

Analysis of Survey Data on Open Educational Resources

Abdusalam F. Nwesri and H. Harmain

Faculty of Information Technology

University of Tripoli, Tripoli, Libya

{a.nwesri, h.harmain}@uot.edu.ly

المخلص

تعرض هذه الورقة التحليل الاولي لبيانات الاستبيان الذي تم اجراؤه في كلية تقنية المعلومات بجامعة طرابلس حول استخدام المصادر المفتوحة المصدر لدى الطلبة. تم تجميع البيانات من الطلبة بصورة الكترونية. الهدف من هذا الاستبيان هو تقييم مدى ادراك الطلبة واستخدامهم للمصادر التعليمية المفتوحة المصدر داخل الكلية. نتائج الاستبيان كشفت ان 90% من طلبة الكلية يستخدمون المصادر التعليمية المفتوحة المصدر.

Abstract

This paper reports on a preliminary analysis of survey data on using open educational resources at the Faculty of Information Technology, University of Tripoli. The survey data was collected electronically from students. The objective of the survey is to assess the awareness and usage of open educational resources within the faculty. Results of our survey reveal that 90% of students are using open educational resources.

Keywords: Open educational resources; OER; open textbooks; open learning

Introduction

Open Educational Resources (OER) are “materials used to support education that may be freely accessed, reused, modified and shared” (UNESCO 2011,2015). OER has received great attention in the past two decades. In 2012, UNESCO called on governments to adopt policies and support capacity development to promote the use of OER (UNESCO, 2012). OERs have been considered as one of the most significant educational movements in the 21st century (Shear *et. al.*, 2015). Institutions and governments have supported creating OER to aid learning and to lower educational costs for students (Florida Virtual Campus, 2012, Florida Virtual Campus, 2016; Jhangiani *et. al.*, 2017).

OER materials have been reported to increase learning outcome. John Hilton (2016) surveyed 9 studies relating to the influence of OER on the learning outcomes. He reported that only one study reported non-significant negative effects on learning outcomes, three others showed a significant improvement in favor of using OER, three studies showed no significance and the remaining two studies did not report any statistical measures. In a recent large-scale study on the impact of OER on student grades, results show that students who used OER textbooks significantly outperformed students who used traditional textbook (Colvard *et. al.*, 2018).

OER materials can help resolve many issues in education. Access to free textbooks is one issue: students in higher education in Libya rely on lecture notes more than textbooks due to the lack to availability of textbooks. Lecturers usually prepare the learning materials (usually PPT presentations) and present them to students

either electronically or in paper form. Access to online resources such as textbooks will help improve the quality of teaching materials within Libyan higher education institutions.

The goal of this research paper is two fold: 1) measure the use of OER at the Faculty of Information Technology, University of Tripoli; 2) increase the awareness and importance of the OERs among students at the faculty.

Methodology

For the purpose of our study, a quantitative survey was developed. The survey questions were well designed to measure the use and attitudes toward using OERs.

The following research questions were used to guide the study:

Are students aware of OER? (Yes/No)

Are students using OER? (Yes/No)

What type of OERs are students using? (tutorials, PowerPoint presentations, textbooks, video, audio, software tools)

What is the impact of using OER on students learning? (Low, medium, High)

Are faculty in the sample using OER? (yes/no)

What type of OER have faculty used? (tutorials, PowerPoint presentations, textbooks, video, audio, software tools)

What type of OER are faculty creating? (tutorials, PowerPoint presentations, textbooks, video, audio, software tools)

What factors could facilitate using OER? (Support from administration, recognition, academic quality, staff awareness, desire to reduce cost to students)

Participants

The faculty of Information Technology at the University of Tripoli has around 1300 student enrolled by the spring 2018 term. The anonymous survey targeted all students at the faculty. 162 students responded to the survey, 111 students completed all questions and the remaining 51 did not. All results shown below are based on completed surveys.

Table 1 shows the number of participants based on gender. By the time of conducting this survey, the total number of students is 1280 out of which 481 are female students. The sample participated reflected the female to male ratio at the faculty.

Survey Sample

Table 1: Survey sample based on gender

Gender	<i>n</i>	%
Male	79	71.17%
Female	32	28.83%

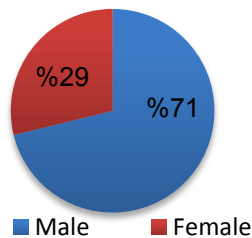
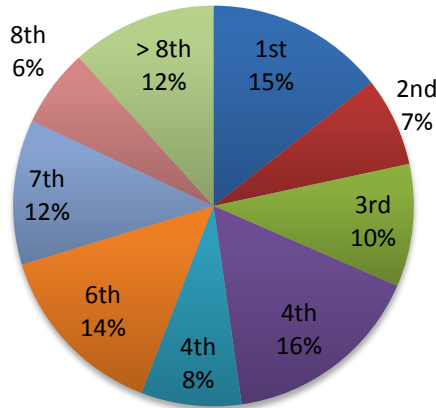


Table 2 shows the distribution of students based on their study level. Students from all levels participated in the survey.

Table 2: Survey sample based on study level

Level Of Study (term)	n	%
1st	16	14.41%
2nd	8	7.21%
3rd	11	9.91%
4 th	18	16.22%
4 th	9	8.11%
6 th	16	14.41%
7 th	13	11.71%
8 th	7	6.31%
> 8 th	13	11.71%

Inte



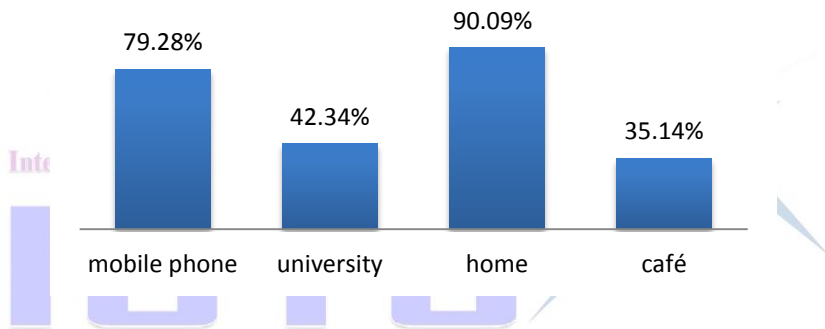
Internet Connectivity

We believe that Internet connectivity is a vital factor to increase OER usage. We surveyed students on Internet connection they use

to assess whether the faculty or the university in general encourages students to get connected. Table 3 shows the Internet connection used by the survey sample.

Table 3: Internet connection used

Connection	n	%
Mobile phone	88	79.28%
University	47	42.34%
Home	100	90.09%
Café	39	35.14%



Results show that students use all available internet connectivity options. However, the survey shows that students tend to use the Internet more at home than university with 88% of students use mobile phones to get connected.

It is worth mentioning that the university provides free Internet connectivity on the main campus to all students, staff and employees. However, there are no public places such as computer labs and libraries connected where students can use while being at the university. This explains the low rate of using Internet at university.

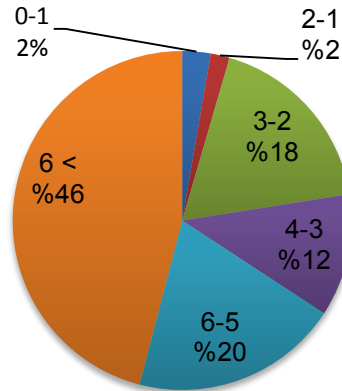
How often students get connected

Time taken on using Internet is one factor that shows students ability to view materials on the Internet. As IT students, we expect students to spend more time on the Internet in order to fulfill their course commitments. Table 4 shows daily average hours students take using the Internet.

Table 4 shows that the majority of students spend more than 3 hours daily with about 45% spend more than 6 hours per day.

Table 4: Internet connection used

Time (h)	n	%
0-1	3	2.70%
1-2	2	1.80%
2-3	20	18.02%
3-4	13	11.71%
5-6	22	19.82%
> 6	51	45.95%



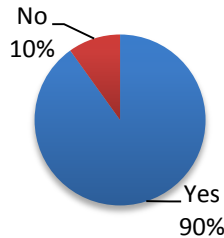
Survey Results

Research question 1: Are students using OER?

Table 5 shows that 90% of students are aware of OER and already using them.

Table 5: OER awareness

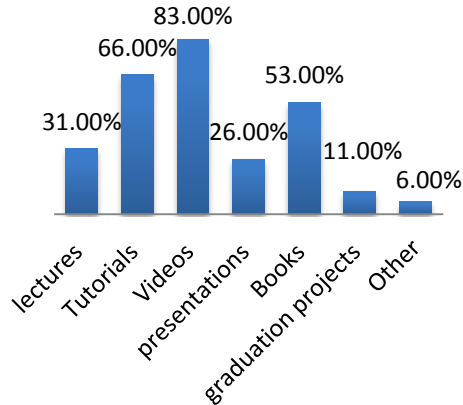
Using OER?	<i>n</i>	%
Yes	100	90.09%
No	11	9.91%



Research question 3: What type of OERs are students using?

Table 6: Type of OER used

OER Type	<i>n</i>	%
Lectures	3	31.00%
Tutorials	6	66.00%
Videos	8	83.00%
Presentations	2	26.00%
Books	5	53.00%
Graduation projects	1	11.00%
Other	6	6.00%



The answers of the 100 students who have answered YES to the last question are shown in Table 6. Results show that students use videos more than any other materials (83%). Then they use tutorials (66%), followed by books (53%), lectures (31%),

presentations (26%) and graduation projects (11%). 6% of students indicated that they used other material.

To assess the use of OER by students while studying, we asked students to choose the way they get their study materials. Participants were asked the following question:

How do you get the Educational Material for subject you study?

I copy them from other students

I buy a paper copies from a boot at the university

Through the subject website

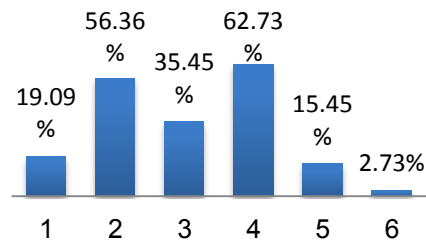
Through a news group on Facebook, Google ... etc

Similar websites on other universities

Others

Table 7: How students get Educational Material

Choice	n	%
1	21	19.09%
2	62	56.36%
3	39	35.45%
4	69	62.73%
5	17	15.45%
6	3	2.73%



Answers to this question reveal that students tend to get hard copies of study materials either by copying them or buying ready copies. However, 69 (62.73%) students answered that they get them through a newsgroup dedicated to the subject. It is worth

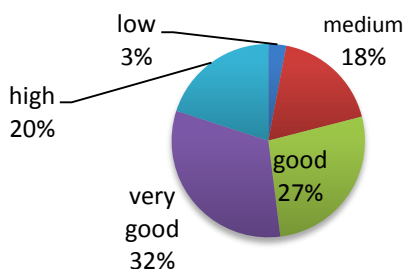
mentioning that 35% also indicated that they get materials using a subject dedicated website.

To assess the resources where students get their OER, we asked students to write down five websites they use to get OER. The questions was “Write down websites you use to obtain OER materials?”. Websites reported by students are grouped and counted. Top reported websites by students: (Youtube:59; Udacity:23; Google:14; Udacity: 9; Khan Academy:7; Lynda:6; Coursera:5; Edx:5; Facebook:4; W3School:4; Github: 3; Wikipedia: 3) . It is important to note that some of these websites do not provide OER, they however, offer Educational Materials for free but not under OER license. Although the concept of OER was highlighted at the beginning of the survey, many students perceive non-OER free materials as OER.

Research question 4: What is the impact of using OER on students learning?

Table 8: Impact of using OER

Impact	n	%
Low	3	3.00%
Medium	18	18.00%
Good	27	27.00%
Very good	32	32.00%
High	20	20.00%



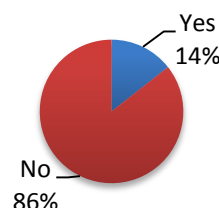
Students were asked to rate the impact of using OER on their learning outcome. About 80% of the students indicated that OER has positive impact on their studies.

Research question 5: Are faculty offering any OER?

Table 9 shows that 95% percent say that the faculty is not providing any OER.

Table 9: OER offered by faculty using OER?

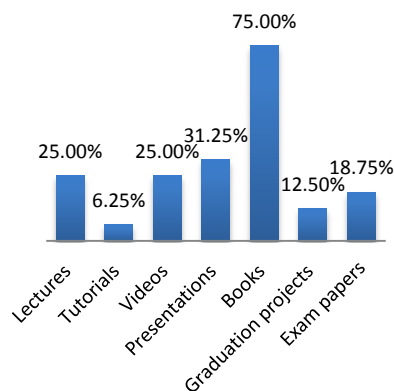
Faculty using OER?	n	%
Yes	16	14.41%
No	95	85.59%



Research question 6: What type of OERs is faculty offering?

Table 10: Type of OER used by faculty

OER Type	n	%
Lectures	4	25.00%
Tutorials	1	6.25%
Videos	4	25.00%
Presentations	5	31.25%
Books	12	75.00%
Graduation projects	2	12.50%
Exams papers	3	18.75%



On the types of the OER that the faculty is offering, of those who said that the faculty is providing OER, 12 students (75%) said that the faculty is providing books, while 5 others said that the faculty is providing presentations. To our knowledge, the faculty is not officially providing any OER, however, some lecturers do provide such materials while teaching.

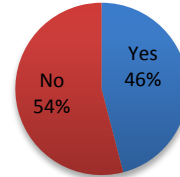
Research question 7: What type of OER are faculty creating?

To answer this question, students were asked two questions:

a) Does Lecturers publish any Educational Resources on the Internet?

Table 9: Does staff publish ER on the Internet

Does staff publish any ER?	n	%
Yes	51	45.95%
No	60	54.05%



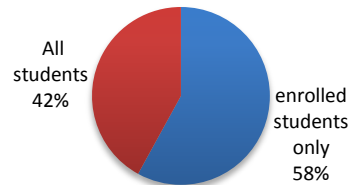
The answers to this question was encouraging, 45.95% answered that lecturers at the faculty are creating OER, while 45.05% answered they do not. The below question was asked further to those who stated that lecturer are creating OER.

b) In General, lecturers make Educational Resources Available to students in the subject only?

Available to all students?

Table 10: ER availability

Lecturer make ER available to?	n	%
Enrolled Students only	29	58.00%
All students	21	42.00%



Answers to this question show that only 42% of lecturers make ER available to all students, while 29% make them available to enrolled students only. This indicated the volume of OER the faculty is creating is not yet high.

Research question 8: What factors could facilitate providing students with OER?

This question was a free question, 62 students responded with their opinion on what factors that facilitate providing OER to students. Responses are summarized as

- Creating an electronic library at the university for OER
- Creating websites for subjects that contain related materials
- Providing good and free Internet connection for students
- Creating an electronic library for the faculty Educational materials
- Recording lectures and providing access to them online
- Lecturers should direct students to OER
- Technical support
- Providing venues for Internet to students at the university campus
- Providing an access to Electronic libraries such IEEE and other licensed libraries
- Increase the awareness about OER within students

Conclusions

The main goal of this research paper was to measure the use of OER at the Faculty of Information Technology, University of Tripoli and to increase the awareness and importance of the OERs. The survey results show that our students are very aware of the OER and do use them to some extent. About 80% of the students responded very positive to using OER in their study and they believe that OERs have great impact on their understanding of the subjects they study.

The survey results also show that most faculty teaching staff don't refer students to or encourage them to use OERs. This is an area that needs to get more attention by the faculty administration. However, it is worth mentioning that this research has two limitations. First, the low response rate (111 out of the 1300 enrolled faculty students). Second, we did not include faculty members in the survey. Our future work in this area will focus on overcoming these limitations and we will try to get the faculty administration involved in the process of formally adopting OERs. We also plan to extend our research to cover all faculties within the University of Tripoli.

References

Colvard, N., Watson, C. E., Park, H. The Impact of Open Educational Resources on Various Student Success Metrics, International Journal of Teaching and Learning in Higher Education, 2018, Volume 30, Number 2, 262-276.

Florida Virtual Campus. (2012). 2012 Florida Student Textbook Survey. Tallahassee, FL: Author. Retrieved from www.openaccess textbooks.org/pdf/2012_Florida_Student_Textbook_Survey.pdf

Florida Virtual Campus. (2016). 2016 Florida Student Textbook & Course Materials Survey. Tallahassee, FL. Retrieved from <https://florida.theorange grove.org/og/items/3a65c507-2510-42d7-814c-ffdefd394b6c/1/>

Hilton, J., Open educational resources and college textbook choices: a review of research on efficacy and perceptions, Education Tech Research Dev DOI 10.1007/s11423-016-9434-9 Retrieved from: <https://conference.oiconsortium.org/2016/wp->

[content/uploads/2016/02/OER-and-college-textbook-choices-final-published-ETRD-article.pdf](https://www.eric.ed.gov/fulltext/EJ1146242.pdf)

Jhangiani, R. and Jhangiani, S., Investigating the Perceptions, Use, and Impact of Open Textbooks: A survey of Post-Secondary Students in British Columbia, *International Review of Research in Open and Distributed Learning Volume 18*, Number 4, June – 2017. Retrieved from: <https://files.eric.ed.gov/fulltext/EJ1146242.pdf>

Shear, L., Means, B., and Lundh, P. (2015). Research on Open: OER Research Hub Review and Futures for Research on OER. Menlo Park, CA: SRI International. Retrieved from <https://hewlett.org/wp-content/uploads/2016/08/OERRH-Evaluation-Final-Report-June-2015.pdf>

UNESCO (2012). 2012 Paris OER Declaration. Retrieved from [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris OER Declaration_01.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris_OER_Declaration_01.pdf)

UNESCO. (2002). Forum on the impact of open courseware for higher education in developing countries. Final report. Retrieved from www.unesco.org/iiep/eng/focus/opensrc/PDF/OERForumFinalReport.pdf

UNESCO. (2011,2015). Guidelines for Open Educational Resources (OER) in Higher Education. Paris & Vancouver: UNESCO – COL. Retrieved from <http://unesdoc.unesco.org/images/0021/002136/213605e.pdf>