant difference in awareness , level of access, utilization and challenges of OERS by learner in the two institutions under study

**Methodology**

The study adopted a descriptive survey research design. This method was deemed the most appropriate design for this study because it involves selecting chosen samples from a large population to discover the relative incidence distribution and interrelations of some important variables under study. The study population consisted of 58,090 students comprising 14,192 from the University of Lagos (DLI) and 42,898 from the National Open University of Nigeria (NOUN). The two institutions are accredited by National Universities Commission to run Open and Distance Education in Lagos. Yamane (1967) sample size statistical model was used to determine the sample size for the study. A multi stage sampling procedure was used to select the respondents for the study. First the population was stratified using nature of ODL institutions- University of Lagos Distance Learning Institute(Dual Mode) and National Open University of Nigeria (Single Mode). Thereafter a proportionate stratified random sampling technique was used to select the learners’ i.e., their relative sizes and proportions were used in determining the sample from each of the two institutions. In all a total of 400 respondents formed the sample size, 400 respondents comprising 232 NOUN Learners and 168 DLI learners. A questionnaire developed by the researchers titled ‘Challenges of Accessibility and Utilization of OERs Questionnaire (CUAOERQ)’ was the main instruments for data collection. It was used to elicit information from the respondents in relation to awareness, availability, accessibility utilization and challenges of Open Education resources in Open Education Institutions. The instrument has two sections- A and section B. Section A provided information on respondents background such as name of institution among others while Section B has subsections addressing issues relating to awareness of open Education resources, availability, accessibility, utilization and challenges of Open Education resources. Altogether the section B has five subsections, four of the subsections were scored and coded on a four point Likert scale as follows: The scoring for positive statements was 4-1 where 4 = Strongly Agree, 3 = Agree, 2 = Disagree 1 = Strongly Disagree while the reverse is for negative scoring, Also one of the subsections in the questionnaire was scored and coded on a two point scale as follows: The direct scoring was 2 or 1 where 2 = Available, 1 = not available. To ensure for both content and face validity of the instrument, the questionnaire was given other experts in the field from the University of Lagos for vetting and proper scrutiny prior to the administration of the instrument. To ascertain the reliability of the instrument, a trial testing of the instrument (Pilot Study) was done with 35 learners who were not part of the sampled respondents. In measuring the internal consistency of the instruments, Cronbach’s alpha coefficient test of reliability was applied to ensure reliability on alpha level of 0.5. An Alpha co-efficient of 0.79 was obtained for the questionnaire and this was high enough to justify its use for data collection. The questionnaire was administered to the students during their study centre meetings in their different institutions. Data were analyzed collected using descriptive statistics – frequency and percentage distribution. In addition, independent t-test was used to test the stated null hypothesis.

**Results**

**Research Question 1: What forms of OERs are available for learners in ODE Institutions in Nigeria?**

**Table 1: Availability of Open Education Resources in the Institutions**

| S/N | Statements  | Available      | Not Available  | Mean   | Std. Dev. |
|-----|---|----------------|----------------|--------|-----------|
| 1   | Electronic Journal                                    | 261<br>(78.1%) | 73<br>(21.9%)  | 1.5881 | .49292    |
| 2   | Massachusetts Institute of Technology; MIT Courseware | 226<br>(67.7%) | 108<br>(32.3%) | 1.4209 | .49444    |
| 3   | African Virtual University; AVU conference            | 221<br>(66.4%) | 106<br>(33.6%) | 1.5970 | .49123    |
| 4   | Institutional Repository                              | 208            | 126            | 1.6209 | .48589    |

|   |                                       |                |                |        |        |
|---|---------------------------------------|----------------|----------------|--------|--------|
|   |                                       | (61.5%)        | (37.7%)        |        |        |
| 5 | Free Online Journal                   | 200<br>(59.9%) | 134<br>(39.6%) | 1.6597 | .47452 |
| 6 | Online Public Access Catalog;<br>OPAC | 156<br>(46.7%) | 178<br>(53.3%) | 1.6806 | .46694 |
| 7 | Science Direct                        | 196<br>(59.1%) | 137<br>(40.9%) | 1.7821 | .41344 |

Table 1 shows the availability of OERs in open distance Education institutions, 261(78.1%) of the respondents agreed that there is electronic journal in their respective institutions while 73(21.9%) admitted that there is no electronic journals available to them. Similarly 226(67.7%) of the respondents agreed that they have Massachusetts Institute of Technology Courseware in their respective OER institution while the remaining 108(32.3%) disagreed with the view.. 221(66.4%) of the respondents agreed that they have African Virtual University; AVU Courseware while 106(33.6%) disagreed with it. On a similar view, 208(61.5%) of the respondents agreed that there is institutional repository in their institutions while 126(37.7%) of the respondents disagree with the statement. 200(59.9%) of the respondents agreed that there is free online journal in for use while 134(39.6%) of the respondents did not agree with the statement. As regards Online Public Access Catalog; OPAC only 156(46.7%) of the respondents agreed that Online Public Access Catalog; OPAC, readily available for use in in their institution while 178(53.7%) of the respondents disagreed. On subscription of Science Direct by ODE institutions 196(59.1%) of the respondents agreed that that they have science direct in their institution while 137(40.9%) did not agree with the statement. In summary, it can be deduced that majority of the respondents agreed that there is availability of some specific open education resources in their schools.

### Research Questions 2: To What Extent are the Learners aware of OERs in ODE Institutions?

**Table 2: Level of awareness Open Education Resources among Open Distance Education Learners**

| S/N | Statements   | SA            | A              | D              | SD            | Mean   | Std. Dev. |
|-----|--|---------------|----------------|----------------|---------------|--------|-----------|
| 1   | Open Education Resources (OERs) are available in my institution    | 89<br>(26.5%) | 221<br>(65.8%) | 17<br>(5.1%)   | 17<br>(5.1%)  | 3.1607 | .63085    |
| 2   | I am familiar with the different OERs available in my institutions | 85<br>(25.3%) | 219<br>(65.2%) | 19<br>(5.7%)   | 13<br>(3.9%)  | 3.1190 | .67191    |
| 3   | OERs are useful to me in my learning                               | 67<br>(19.9%) | 222<br>(66.1%) | 19<br>(5.7%)   | 28<br>(8.3%)  | 2.9762 | .76842    |
| 4   | I don't know the importance of OERs to my learning                 | 30<br>(8.9%)  | 63<br>(18.8%)  | 154<br>(45.8%) | 89<br>(26.5%) | 2.1012 | .89536    |

In the table, it shows that 310(92.3%) of the respondents agree that open education resources are available in their institution while 34(10.2%) of the respondents did not agree with the statement. 304(90.5%) of the respondents agreed that they are familiar with the different OERs available in their institution while 32(9.6%) of the respondents did not concur to the statement. 289(86%) of the respondent agreed to the statement that OERs are useful to them in their learning while 47(9.6%) of the respondents disagreed with the statement. 93(26.9%) of the respondents agreed that they don't know the importance of OERs to their learning while 243(72.3%) of the respondents disagreed with the statement. From the responses, it can be deduced that, there is a relatively high level of awareness of open resource education among Open Distance Education leaners.

**Research Question 3: What is the Extent of Accessibility of OERs to learners in ODE Institutions?****Table 3: Accessibility of Open Education Resources in University of Lagos**

| S/N | Internet is always available for the access of OERs             | SA            | A              | D              | SD             | Mean   | Std. Dev. |
|-----|---|---------------|----------------|----------------|----------------|--------|-----------|
| 1   | I find any material I want on OER sites                         | 41<br>(12.3%) | 153<br>(45.8%) | 87<br>(26.0%)  | 51<br>(15.3%)  | 2.5582 | .89345    |
| 2   | The materials provided through OERs are helpful for my learning | 40<br>(12.0%) | 168<br>(50.3%) | 102<br>(30.5%) | 24<br>(7.2%)   | 2.6716 | .77745    |
| 3   | I am not taught on how to access OERs materials online          | 62<br>(18.6%) | 174<br>(52.1%) | 79<br>(23.7%)  | 19<br>(5.7%)   | 2.8358 | .78909    |
| 4   | OERs materials are not easily accessible to me                  | 82<br>(24.7%) | 89<br>(26.6%)  | 130<br>(39.2%) | 31<br>(9.3%)   | 2.6697 | .95005    |
| 5   | My lack of skills makes it difficult to use OERs in my learning | 52<br>(15.6%) | 48<br>(14.4%)  | 145<br>(43.4%) | 87<br>(26.0%)  | 2.1970 | .99549    |
| 6   | I believe I need skills to be able to access OERs materials     | 20<br>(6.0%)  | 63<br>(18.9%)  | 113<br>(33.8%) | 138<br>(41.4%) | 1.8985 | .91322    |

The table shows accessibility of OERs 194(58.1%) of the respondents agreed that internet is always available for me to access the OERs while 138(41.3%) of the respondents did agree to it. 208(70.7%) of the respondents agreed that they can easily find any material they want on OERs sites while 126(37.7%) disagreed with the statement. 236(70.7%) of the respondents agreed that the materials provided through OERs are helpful for their learning while 98(29.4%) of the respondents did not agree to the statement. 171(51.3%) of the respondents agreed that they were not taught on how to access OERs material online while 161(48.5%) of the respondents disagreed. 100(30%) of the respondents of the respondents agreed that OERs materials are not easily accessible to them while 232(69.4%) of the respondents did not agree to the statement. 83(24.9) of the respondents agreed that their lack of skills makes it difficult to use OERs in their learning while 151(75.2%) of the respondents disagreed with the statement.

**Research Question 4: To what Extent do Learners of ODE Institutions utilize OERs in their Learning?****Table 4: Utilization of Open Education Resources in University of Lagos**

| S/N | Statements  | SA            | A              | D             | SD             | Mean   | Std. Dev. |
|-----|---|---------------|----------------|---------------|----------------|--------|-----------|
| 1   | OERs helps me to do my assignment   | 50<br>(15.0%) | 179<br>(53.6%) | 57<br>(17.1%) | 47<br>(14.1%)  | 2.6925 | .89465    |
|     | I use OERs materials to compliment materials given by lecturers             | 72<br>(21.5%) | 207<br>(61.8%) | 28<br>(8.4%)  | 28<br>(8.4%)   | 2.9643 | .79471    |
| 3   | OER is useful for me in research and term papers and self-directed learning | 71<br>(21.2%) | 201<br>(60.0%) | 34<br>(10.1%) | 29<br>(8.7%)   | 2.9375 | .80980    |
| 4   | I do not find OER materials useful for my learning                          | 40<br>(11.9%) | 105<br>(31.3%) | 48<br>(14.3%) | 138<br>(41.2%) | 2.1280 | 1.09476   |
| 5   | OERs are not helpful in my learning   |               |                |               |                | 2.1577 | 1.12587   |

This table shows the utilization of OERs resources 229(68.9%) of the respondents agreed that OERs helps them to do their assignment while 104(31.2%) of the respondents did not agreed to the statement. 279(83.3%) of the respondents agreed that they use OERs materials to compliment materials given by lecturers to prepare

for exams while 56(16.8%) of the respondents did not agree to the statement. 272(81.2%) of the respondents agreed that OERs is useful to them in research and term papers and self-directed learning while 63(18.8%) of the respondents disagreed to the statement. 145(43.2%) of the respondents agreed that they do not find OERs materials useful for their learning while 186(55.5%) of the respondents disagreed with the statement.

### Research Question 5: What are the Challenges faced by Learners in ODE Institutions in the Utilization of OERs?

**Table5: Perceived Challenges to the use of OERs in the Institutions**

| S/N | Statements   | SA             | A              | D              | SD             | Mean   | Std. Dev. |
|-----|--|----------------|----------------|----------------|----------------|--------|-----------|
| 1   | Promotion of OER   | 101<br>(30.1%) | 112<br>(33.4%) | 101<br>(30.1%) | 49<br>(14.6%)  | 2.8036 | 1.03237   |
|     | Not easily available   | 53<br>(15.8%)  | 126<br>(37.6%) | 55<br>(16.4%)  | 100<br>(29.9%) | 2.3988 | 1.07698   |
| 3   | Technical barriers such as lack of broad band access   | 63<br>(18.8%)  | 152<br>(45.4%) | 50<br>(14.9%)  | 70<br>(20.9%)  | 2.6190 | 1.01517   |
| 4   | Economic barriers such as inadequate resources to invest in the required software and hardware | 57<br>(17.1%)  | 194<br>(58.1%) | 27<br>(8.1%)   | 56<br>(16.8%)  | 2.7552 | .92847    |
| 5   | Social barriers such as lack of skills to use the technology                                   | 58<br>(17.3%)  | 213<br>(63.6%) | 58<br>(17.3%)  | 19<br>(5.7%)   | 2.8571 | .85892    |
| 6   | Epileptic power  | 87<br>(26.0%)  | 184<br>(54.9%) | 25<br>(7.5%)   | 39<br>(11.6%)  | 2.9554 | .89498    |
| 7   | Computer illiteracy (Not being able to navigate the internet)                                  | 61<br>(18.3%)  | 124<br>(37.1%) | 34<br>(10.2%)  | 113<br>(33.8%) | 2.4090 | 1.13856   |
| 8   | Low level of internet connectivity   | 61<br>(18.2%)  | 135<br>(40.3%) | 38<br>(11.3%)  | 100<br>(29.6%) | 2.4673 | 1.10310   |
| 9   | Lack of cooperation from library staff   | 75<br>(22.4%)  | 136<br>(40.2%) | 46<br>(13.6%)  | 78<br>(23.3%)  | 2.6190 | 1.07236   |
| 10  | Inadequate number of computers   | 58<br>(17.2%)  | 124<br>(37.0%) | 56<br>(16.7%)  | 96<br>(28.7%)  | 2.4375 | 1.08268   |
| 11  | Irrelevant information on the internet   | 34<br>(10.1%)  | 151<br>(45.1%) | 29<br>(8.7%)   | 121<br>(36.1%) | 2.2946 | 1.06481   |
| 12  | More of foreign content are available on OERs  | 35<br>(10.5%)  | 143<br>(42.3%) | 60<br>(18.0%)  | 96<br>(28.7%)  | 2.3503 | 1.00750   |

Table 5 shows the challenges of OERs 213(63.5%) of the respondents agreed that there is promotion of OERs while 150(44.7%) of the respondents did not agree with it. 179(53.4%) of the respondents agreed that OERs is not easily available while 155(46.3) of the respondents disagreed with the statement. 215(64.2%) of the respondents agreed that technical barriers such as lack of broad band access is a challenge to using OERs while 120(35.5%) of the respondents disagreed. 251(75.2%) of the respondents agreed that economic barriers such as inadequate resources to invest in the required software and hardware while 83(24.9%) of the respondents did not agree with this statement. 271(80.9%) of the respondents agreed that social barriers such as lack of skills to use the technology is a major challenge to OERs while 77(23%) of the respondents disagreed with the statement. 271(80.9%) of the respondents agreed that epileptic power supply is a major challenge to using the OERs while 64(19.1%) of the respondents did not agreed with this. 185(55.4%) of the respondents agreed that computer illiteracy. Not being able to navigate the internet is a challenge while 147(44%) of the respondents disagreed. 196(58.5%) of the respondents agreed that low level of internet



connectivity is a challenge to using OERs while 138(40.9%) of the respondents did not agree with this. 211(62.6%) of the respondents agreed that lack of cooperation from library staff is a challenge while 124(36.9%) of the respondents did not agree with the statement. 182(54.2%) of the respondents agreed that inadequate number of computer is a challenge to using OERs while 152(45.4%) of the respondents disagreed to this. 185(55.2%) of the respondents agreed that irrelevant information on the internet is a challenge while 150(44.8%) of the respondents did not agree to it. 178(52.8%) of the respondents agreed that more of foreign contents are available on OERs while 156(46.7%) of the respondents did not agree with the statement.

**Hypothesis: There is no significant difference in the awareness, level of access, utilization and challenges of OERs by Learners in the two institutions under study**

**Table 6: T-test Analysis of Difference in Awareness, Availability, Level of access, Utilization and Challenges of using OERs by Learners in Single and Dual Mode Distance Learning Institutions**

|                      | ODE type    | N   | Mean   | Std. Deviation | df  | t-value | P-value | Decision        |
|----------------------|-------------|-----|--------|----------------|-----|---------|---------|-----------------|
| Awareness OER        | Single Mode | 104 | 2.8582 | .44987         | 334 | .490    | .625    | Not Significant |
|                      | Dual Mode   | 232 | 2.8308 | .48370         |     |         |         |                 |
| Availability of OER  | Single Mode | 103 | 1.7309 | .40322         | 333 | 1.346   | .179    | Not Significant |
|                      | Dual Mode   | 232 | 1.6767 | .30817         |     |         |         |                 |
| Accessibility of OER | Single Mode | 103 | 2.4013 | .48432         | 333 | -1.097  | .274    | Not Significant |
|                      | Dual Mode   | 232 | 2.4663 | .50799         |     |         |         |                 |
| Utilization of OER   | Single Mode | 104 | 2.6019 | .50742         | 334 | .677    | .499    | Not Significant |
|                      | Dual Mode   | 232 | 2.5647 | .44697         |     |         |         |                 |
| Challenges           | Single Mode | 104 | 2.5240 | .58922         | 334 | -1.295  | .196    | Not Significant |
|                      | Dual Mode   | 232 | 2.6062 | .51331         |     |         |         |                 |

Table 6 presents the t-test analysis of difference in awareness, level of access, utilization and challenges of OERs by learner in single and dual mode distance learning institutions under study. With respect to the mean score, the single mode institution's mean scores on awareness, availability, access, utilization and challenges of using the OERs were not significantly different from the dual mode institution. This is evident from the information on table six. Thus the null hypothesis that stated that there is no significant awareness, availability, level of access, utilization and challenges of OERS by learner in single and dual mode distance learning institutions under study was retained.

### Discussion of Findings

The study set out to investigate accessibility and utilization of open educational resources in single and dual mode open distance education institutions in Lagos. The finding of the study gives a clear view of accessibility and utilization of OERs in these institutions. The finding of the study revealed a relatively high

level of awareness of OERs among the students. This finding is in line with the result of a study by Samzug and Mwinyibegu (2013) and Akomolafe and Olajire (2014), but was not in consonance with the findings of Onaifo (2016) who discovered that undergraduate students in the University of Lagos use OERs in their learning without being aware that such materials are referred to as OERs. The high awareness level revealed among the students in this study may therefore be attributed to the fact that they are online learners and that their mode of learning, doing assignments and even taking examination are more technologically based. It could also be attributed to the increase in the use of information technology (ICT) in recent times. The place of awareness in improving usage and accessibility is very important. This goes to show that the ODE students in the two modes of institutions studied were adequately aware of the importance of OER in the learning enterprise.

The finding of the study equally revealed that OERs are readily available for use in the e-libraries and repositories of the different institutions. This findings corroborates the findings of Samzug and Mwinyibegu (2013) and Nwaokolo-Ojo, Igwe and Umar (2016), who discovered that OERs are available. It also goes in line with the views of Navarrette et al (2016) that OERs are becoming a valuable alternative to improve access to high quality educational contacts. This is not surprising because, the world is witnessing great advancement in the use of technology in all fields of human endeavours; education inclusive. Besides, higher education is gradually being transform into technology based education in Nigeria, where students are made to do assignments and projects and submit online to their lecturers both in the regular and distance modes.

On accessibility, the result revealed that majority of the students have access to OERs for their assignments and learning and that they have skills in accessing the OER materials online. This finding is in line with Onaifo (2016) who discovered that students in University of Lagos use OERs in their learning. Majority of the students in the study also responded that they use OER materials in doing assignments and complement with other materials given to them by their facilitators and e-tutors. This finding is in contrast to the views of the researchers that many students do not have access to OERs. This reason for this contrast may be due to the fact that the students in this study were all ODE students who use e-learning platforms for their studies. Therefore, they may be more conversant with learning materials and facilities online than the regular students. The result of the study revealed that there were lots of technical, economic and social barriers to using the OERs as reported by the students in the study. These include; poor broad band and internet facilities, inadequate resources to purchase software and hardware such as computers, laptops and the like, lack of skills to adequately use the internet, incessant power outages, network problem, lack of cooperation from library staff, among others. This is corroborated by the findings of Akomolafe and Olajire (2014) who also discovered in their study that students face many challenges in accessing OERs. It is in line with the view of D' Antonio (2010) that a lot of barriers make it impossible for students to adequately access and use the OER materials. The finding of the study on the challenges faced by students is not surprising, because the education sector is poorly funded, there is incessant power outages, lack of equipment and other problems being experienced in Nigeria as a nation and not just in the Education sector.

The result of the null hypothesis tested showed that there is no significant difference in the awareness, access, utilization and challenges of using the OERs among students in the two institutions studied. This implies that the students in the two institutions are aware of the OERs, they access and use the OERs in their learning and the challenges they face are similar in nature. The finding is in line with the views of D' Antonio (2010), Samzug and Mwinyibegu (2013) and Onaifo (2016). The similarity in the views of students from the two

institutions show that both institutions are properly exposing their students to the use and importance of the OERs.

### Recommendations

Based on the findings of the study, the following recommendations were made

- Awareness creation should be intensified to expose the students to other benefits of using the OERs both for immediate academic purposes and research purposes.
- Facilitators and e-tutors should continue to give assignments to students online to enable them explore other open educational resources available online other than the ones available in their school e-libraries and repositories.
- Institutions should constantly improve on their internet facilities in order to provide uninterrupted access to online based learning materials such as the OERs for students.
- Government should provide additional funds for institutions to procure and make available laptops and internet friendly devices for students. It can come as government or institutions loans to students, which they would enjoy during their studies and then repay such loans after their schooling.
- Training on the use of internet and internet educational materials and sites should be made a part of the orientation programme for students in open distance institutions. Where such training is already available, it should be sustained and improved on to accommodate all the skills that the students need to acquire to comfortably utilize the internet in their academic programme successfully.

### Conclusion

The study was conducted to ascertain accessibility and utilization of the OERs among students in single and dual mode open distance education institutions in Lagos. The OERs are now being recognized as a viable alternative to hard copy textbooks and journal materials which may not be readily available to students, especially those in the open and distance learning who are oftentimes separated in time and space with their facilitators. However, there are still a lot of barriers and challenges that make the use of these materials difficult for students. These challenges are surmountable and can be overcome if the right efforts are put in the right direction towards making the OERs available to students especially as education is quickly becoming more technologically based.

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