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An Assessment of Open Educational Resources by students in selected Academic Institutions in Southwest, Nigeria

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Abstract

This paper examined assessment of Open Educational Resources (OER) by students in selected Academic Institutions in Southwest Nigeria. A descriptive research design was used for this study and the instrument used for data collection was the questionnaire. The population of this study comprised two hundred and fifty two respondents from selected academic institutions and a stratified sampling technique was used to select respondents from each of the nine institutions investigated. This study assessed the use of Open Educational Resources by students in nine academic institutions in Nigeria which comprised (Federal, State and Private Universities; Polytechnics; and Colleges of Education) in Nigeria.

Findings illustrates that 40.5% of students do not use OER because they are not aware of OER. Male students use more OER than females. Finding indicates that 21.4% of students access OER through multimedia, while 32.5% of students access OER with their laptops because it is portable and convenient to move from one location to another. Analysis shows that Master degree students had 20.6% awareness of OER than other class of students.

Result shows that students of government owned institutions are more knowledgeable in OER as University of Lagos have the highest with 15.1% through types of institutions. Analysis from Federal Government owned institutions such as (university, polytechnic and college of education) indicates a high percent of 41.3% which may be due to the fact that Federal Government institutions possess the bests of scholars because years of training and experience on the job, and interaction between lecturers and students from different states, culture and religion in Nigeria.

Words: 258

Introduction

Education has been brought to the doorstep of everyone via the internet in this digital era due to technological advancement which makes it possible for knowledge to be shared, re-shared, used and re-used to the benefit of students in particular and the nation at large.

Open Educational Resources (OER) is a new phenomenon which provides a platform for openness by way of learning in higher institutions today in this digital era. The advent of OER in higher educational system is advantageous due to the escalating cost of books especially for students who possibly couldn't afford foreign learning resources because to low income, but with OER it is "a dream come true for students" because it has provided the opportunity for underprivileged student's access to repositories of several institutions of learning both locally and internationally.

Colson, Scott & Donaldson (2017) affirms that the way out of reduction in the price of texts and instructional materials is by substituting text with OER which is free and affordable for every student and is openly accessed. The effective use of OER by students in libraries reside basically with librarians and other information professionals since their responsibilities involves developing, advocating and organizing OER for the ease of use. This is due to the fact that over the years in course of performing library tasks, librarians have obtained lots of experience organizing information and OER which is part of the resources provide access to quality information which enhances learning and teaching for both students and faculty (Smith & Lee, 2017).

Librarians are strong advocates at providing students access to information using OER, which drives this task in a sustainable and internet driven environment. Internet is excellent in facilitating use of OER to students and members of faculty because it supports teaching, learning and research (Davis et al. 2016; McMurtrie, 2019). Librarian's knowledge of copyright issues and instructional design have created awareness in OER through information literacy via several social media platforms such as twitter, facebook and institutional website. OER is prized at increasing learning in developing countries due to new techniques of knowledge shared amongst students of various institutions of learning locally and internationally (Crissinger, 2015). Examples of OER include full educational courses, videos of lecturers, live streaming lectures,

assignments, lecture notes and interactive mini-lessons etc. which are used to support learning in educational institutions globally.

Open Educational Resources (OER) are electronic repositories developed by staff members of institutions where information can be accessed freely on the web and is protected by copyright and creative common (CC) license. OER supports learning in different subject modules and accessed through institutional portals and have been in existence for over a decade. The emergence of OER have generated interest among institutions of higher learning worldwide and provided global exchange of knowledge as they render not only accessibility to students, but re-usability to teachers in different formats. Institutions now download these resources and make them available to users locally via intranet for those without steady internet connection (McGreal, 2017).

Awareness of Open Educational Resources (OER) in Nigeria has really improved the financial, demographic and educational constraints but encouraged constant knowledge and adapted learning. The swift development of OER offers modern outlook to education and individualized learning, such that students who do not have the privilege of being in the four walls of an institute due to challenging jobs like security officers, medical personnel, nursing others, artisans now have the privilege to access educational resources freely. Pitt (2015) referred to student's expenses as reduced by adopting OER which is perceived as an important motivator to many, especially amongst students in Nigerian and those of other advanced countries in the world. OER therefore conveys learning to all categories of users such that learners are adequately knowledgeable on different subject arising from their respective institutions.

Profiles of Higher Educational Institutions
- ❖ University is an educational institution of higher level where academic activities and research is undertaken by students and certificates issued to undergraduate or postgraduate students.
- ❖ Polytechnic is an institution of higher learning where students offer OND and HND programs mainly in vocational subjects.
- ❖ College of Education is an institution where school instructors are trained.

Changing Roles

Education has transformed so much that lecturers are not the only custodian of information as it used to be few decades ago, but recently students have as much information and even more due to regular exposure to the internet and information communication technology applications. This result is in the shift from teaching to learning, thus making new roles available in various higher institution, for lecturers and students.

❖ **Higher Educational Institutions**

Higher institutions previously used to be the only access to knowledge, but through advancement in technology the world has become a global village. Presently, everyone can listen to teachings by high profile lecturers from Harvard, MIT, Oxford or Yale University's on a mobile device such as (smart phone, laptop and tablets) at anytime and anywhere. For OER to be effectively utilized by students, there is the need for it to be incorporated as part of electronic information resources in libraries since it is vital in teaching, learning and research (Katz, 2019). In Nigeria, students can access educational courseware in Federal institutions such as University of Lagos, The Polytechnic Ilaro, and College of Education Osiele etc. because of their rich resources.

❖ **The Lecturer**

Lecturers guide students in developing reading skills which empowers them acquire information not essentially within the four walls of the classroom, but for personal development since perusing OER is easy and user friendly. Lecturers must strive to develop capacity in line with changes in technology for continuous life-long learning which presupposes that there is no end to training and development to remain relevant in the teaching profession, since the success or failure of any institution largely depends on the level and technological skills of her faculty Oguche, (2014). Lecturers ought to develop basic skills such as technological skills, information/ retrieval skills, communication skills, preservation and managerial skills which is the basic building block of their profession.

❖ **The Student**

Technology has transformed learning in students; especially for those with little funds who were not able buy text books, let alone attend prestigious learning institutions in the world, but due to

advances in technology via the internet, access to OER have been achieved. Nigeria students are presently taking advantage of this learning platform to personally develop ICT skills. Students in higher educational institutions in Nigeria must instill the practice of learning independently, and develop learning networks.

❖ The Course

Academic courses offered by students must be in line with departmental curriculum to guide students on courses required to be offered for the session. Each course is sub-divided into different subject areas and outlined weekly to assist students prepare adequately. Massive open online courses (MOOCs), provide students with worldwide access to high-quality learning content, and when combined with OER is well appreciated and vital in attaining United Nations and UNESCO's educational goal while providing access to learning for large number of students, which have necessitated a paradigm shift in the transformation of education in academic institutions for improved quality of both online and blended learning (Darco, Rosewell, & Kear, 2016). OER and MOOCs could be achieved with good educational policies and appropriate ICT infrastructures in Nigeria educational system with combined effort of teaching, learning and developing OER skills, increasing awareness of OER and MOOCs; incorporation of OER into institutional and administrative structures (Cox & Trotter, 2016; Miao, Mishra, & McGreal, 2016).

Statement of Problem

The emergence of information communication technology has enhanced education globally and Nigeria is not an exception to this fact. Open Educational Resources began over twenty years ago by Massachusetts Institute of Technology's (MITs) open courseware, yet in this 21st century; there has been no landmark changes in instruction and learning techniques in institutions in Nigeria as a result of OER. The quality of academic and research productivity of staff and students in Federal, State and Private Institutions is highly dependent on availability OER provided to support such activities. Moreover, regardless of the long existence of OER in various institutions, how has it impacted on student's learning in tertiary institutions?

Therefore, it is against this backdrop that this study sets out to ascertain the assessment of Open Educational Resources by students in selected academic institutions in Southwest Nigeria.

Objective of the study

The general objective of this study is to investigate the assessment of Open Educational Resources (OER) by students in selected academic institutions in Southwest Nigeria, ranging from Universities, Polytechnics and College of Education.

The objective of the study is:

i. Investigate if OER is used by students in these institutions.

ii. Find the types of OER used by students in the institutions.

iii. Investigate how OER can be accessed by students in these institutions.

iv. Investigate the challenges students encounter accessing OER in these institutions.

v. Find the most used computer device in accessing OER by students.

vi. Ascertain student's awareness level of OER.

vii. Find the type of institution that often consults OER.

viii. Investigate the category of institutions that consults OER most.

Research Questions

1. Is OER used by students in these institutions?

2. What are the types of OER used by students in these institutions?

3. How can OER be accessed by students in these institutions?

4. What are the challenges students encounter while accessing OER?

5. Which computer device is mostly used by students to access OER?

6. What is the level of student's awareness of OER in these institutions?

7. Which type of institution mostly consult OER?

8. What category of institution mostly consult OER?

Significance of the Study

Information and communication technology has provided a platform for quick access to OER; therefore it is vital for lecturers/ librarians in educational institutions in Nigeria to sensitize

students via advocacy, workshop/seminars, orientation of new and returning students through various social media platforms on the importance of OER. OER is beneficial to students, teachers, researchers and the general public because it contains information which can be used, re-used, copied and downloaded. OER introduces students to a wide range of educational resources which they ordinarily would not have had access to due to the high cost. OER promotes contribution and collaboration among students/lecturers and lecturers from other higher institutions which is vital in web 2.0 techniques of teaching and learning in developed countries.

Literature Review

Open Educational Resources are learning sources which is open, accessible and appropriate for all levels of training in tertiary institutions in Nigeria. OER can be used and re-used to suit various needs, but a vital discrepancy between OER and other learning resources is that OER have unlimited authorization, which permits alteration and reuse without having to request for permission from copyright holders. Kassahun & Nsala, (2015) level of awareness among academic librarians use of Open Access Resources and their support of reference services in private institutions of higher learning in Gaborone, Botswana, revealed that only (33%) of academic librarians were aware of open access. Alexander, (2019) noted that librarians are champions in OER drive and this positive perception highlights the critical part librarians have contributed towards OER. Annand, (2017) reasoned that awareness of OER is the most crucial need because, if as little as 15% of members faculty start using these resources, there will be enhanced awareness by lecturers, which will rub-off on their students in the course of teaching in class and as such Senack & Donoghue, (2016) advocated more use of OER by educational institutions.

Griggs & Jackson, (2017) reveals that the positive effect of OER has been noticeable with students from nationally different backgrounds who have been able to familiarize with the use of OER but literature reveals that OER is not associated with poor result of student's performance. Recently, some institutions began considering the use of OER text, and investigations shows comparative success on student learning outcomes (Hendricks et al., 2017; Colvard et al., 2018). Allen and Seaman (2016) noted that lecturer's motivation in allowing for the use of OER is the saving of funds by students which points out that 87% of faculty mentioned this as critical and

very essential. Annand, (2015) campaigned for additional government funding to encourage production and use of OER while investigations from Mtebe and Raisamo (2014) recognized the challenges that deter lecturers from accepting OER in higher education in Tanzania, as performance expectancy, enabling conditions, and social influence do not have a statistically significant effect on lecturers' intention to adopt and use OER, but effort expectancy had a significant positive effect.

Research Methodology

A descriptive research design was used for this study, and the measuring instrument used was the questionnaire which was designed by the researcher with a total of ten (10) questions. The first section had questions (1-2) which comprised the demographic information of students while the later had questions (3-10). The questionnaire was printed out and distributed to respondents. Stratified sampling technique was used to select respondents in each of the nine institutions which represents the sample of the study. 50 copies each of the questionnaires were distributed to respondents of various universities, resulting in a total of 150 copies for universities.
 35 copies each of the questionnaires were distributed to respondents in various polytechnics of study resulting in a total of 105 for polytechnics, while another 35 copies each of the questionnaire were distributed to various colleges of education of study, which results in 105. The average number of questionnaires distributed to respondents were 360 copies across the nine institutions of study, but two hundred and fifty two were completed by respondents and returned.

Scope of the study

The study covered three Federal institutions namely: University of Lagos (UNILAG), Federal Polytechnic Ilaro (FPI), and Federal College of Education Ossiele (FCOEO), three State institutions namely: Olabisi Onabanjo University (OOU), The Polytechnic Ibadan (TPI) and Michael Otedola College of Primary Education (MOCPE) and three Private institutions namely: The Bells University (TBU), Lagos City Polytechnic (LCP) and Delar College of Education Ibadan (DCOEI) were used for the study.

Table 1: Distribution of Higher Institutions

Institutions (Federal, State & Private)	Frequency Distributed	Percent % Distributed	Frequency Retrieved	Percent % Retrieved
Universities				
University of Lagos (UNILAG)	50	13.9	38	15.1
Olabisi Onabanjo University (OOU)	50	13.9	26	10.3
The Bells University (TBU)	50	13.9	24	9.5
Polytechnics				
Federal Polytechnic Ilaro (FPI)	35	9.7	32	12.7
The Polytechnic Ibadan (TPI)	35	9.7	30	11.9
Lagos City Polytechnic (LCP)	35	9.7	20	7.9
Colleges of Education				
Federal College of Education Osiele (FCOEO)	35	9.7	34	13.5
Michael Otedola College of Primary Education (MOCPE)	35	9.7	26	10.3
Delar College of Education Ibadan (DCOEI)	35	9.7	22	8.7
Total	**360**	**100**	**252**	**100**

Table 1 shows the total number of questionnaires completed and returned by institutions which participated in the survey. A total of 360 (three hundred and sixty) questionnaires were distributed to respondents from various institutions. 150 copies of the questionnaires were distributed to respondents from various universities, 105 copies of the questionnaires were distributed to respondents from various polytechnics while another 105 copies of the questionnaire were distributed to various colleges of education. For universities such as (UNILAG), three departments were chosen which were Accounting, English Language, and Biochemistry. In (OOU), the three department chosen were Agric. Engineering, Law and Zoology. In (TBU) the three departments were Banking and Finance, Accounting and Building Technology. For Polytechnics such as (FPI), the two departments chosen were Accounting, and

Computer Engineering. In (TPI) the two departments were Arts/Design and Chemical engineering while in (LCP), the two departments chosen were Computer Engineering and Electrical Engineering. For College of Education such as: (FCOEO), the two departments selected were Agricultural Science and Biology/Physics. In (MOCOE), the two departments selected was Business Education and Computer Science/Integrated Science, while in (DCOE) the two departments selected was Chemistry/Integrated Science and Biology/Mathematics, but only 252 (two hundred and fifty two) copies of the questionnaire were completed and returned for analysis.

Table 2: Types of Higher Institutions

Institutions	Frequency Distributed	Percent % Distributed	Frequency Retrieved	Percent % Retrieved
Federal				
University of Lagos (UNILAG)	50	13.9	38	15.1
Federal Polytechnic Ilaro (FPI)	35	9.7	28	11.1
Federal College of Education Ossiele (FCOEO)	35	9.7	27	10.7
State				
Olabisi Onabanjo University (OOU)	50	13.9	36	14.3
The Polytechnic Ibadan (TPI)	35	9.7	23	9.3
Michael Otedola College of Primary Education (MOCPE)	35	9.7	24	9.5
Private				
The Bells University (TBU)	50	13.9	34	13.5
Lagos City Polytechnic	35	9.7	23	9.3
Delar College of Education Ibadan (DCOEI)	35	9.7	22	8.7
Total	360	100	252	100

Table 2 illustrates the types of higher institutions and its organization into Federal, State and Private with the distribution of questionnaires to respondents.

Answers to research questions

Research Question 1 & 2: Demographic information of respondents

Table 3: Demographic Variables of Students

Variation	Frequency	Percent %
Gender		
Male	140	55.6
Female	112	44.4
Total	**252**	**100**
Age (Years)		
Less than 20	26	10.3
20 – 25	34	13.5
26 – 30	38	15.1
31 – 35	55	21.8
36 – 40	43	17.1
41 – 45	35	13.8
50 – 55	12	4.8
Above than 60	9	3.6

Table 3: Demographic Variables

Table 3 depicts the analysis of respondents on gender and age. From the analysis on gender, 55.6% of male students responded more than their female colleagues. This may be due to the fact that male students are more accustomed with OER and ICT related devices. Analysis from this

study is a pointer to the fact that the highest age bracket fell between 31-35 years which signifies the most active age group of students.

Research Question 3 & 4: Types of OER, and to find out students use?

Table 4: Types of OER and the usage by students

Types of OER	Frequency	Percent (%)
Courses	24	9.5
Modules	16	6.3
Complete text	32	12.7
Audio	34	13.5
Video	46	18.3
Multimedia	54	21.4
Curriculum	28	11.1
Other learning tools	18	7.1
Total	**252**	**100**
Variation		
No	150	40.5
Yes	102	59.5
Total	**252**	**100**

Illustration from table 4 shows that OER is not frequently used by students because of the low rate of awareness which represents 40.5% of respondents. The highest type of OER used by students is multimedia which represents 21.4% of respondents.   `          `

Research Question 5: How is OER accessed?

Table 5: Students Access to OER

Search Links	Frequency	Percent
General	28	11.1
General education search	23	9.1
Video	42	16.7
Image	36	14.3
Recorded lectures/video tutorials	46	18.3
Open textbook	22	8.7
Modular course component	25	9.9
Complete courses	30	11.9
Total	252	100

Table 5 OER is accessed mainly through recorded lectures/video tutorial with 18.3%. The high use of recorded lectures and video recording is as a result of conscious effort of students and lecturers frequent access of OER with or without internet connection.

Research Question 6**:** What challenges do students encounter accessing OER?

Table 6: Challenges encountered by students accessing OER

Types of challenges in accessing OER	Frequency	Percent
Lack of Knowledge of OER	52	20.6
Difficult to find OER	44	17.5
Relevance of OER	36	14.3
Lack of interest in OER	48	19.0
Erratic Power	37	14.7
Lack of Access to Computer	32	12.7
Computer Phobia	03	1.2
Total	**252**	**100**

Analysis from table 6 shows the most common challenge students encounter while accessing OER is the lack of knowledge of OER which is 20.6%. This is unfortunate because students lack

information on OER but through advocacy, lecturers/librarians will go a long way by sensitizing students of OER.

Question: 7 which computer device was mostly used by students to access OER?

Table 7: Computer devices mostly used by students to access OER

Computer used to access OER	Frequency	Percent
Desktop	35	13.9
Laptop	82	32.5
Tablet	64	25.4
i-phone	26	10.3
Mobile phone	45	17.9
Total	**252**	**100**

This study discovered that the commonly used device by students from various higher educational institutions was the laptop with 32.5%, since is very convenient for students because it is portable and can be easily moved from one location to another.

Research Question 8: Which educational level of students was more aware of OER?

Table 8: Educational level of OER awareness by students

Educational level (Qualifications)	Frequency	Percent
PhD	32	12.7
M.Phil./PhD	22	8.7
Master (MSc, MLIS etc.)	52	20.6
PGD	28	11.1
Bachelor (BSc, B.Ed. etc.)	34	13.5
HND	42	16.7
OND	16	6.3
NCE	15	6.0
Pre-ND	11	4.4
Total	**252**	**100**

Analysis shows the highest level of OER awareness from various educational institutions is Master Degree students with 20.6% which may be as a result of the foundation of learning from their initial institutions.

Question 9: Which type of institution mostly consulted OER?

Table 9: Type of Institution of most consulted OER

Types of Institution	Frequency	Percent
Universities		
University of Lagos (UNILAG)	38	15.1
Olabisi Onabanjo University (OOU)	26	10.3
The Bells University (TBU)	24	9.5
Polytechnics		
Federal Polytechnic Ilaro (FPI)	32	12.7
The Polytechnic Ibadan (TPI)	30	11.9
Lagos City Polytechnic (LCP)	20	7.9
Colleges of Education		
Federal College of Education (FCOEO)	34	13.5
Michael Otedola College of Primary Education (MOCPE)	26	10.3
Delar College of Education Ibadan (DCOEI)	22	8.7
Total	**252**	**100**

Analysis shows that the type of institution with the highest OER consultation is University of Lagos (UNILAG) with a rate of 15.1%. This is a result of OER sensitization by lecturers and students through several training and development programs using several electronic platforms.

Question 10: Which category of institutions mostly consults OER?

Table 10: Category of Institution with high consultation of OER

Category of Institutions	Frequency	Percent
Federal		
University of Lagos (UNILAG)	38	15.1
Federal Polytechnic Ilaro (FPI)	32	12.7
Federal College of Education (FCOEO)	34	13.5
State		
Olabisi Onabanjo University (OOU)	26	10.3
The Polytechnic Ibadan (TPI)	30	11.9
Michael Otedola College of Primary Education (MOCPE)	26	10.3
Private		
The Bells University (TBU)	24	9.5
Lagos City Polytechnic	20	7.9
Delar College of Education Ibadan (DCOEI)	22	8.7

Analysis from Table 10 shows that Federal institutions have the highest frequency with 41.3%. Federal institutions are owned by the government of Nigeria with top academics who possess great skills with quality years of work experience. They comprise staff and students from different states, culture and religion in Nigeria. Federal Government institutions promotes federal character in terms of admission for students and appointments of staff.

Summary

Students from various higher education institutions in Nigeria must develop ICT skills for easy access of OER, possess ability to download, and preserve information, and be bound to have mobile learning device (laptop) with internet for easy access to information irrespective of their location. All higher educational institutions must establish quality assurance unit in their

institutes so that content of OER would not be compromised and also regular update of OER. Lecturers are expected to develop capacity to remain relevant in the academic sector through creativity and innovation in preparation and style of teaching and feedback platform should be introduced where students can ask probing questions after going through recorded lectures. Educators must improve the quality of information made available in academic curriculum of students. Librarian's role cannot be underestimated because they offer advocacy on OER by creating awareness through the provision of information to lecturers, students and management of institutions. Tertiary institutions in Nigeria can benefit from OER through collaborating with one another for the benefit of students and the general public.

 Federal Government of Nigeria must provide an enabling platform within the academic community for adequate supply of power, ICT infrastructure and regular internet so that lecturers and students can have unlimited access to OER.

Conclusion

Higher institutions in Nigeria must sensitize students on the importance of OER in learning via institutional portals or by using platforms like twitter, facebook, instagram linkedin and whatsapp. The knowledge of OER have enhanced students academic performance because of the vast information acquired through various institutional repositories compared with students devoid of knowledge of OER who rely only from lectures in class. Institutions owned by Federal government of Nigeria have the best academics due to years of training and experience on the job, and also the interaction between lecturers and students from different states, culture and religion in Nigeria.

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