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Open educational resources (OERs) and postgraduate students' academic achievement

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Abstract
The advancement in technology and its integration in teaching and learning brought in gradual changes to the delivery of education. With this expansion in information and communication technologies, a movement towards knowledge sharing resulted in the birth of Open Educational Resources (OERs). This study was thus focused on Open Educational Resources (OERs) and Post-Graduate Students Academic Achievement. Three (3) research questions and three (3) hypotheses guided the study. The population for this study was four hundred and seventy-two (472) postgraduate students offering a masters' degree programme from the Faculty of Education, University of Port Harcourt. A sample of 25 students was picked proportionally across the 6 departments to give a total of 150 samples. The instrument for data collection was a questionnaire structured on a 4-point Likert scale, titled Perception of Graduate Students' on the use of Open Educational Resources (PGSOERs). It contained three sections measuring several variables such as graduate students' awareness level, the extent of usage of OERs and challenges they experience with the use of OERs. The face and content validity of the instrument was established, and the test-retest method was used to determine the reliability of the instrument, with a reliability coefficient of 6.0 obtained. Data was collected by the researcher and two research assistants. Mean and standard deviation was used to answer the research questions, while the hypotheses were analyzed using Z-test. Some of the findings revealed that the level of awareness of OERs among postgraduate students and their skill for evaluating web-based information is very low. However, It was recommended that great efforts need to be made by teachers, lecturers and educational institutions to highlight the numerous benefits/ importance of OERs activities on postgraduate students at the postgraduate level. Postgraduate students need to be equipped with the much-needed skills to access, evaluate and utilize web-based (internet) information.

Keywords: perception, skills, open license internet

Introduction

Background to Study

Advancements in information and communication technologies have led to the integration of technologies in teaching and learning and this trend has continued to receive more and more attention globally, making the world a global village in information dissemination today. This, coupled with the increasing demand for higher education, makes it a focal point for the successful implementation of new technologies. Consequently, educators are also increasingly expected to innovatively integrate technologies into teaching and learning. Opening education to a wider audience and using ICT is seen as the most crucial influential factor for successful integration of technology into the teaching and learning process. So, the emergence and development of Open Education Resources (OERs) can be seen as a great value to this venture. The Commonwealth of Learning (COL) has added a dimension to this definition, that is "materials offered freely and openly to use and adapt for teaching, learning, development and research" (Commonwealth of Learning nd).

This project builds upon the notion of openness promoted by the OER movement which is building learning communities where members interact in groups and get opportunities to clarify concepts, reflect and deepen understanding. Also, as digital and dynamic resources, (OER)s have the potential to enhance teaching and learning practices by facilitating communities of teachers who collaborate, share, discuss, criticize, use, reuse and continuously improve educational content and practice, (Petrides, Jimes, 2006; Frydenbery and Matkin, 2007; Geser, 2007; Petrides, 2008 ; Casserly & Smith, 2009) [2]. Grubb and Tredwey (2010) argue for the importance of more participatory, teacher-generated professional development in assessing and improving teaching practice, where teachers make meaning for themselves and each other as they participate in interactive problem solving about teaching practice.

As stated by a number of bodies, for example, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Organization for Economic Co-operation and Development (OECD), Commonwealth of Learning (COL) and OER Commons, Open Educational Resources (OER) range from open courses, syllabi, assignments, tests and other educational resources such as lectures modules and study guides. These resources can be highly structured as in the case of textbooks or instances where the resources serve as a model and therefore should be used as it is. However, in most cases,

OERs can be modified and repurposed to meet a particular need.

Developments in information technology have ushered in new ways of sharing information thus providing different platforms for developing and sharing open educational resources. Another form of OER is digitized library collections. These have source materials that would normally be stored in a library. These materials can be used for research or to augment students' learning. The driving force behind OERs is the need to provide education freely and openly.

OER can originate from colleges and universities, libraries, archival organizations, government agencies; individuals who develop educational resources they are willing to share. This term OERs refer to digital resources, and as such, tends to focus on usage in online or hybrid learning environments, however, electronic content can certainly be used in face-to-face environments as well. Each resource is issued under a license that spells out how it can be used. Some materials may only be used in their original form; in other cases, learning resources can be modified, remixed, and redistribute. OERs are typically found in collections or repositories. These can be offerings from a single institution, such as when a college or university makes available online the resources from its courses, or they can be collections of materials gathered from individuals or departments from a wide range of separate institutions. Instructors and individual learners can download OER and use them in formal or informal learning situations, and one of the hallmarks of OER is their flexibility - many are modular in nature, allowing them to be used in novel combinations to suit particular learning activities. Because open resources are so malleable, they can be adapted to keep pace not only with new technologies but also with changes to academic disciplines and teaching methods. Depending on the resources, these updates might be made by the creator or by users of the resources. Few disagree that -.the infusion of OERs into higher education is likely to have far-reaching effects on the character of teaching and learning. Still, many graduates are not still aware of Open Educational Resources (OERs).

According to Tuomi (2006) [5], a higher level of openness is about the right and ability to modify, repackage and add value to the resource. However, most existing initiatives offer the most basic level of openness - "open" means "without cost" but it does not mean "without conditions". The definition of 'open' is constantly evolving and varies according to context e.g. sharing software source code, refusing) content and open access to publications. The following well-known initiatives present important steps toward creating, sharing and reusing open source, learning objectives, research outcomes and encouraging and promoting the use of open licenses. Open Source Initiative htt://www/opensource.org!: During February 1998, Eric Raymond and Bruce Perens founded OSI, the Open Source Initiative, with the purpose of "managing and promoting the Open Source Definition for the good of the community, specifically through the OSI Certified Open Source Software certification mark and program". It is dedicated to promoting open source software for which the source code is published. This allows anyone to copy, modify and redistribute the code and its modifications without paying royalties or fees. The process is enabled and guaranteed by Open Source Licenses which ensure that software licenses that

are labelled as "open source" conform to existing community norms and expectations. Open Content Initiative http://www.opencontent.org/.

Statement of Problem

Openness suggests unrestricted access, availability and barrier absence. So, where educational resources are open for use, ordinarily they need to be explored and tapped for the benefits of students - the PG Post Graduate Students in particular, especially in research and learning. Where the gains of OERs are pursued with vigour, the learning encumbrances experienced by learners should be reduced to a very low ebb. However, the underlining questions surrounding this thinking are numerous. Could the awareness level and relevant skills needed to explore the gains of OERs by PG students be counted as limiting factors in the exploration of the numerous gains of OERs. These are what a study of this magnitude tends to unravel.

Aim and Objectives of the Study

The main aim of this study is to ascertain the extent to which postgraduate students of University of Port Harcourt perceive the use Open Educational Resources (OERs). In specific terms, the study sought to:

1. Determine the awareness level of postgraduate students about Open Educational Resources (OERs).
2. Ascertain the awareness level of male and female Post Graduate Students about Open Educational Resources (OERs).
3. Examine the extent to which postgraduate students possess the skills for evaluating web-based information.

Research Questions

The following research questions guided this study:

1. What is the awareness level of postgraduate students about Open Educational Resources (OERs)?
2. To what extent does the awareness level of male postgraduate differ from female students on the use Open Educational Resources (OERs)?
3. To what extent do postgraduate students possess the skills for evaluating web-based information?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings of male and female postgraduate students on the awareness level of OERs.
2. There is no significant difference that exists between male and female postgraduate students possession of internet skills for use of OERs.
3. The perception of male and female postgraduate students on the evaluation of web-based information for OERs is not significantly different.

Methodology

Research Design

The study adopted is a descriptive survey design, a simple plan approach for data collection and analysis.

Population

A population of 472 postgraduate students of the Faculty of Education, University of Port Harcourt was used for the study. This comprised of 162 males and 310 females.

Source: School of Graduate Studies Admission Office - 2014/15.

Sample Size

A total of 150 Post Graduate Students are used and drawn from six departments in equal proportion.

Instrument

A 44 item questionnaire titled "Perception of Post Graduate Students on the use of Open Educational Resources" (PGOERs) was used for the study. It consisted of three sections, A, B & C, each dwelling in related questions 1, 2 & 3, respectively. It followed the Likert-like fashion, a four-point scale. The ratings are as contained in the tables below.

Validity

Two experts in measurement and evaluation confirmed the content validity of the instrument. They made sure that the items had relevance with the research questions they were meant to address.

Reliability

A test-retest approach was adopted and a reliability coefficient of index 6.0 was obtained, confirming the reliability of the instrument.

Data collection/Analysis

Face to face administration of the questionnaire was adopted with the aid of two research assistant. Being a 4-point scale, a criterion mean value of 2.50 was used. Also, mean (X) and standard deviation (SD) and Z - values were used in answering the questions and related hypotheses, accordingly.

Results and discussion

This section deals with the result obtained from the data analyses that was done after the collection, of data. The tables for the research questions were presented first before those of the hypotheses. Next is the analyses of tables and finally the discussion of findings.

Presentation of Data

Research Question One: What is the awareness level of postgraduate students about Open Educational Resources (OERs)?

Table 1: Mean and standard deviation of awareness level of Open Educational Resources

S/N	The awareness level of the Graduate students	Mean	SD	CM	Decision
1.	I am not aware of what is Open Educational Resources (OER)	3.20	0.91	2.5	VLE
2.	I am not aware of the Availability of OER for academic research	3.06	0.95		VLE
3.	I am not Familiar with intellectual property Rights	3.06	0.98		VLE
4.	I am not aware OERs are yet to be fully adopted by educators in Nigerian Universities	3.29	0.81		VLE
5.	I am not aware of the benefits of introducing OER for Educational practices	3.05	0.97		VLE
6.	The University of making serious efforts level of OERs	3.09	0.81		VLE
7.	I am not used to learning online	3.22	0.79		
8.	I am not aware of OER related links available on our university website	3.31	0.79		VLE

Research Question Two

To what extent does the awareness level of male postgraduate students differ from female postgraduate students on the use of OERs?

Table 2: Level of awareness of OERs by male and female postgraduate students

S/N	The awareness level of the Graduate students	Mean	SD	CM	Decision
1.	I am not aware of what is Open Educational Resources (OER)	3.25	3.14	2.5	VLE
2.	I am not aware of the Availability of OER for academic research	3.22	2.88		VLE
3.	I am not Familiar with intellectual property rights	3.06	3.05		VLE
4.	I am not aware OERs are yet to be fully adopted by educators in Nigerian Universities	3.28	3.30		VLE
5.	I am not aware of the benefits of Introducing OER for Educational practices.	3.07	3.04		VLE
6.	The University of Port Harcourt is not making serious efforts to raise the awareness level of OERs	3.17	3.00		VLE
7.	I am not used to learning online	3.22	3.22		VLE
8.	I am not aware of OER related links available on our university website	3.31	3.31		VLE
	Grand Mean	3.19	3.11		VLE

Research Question Three

To what extent do postgraduate students possessed the skills for evaluating web information?

Table 3: Postgraduate students' skills for evaluating web information

S/No	Item	Mean	SD	Decision
1.	I check who the author of the information is	2.30	0.34	HE
2.	I verify the author's area of specialization	1.30	0.89	LE
3.	I ascertain if the author is an authority from the field of study he has written	1.52	0.45	LE
4.	Establish if the author is an academic from a reputable institution	1.20	0.73	LE
5.	I ascertain if other reputable authors have also cited his work in their own write-ups	1.34	0.81	LE
6.	I verify the type of website that has published the information if it is commercial (.com), organizational (.org) or educational (.edu)	1.23	0.84	LE
7.	I determine the objectives of the author of the information	1.65	0.65	LE
8.	I determine the intended audience for which the information was originally published	1.30	0.37	LE
9.	I check where the information was published if it is an academic journal	2.13	0.56	LE
10.	I determine the editorial position of the published information	1.03	0.72	LE
11.	I check if the published information has outside reviewers	1.21	0.61	LE
12.	I ascertain if the published information is a blog post, a YouTube video, a TV episode or an article from a print magazine	1.56	0.79	LE
13.	1 determine the relevance of the information to my research	1.05	0.58	LE
14.	I check to see if I can apply the authors' framework of analysis to my own research	3.18	0.78	VHE
15.	I confirm the author's scope of coverage	1.67	0.91	LE
16.	1 determine if the information is a general overview or an in-depth analysis	1.37	0.73	LE
17.	I ascertain if the scope of the information matches my own information needs	1.28	0.67	LE
18.	I determine if the time period and geographical region is relevant to my research	1.50	0.39	LE
19.	I determine the date the information was first published	1.87	0.79	LE
20.	I check if there are other new versions of the information	1.18	0.73	LE
21.	I ascertain if there are differences in editions, such as new introductions or footnotes	1.12	0.92	LE
22.	I check when the information was last updated	1.43	0.82	LE
23.	I determine changes and trends in my area of study since the publication date	1.56	0.75	LE
24.	I ascertain if there are any published reviews, responses or rebuttals	2.14	0.56	HE
25.	1 find out if the author is cited by other sources	1.87	0.61	LE
26.	I established if the author has any affiliation with any of the authors he/she/they are citing	1.54	0.75	LE
27.	I find out if the cited authors are part of a particular academic movement or school of thought	1.32	0.61	LE
28.	1 ascertain if the author appropriately cited ideas that were not his own	1.24	0.78	LE

	Grand Mean	1.56	0.68	LE

Hypotheses

Hypothesis One: There is no significant difference in the mean rating of male and female postgraduate students on the awareness level of OERs.

Table 4: Z-test of mean rating of male and female postgraduate students' awareness level of OERs

Gender	N	Mean	SD	df	Z-Cal	Z-Crit	Decision
Male	80	3.19	0.89	148	0.57	1.98	Retain
Female	70	3.11	0.83				HO_1

Hypothesis Two: The mean ratings of male and female postgraduate students on their possession of skills for searching the internet for information on OERs do not differ significantly.

Table 5: Z-test of mean rating of male and female postgraduate students' skills for searching OERs information

Gender	N	Mean	SD	df	Z-Cal	Z-Crit	Decision
Male	80	3.14	0.96	148	0.77	1.98	Retain
Female	70	3.02	0.92				HOi

Hypothesis Three: The perception of male and female postgraduate students on the evaluation of web-based information for OERs is not significantly different.

Table 6: Z-test of mean rating of male and female postgraduate students' perception of challenges hindering effective usage of OERs

Gender	N	Mean	SD	df	Z-Cal	Z-Crit	Decision
Male	80	2.68	0.89	148	0.38	1.98	Retain

Data Analyses

The data analysis displayed in Table 1 revealed that post graduate students in the University of Port Harcourt indicated that there was a very low level of awareness of what OER is as shown from their mean value of 3.20 (SD = 0.91), their level of awareness of the availability of OER was to a very low extent (mean = 3.06, SD = 0.95), they have a very low level of awareness on familiarity with intellectual property rights, that they have a very low level of awareness on the adoption of OER in Nigerian universities. The analysis further showed that postgraduate students are not aware of the benefits of introducing OER for educational practices (mean = 3.05, SD = 0.97), as well as reported that the University of Port Harcourt is not making serious effort to raise the awareness level of OERs (Mean = 3.09, SD = 0.81). Finally, the result revealed that postgraduate students are not used to learning online (Mean 3.22, SD = 0.79), and that they are not aware of OER related links on the university website (mean = 3.16, SD = 0.79). Conclusively, the result revealed that a grand mean of 3.16 was obtained with SD of 0.97. This result indicates that postgraduate students reported that there is a very low level of OER awareness among graduates in the University of Port Harcourt.

The result of the data analysis as shown in table 2 revealed male postgraduate students had a mean of 3.18 as regards their level of awareness on OER in the University of Port Harcourt, while female postgraduate students reported a mean value of 3.11. This result indicated that male postgraduate students have a lesser level of awareness than female postgraduate students on the usage of Open Educational Resources in the University of Port Harcourt.

The data in table 3 showed that when postgraduate students' opinion on the extent to which they possess skills for evaluating web-based information was subjected to statistical analysis, a grand mean score of 1.56 was obtained while an average standard deviation of 0.68 was gotten. From the mean value obtained, it, therefore, indicates that postgraduate students possessed the skill of evaluating web-based information to a very low extent.

The result from the data analysis done in table 4 indicates that when the mean rating of male and female postgraduate students on their awareness level of OERs was computed using independent samples Z-test, a calculated Z-value of 0.57 was obtained which was lesser than the tabulated Z-value of 1.98. Therefore, the result indicates that there is no significant difference in the awareness of OERs among male and female postgraduate students.

The result from the data analysis done in table 5 indicates that when the mean rating of male and female postgraduate students on the skills possessed in searching for information on the internet related to OERs was computed using independent samples Z-test, a calculated Z-value of 0.77 was obtained which was lesser than the tabulated Z-value of 1.98. Therefore, the result indicates that there is no significant difference in the rating of male and female postgraduate students in the skills possessed for searching information on the internet related to OERs.

The result from the data analysis done in table 6 indicates that when the mean rating of male and female postgraduate students on the possible challenges that can hinder their use of OERs was computed using independent samples Z-test, a calculated Z-value of 0.38 was obtained which was lesser than the tabulated Z-value of 1.98. Therefore, the result indicates that there is no significant difference in the rating of male and female postgraduate students on the possible challenges that can hinder their usage of OERs for their research work.

The major findings obtained after the analyses of data are briefly summarized below

1. There is a very low level of awareness about Open Educational Resources among postgraduate students in the University of Port Harcourt.
2. As regards their level of awareness regarding OERs, male and female postgraduate students reported a low level of awareness.
3. Postgraduate students reported a low-level skill of evaluating web-based information that was gotten from the internet.

Discussion of Findings

The awareness level of postgraduate students and OERs

The result of the study revealed that postgraduate students have a very low awareness of Open Educational Resources that they can use for their educational development. The meaning of this finding is that although postgraduate students may have the skills to surf the internet, they are not aware of specific educational resources, packages and software that they can use for their educational research venture. In this regard postgraduate students, research output would be greatly hampered as they may not understand the current trend in educational activities around the globe. This result was similar for both male and female postgraduate students as both genders reported a low level of awareness about the available OERs.

Internet Usage Skills

Another result of the study further revealed that both male and female postgraduate students possess very high skills in accessing the internet with little or no help from an external person. This result is not surprising. In a similar study by Muniandy (2010) on the Academic Use of Internet among Undergraduate Students, out of 92 students sampled, about 30% perceive themselves to have a high or very high level of Internet usage skill. Most postgraduate students own personal computers and laptops. They also subscribe to various Internet services and have access to WIFI services either in the university or outside. They also tend to use Internet facilities at Internet cafes. This is an indication that postgraduate students are ready for utilizing the internet in accessing OERs for their educational and academic research. By so doing, if ample awareness is created and training programmes organized, students can maximize this skills for positive academic and research outcomes.

Evaluating web-based information

The findings of this research also indicated that students have very low competence in evaluating web-based information. Therefore, students may have difficulty in establishing the veracity of information gotten from the internet as such might end up collecting and utilizing inaccurate and even dangerous information for their academic research. It might also result in unintended plagiarism as students might cite materials without adequately ascertaining the sources of the material. In addition, this may prevent students from getting relevant information to their study which is a cause of poor research output by most students.

Conclusion

From this study, we can conclude that it is imperative for postgraduate students' to be aware of the benefits of OERs to academic achievement. The level of awareness of OERs among postgraduate students in the Faculty of Education, University of Port Harcourt and their skill for evaluating web-based information is very low. This is a standing threat because their ability to make a right evaluation and make good use of these resources will be impaired. Information from the web needs to be verified before usage. Great effort should be made at the research unit of University at all levels to equip postgraduate students with the much-needed skills to access, evaluate and utilization of web-based (internet) information. An awareness should be made by teachers, lecturers and educational institutions to highlight the numerous benefits/ importance of OERs activities on postgraduate students at the postgraduate level.

References

1. Eric R. (n.d) The Cathedral and The Bazaar http://www.catb.org/e sr/writings/cathedral-bazaar
2. Geser G. Open Educational Practices and Resources: The key role of social software. Proceedings of the EDEN Annual Conference, 2007.
3. Gourley B, Lane A. Re-invigorating openness at the Open University: The role of Open Educational Resources. Open learning. The Journal of Open and Distance Learning. 2009; 24(1):57-65. unesco.org/images/e/ea oer_forum_report.pdf
4. Petrides L, Jimes C, Middleton-Detzner C, Wailing J, Weiss S. Open Textbook Adoption and Use: Implication for Teachers and Learners. Open Learning. 2011; 26(l):39-49. Doi: 10.1080/02680513.2011.538563.
5. Tuomi I. Open Educational Resources: What they are and why they Matter. October, 2006, available at: www.oecd.org/edu/oer.
6. Wikipedia (n.d). MIT Open Course Ware. Online available on en. Wikipedia.org/ wild/MIT-OPEN COURSEWARE Retrieved 25/05/201.
7. Wikipedia (n.d). Open Education Resources (OER). Online available on en. wikipedia.org/wiki/open _education_resources Retrieved 10/06/2013.