A review on awareness levels of open educational resources (OER) and free technologies used for ODL fashion education in the case of the Open University, Sri Lanka

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Abstract

Open and Distance Learning (ODL) is a second chance for people those who have missed their tertiary education. Open Educational Resources (OER) and free technologies are highly utilized to achieve extended classroom learning experience. Many foundations contribute to Open Educational Resources (OER) and free technology movement to strengthen ODL education. UNESCO defines OER as the open segment of the educational resources, supported by the information communication technology, for discussion, utilize and adopt by a group of community for non-commercial purposes (UNESCO, 2002). But yet the positive outcome of OER and free technologies are to be gained as many ODL students do not know what is OER, how to use and adopt OER and free technologies and where they are available to access. Specially, art and design ODL education do not use OER as a popular method of teaching. Through this research it was expected to review the awareness levels of students on OER and free technologies. Both qualitative and quantitative research techniques were used and the sample population consists with 79 fashion design students. It was discovered that the students had moderate awareness levels on OERs and MOOC s and even after starting their learning process as an ODL student they have not significantly developed their understanding on OERs and MOOCs. Though Student Based Learning (SBL) environment is effective in tertiary education and it is a prominent component in ODL; expectations of majority students are similar to conventional fashion student. Many students had moderate preference on Online Learning Experience (OLE) and majority was not familiar with MOOCs. Ultimately, it has resulted poor exchange of ideas, opinions, perspectives, and made students to go in difficult routes to complete their studies. At the same time some students who preferred OLE had mentioned that it made them independent with good self confidence.

Keywords: Open and Distance Learning, Open Educational Resources, Student Based Learning, Online Learning, MOOC s

Introduction

Teaching, learning, and research materials in any digital or non-digital medium that are published in public domain under open access are called Open Educational Resources (OER). These material are usually can be accessed with no cost and can be redistributed by users without any restrictions. The term, "OER" is used synonymously with open course wear and open learning content (Geser *et al*., 2007). With the launch of World Wide Web (WWW) in 1992, open information resources became freely available and started increasing rapidly in the internet. With rare concession, the available materials expanded the boundaries in technological and pedagogical advancements.
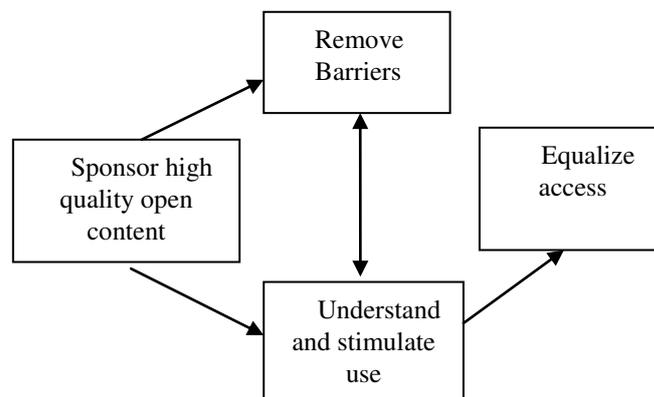

Figure 01: Current OER logic model

The current OER logic model can be described as below.

Sponsor high quality open content- Funding high quality open publications and establishing quality benchmarks for contents. Ex: Linux open source operating systems, OSv, Phantom OS, etc.

Remove barriers- Create web based product licensing systems to motivate open sharing. Ex: OER commons

Understand and stimulate use- Create networks or platforms for OER developers. Ex: Coursera, Khan Academy, edX, etc.

OER model removes many barriers across teaching, learning and research developments by equalizing access irrespective to social, financial and cultural circumstances. Also, it made high quality educational materials to be freely available which increases the understanding levels and stimulate the use. But at the same time some educational institutes and publishers have made low quality assurance for the content. However, during 1990 s many countries have invested large amount of funding for information technology projects as they enhance literacy rates. That motivates many institutes and authors to publish more teaching and learning materials. Specially, this helps communities who are unable to afford for text books. The reduction of cost of course materials is often cited as a potential benefit of OER (d' Antoni, 2009). Also, the limited classroom facilities and lack of teacher training have restricted their learning cycles. Wealthy industrialized countries can also get benefited from OERs as they make significant cost savings. OER s offers free access not only for learning materials but also for degree programs and few post graduate programs as well. Some of the world best professional courses are also offered through OER s. The educators can translate these freely available materials into many local languages and mostly adopt them per the local culture. This is a good substitute for expensive printed materials as well. More importantly, most of the materials under common subject areas are easily understandable. OERs make it possible for people of all ages and backgrounds to learn more about the world around them and access the tools they need to improve their lives and livelihoods.

Distance education has always made use of new technologies and OERs in catering productive distance learning. The revolution of information technology during 1990s made distance education highly popularized and conventional universities also started practicing free technologies and OER s. By the end of 21st century online learning and virtual universities appeared as a great promise in modern higher education. Open and Distance Learning (ODL) is designed for people who seek for alternative opportunities in life who have missed their tertiary education due to various social, cultural and financial barriers. It opens up pathways giving more alternative options to the traditional systems. The Open University UK is centered on the concept of open: the institution is 'open to people, places, methods and ideas' (The Open University, UK, 2008).It can be noticed that there is a common philosophy in both OER and free technological movements. The fundamental concept underlying both free technologies and OER is the freedom to share knowledge-whether this takes the form of making software code open for collaborative modification and improvement, or allowing unrestricted access to learning materials (Vukovic & Martin, in press).As highlighted in Cape town open education declaration, in modern days the trend is to include teaching "practices" as part of OER (Geser *et al*.2007). Open education is not only limit to open educational resources but also draws upon open technologies that facilitate collaborative, flexible learning and exchanging teaching practices which empowers educators by sharing ideas with colleagues.

The idea of OER is simple and powerful and the world's knowledge is a public good and that technology in general and the World Wide Web in particular provide an extraordinary chance for everyone to share, use, and reuse it. (Smith & Casserly,2006).In advancing the OER movements there are six key areas as attention, awareness, capacity development, sustainability, quality assurance, and copyrights (OER road map meeting,2016). Attention for OERs can be gained in numerous ways. Increase the access and affordability, continuous improvements, attractive graphical user interfaces and outcome base learning techniques are some of the ways to increase the attraction of OERs. According to Cambridge dictionary the awareness is defined as knowledge that exists or understanding of a situation or a subject at the prevailing time based on information and experience. Capacity development which is ranked in third is the main way of increasing the use and development of OER s. Sustainability, the fourth component ensures that OER initiatives become embedded in policies, structures and programs to expand learning opportunities and knowledge sharing. Quality assurance is all about ensuring that the knowledge shared through OER are correct and up-to-date. TIPS framework introduced by the Common Wealth of Learning is an ideal example for OER quality assurance framework. The TIPS framework consist with several segments such as teaching and learning processes (QA criteria for teachers

and creators), Information and material content (QA criteria for the material), presentation and product format (QA criteria for final presentation) and system technical & technology (QA criteria for technology feasibility). "Copyrights" which is the sixth issue stresses the importance of release educational materials under correct license such as creative common license.
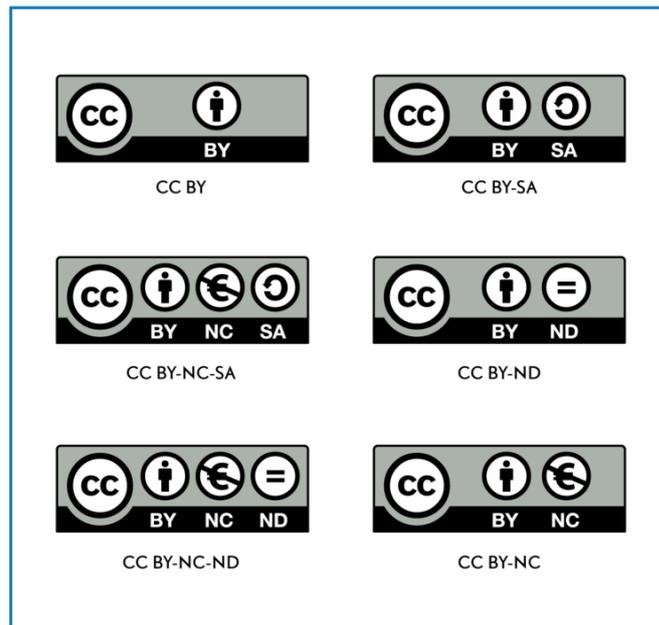

Figure 2: Six open licenses of Creative Commons for copyrights (Creative Commons)

As OER and free technologies are a recent development in education it requires a huge shift in changing attitudes and making awareness on OERs and free technologies. This is a much bigger challenge rather than introducing a new tool or a new knowledge. Stakeholders including both academics and students do not understand the potential or lack of awareness on OERs. It has become a foreign concept among many students. A recent research by the Babson survey research group reveals that there is a lot of curiosity among higher education faculty members and a significant lack of awareness (Babson survey,2018). The survey further revealed that the academics were willing to explore OERs despite scattered curiosity and enthusiasm. However, simply many were unaware of OERs and free technologies.

In this research it is reviewed how fashion students in Open University aware about the OERs and MOOCs. The Open University, Sri Lanka (OUSL) has taken some of the major steps in the year of 2017 to develop lesson materials align with the trends in global open and distance education scenario (OUSL annual report, 2017). As an example the newly developing lesson materials are mainly based on available OER s and necessary guidelines and check-lists have been prepared and approved by the Council. Also, the OUSL library has started a special project to catalogue OERs available in worldwide to make them reachable for the students, staff and the general public. Not only the teaching and learning process but also some of the administration procedures have also been shifted into digital platforms. Online student registration, activity diary scheduling, marks processing and stock monitoring of lesson materials are such administration procedures done through OMIS digital platform. The university has allocated adequate budget to train staff on available OMIS and MOOC platforms. Restructuring the programs according to Sri Lankan Quality Frameworks (SLQF) was one of the biggest challenges that university underwent during last few years. Table 01 adopted from OUSL annual report(2017) demonstrated how far OUSL has invested in developments relates to OER and free technologies.

Table 01: Details of projects -local and foreign funded- (OUSL annual reports, 2017)

Details of projects -local and foreign funded

	Name & details	Loan /Grant	Funding Agency	TCE(Rs)	RFA(Rs.)	DF(Rs.)
1.	Collaborative Open Educational Resource(OER) course development for ICT Skill		Commonwealth of Learning	1,008,467	-	-
2.	Professional development Program to cater for the Diverse learning needs of 21st century learner		Commonwealth of Learning	2,070,060	-	-
3.	E-learning course development-Instructional video production for Teaching and Learning		Commonwealth of Learning	1,565,751		
4.	Design, Development, Implementation and Evaluation of a MOOC for continuous professional development (CPD MOOC) for educators on adopting OER:A design based capacity development initiative		Commonwealth of Learning	1,432,410		
5.	National workshop on provincial OER policy implementation		Commonwealth of Learning	69,297		
6.	E library automation project		Ministry of provincial council and local government Sri Lanka	15,000,000		15,000,000
7.	Develop and produce online lessons (online module development project)		QIG-HETC	1,800,000	1,800,000	
8.	Implementing Information Technology for university entrants(ITUE)course		UGC	963,680		963,680
9.	Research on OER for development		Wawasan Open university, Malaysia	6,651,599		
10	Women empowerment to promote mobile learning among rural women farming community		Commonwealth of Learning	600,000		

Student base learning (SBL) plays an important role in tertiary level open and distance education. More importantly, OERs and free technologies are bound with SBL approach. As OERs and free technologies mainly involve with SBL the awareness of SBL and ability to practice SBL also impact productive use of OER and free technologies.

Objective

- To understand the awareness levels on OER and free technologies of fashion designing students at OUSL

- To identify the co relationship between student performance and awareness on OER and free technologies

- To make suggestions to increase awareness levels on OERs and free technologies

Methodology

A blended approach was taken using both qualitative and quantitative approaches. The main assumption of this sort of an inquiry is that the combination of qualitative and quantitative gives a complete understanding about the research problem than either approach alone (Creswell, 2012). Open discussions were conducted with students at day schools and workshops as a form of qualitative research. Quantitative research was conducted in the form of a questionnaire using survey planet digital platform. The questionnaire was circulated among randomly selected 79 fashion design students representing level 3, 4, 5 and 6 of their studies at The Open University. Table 02 shows the frequency of the sample and social media were used as a method in sharing the questionnaire.

Table 02: Sample of the survey

Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Level 03	7	8.9	8.9	8.9
	Level 04	17	21.5	21.5	30.4
	Level 05	35	44.3	44.3	74.7
	Level 06	20	25.3	25.3	100.0
	Total	79	100.0	100.0	

Survey link: https://s.surveyplanet.com/ItoNxzM_y

The collected numerical data were analyzed using SPSS software to understand how the awareness levels differ with the level of study and how student base learning is practiced in each level of study. Also, it was checked the co relationships between student performance and the awareness on OER.

Results and data analysis

Student Base Learning (SBL) experience

Table 03: Student Base Learning level base experience

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
SBL * Level	79	100.0%	0	0.0%	79	100.0%

Report

SBL

Level	Mean	N	Std. Deviation
Level 03	6.9429	7	3.38962
Level 04	6.8824	17	1.96476
Level 05	6.3429	35	2.63397
Level 06	6.1000	20	2.38195
Total	6.4506	79	2.48616

Table 03 shows how far students are aware on student base learning according to their study levels. As SBL practices directly related with OER and free technologies in open and distance education it was analyzed at the beginning how the awareness levels on SBL exists in each level of study. Surprisingly, level 3 students showed the highest average levels of awareness while level 04 and 05 show second and third rates respectively. It can be decided that the university's decision to launch the Empowering for independent Learning program as a compulsory program at the beginning of the studies has positively impact to raise students' awareness on SBL. The students those who are at upper study levels have gone through a separate program called "learn to learn in distance" which is a one-day workshop with an assignment. However the average awareness of fashion students on SBL remains at 6.45 which is slightly positive for an ODL institute.

Online Learning Experience (OLE)
Table 04: Online learning experience then and now

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
OLEthen	79	.00	10.00	306.00	3.8734	2.56389
OLEnow	79	.00	10.00	433.00	5.4810	2.83685
Valid N (listwise)	79					

According to table 04 it was noticed that the average online learning experience of students after starting studies at OUSL has been slightly improved from 3.9 to 5.5 Mean values. But still the number is not big as required for an open and distance learning institute.

Table 05: Study level base Online learning experience

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
OLEthen * Level	79	100.0%	0	0.0%	79	100.0%
OLEnow * Level	79	100.0%	0	0.0%	79	100.0%

Report

Level		OLEthen	OLEnow
Level 03	Mean	2.4286	5.4286
	N	7	7
	Std. Deviation	1.81265	3.55233
Level 04	Mean	4.1765	5.8235
	N	17	17
	Std. Deviation	3.06666	2.89904
Level 05	Mean	3.8857	5.2571
	N	35	35
	Std. Deviation	2.65431	2.86298
Level 06	Mean	4.1000	5.6000
	N	20	20
	Std. Deviation	2.12504	2.66359
Total	Mean	3.8734	5.4810
	N	79	79
	Std. Deviation	2.56389	2.83685

Study level wise online learning experience before and after starting studies at Open University can be analyzed in SPSS as in table 05. It was observed that there is a slight improvement in each level of study in OLE. Also, standard deviation values do not show any significant difference when comparing each study levels. It reveals that students from all study levels are getting equal opportunities to engage with online learning experience throughout their study period. But it should be taken into consideration that OLE component in the study hours can be increased in upper levels of studies as many students prefer OLE in upper levels due to various economical and social factors. It was observed that many students start working or continue with internships in higher study levels and they find it easy to deal with OLE rather than face to face learning experience. Also, by the time majority of them gain the adequate motivation and understanding to manage their own studies independently.

OER awareness levels

Table 06: OER awareness level then and now

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
OERTHEN	79	.00	10.00	347.00	4.3924	2.41479
OERNOW	79	.00	10.00	449.00	5.6835	2.35091
Valid N (listwise)	79					

In observing the SPSS analysis on OER awareness levels it can be noticed that the Mean value of average OER awareness has been increased from value 4.4 to 5.7 which is not a significant improvement.

Table 07: Study level base OER awareness

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
OERTHEN * Level	79	100.0%	0	0.0%	79	100.0%
OERNOW * Level	79	100.0%	0	0.0%	79	100.0%

Report

Level		OERTHEN	OERNOW
Level 03	Mean	4.7143	6.0000
	N	7	7
	Std. Deviation	2.69037	3.31662
Level 04	Mean	4.5294	6.0000
	N	17	17
	Std. Deviation	2.60090	2.64575
Level 05	Mean	4.3714	5.5143
	N	35	35
	Std. Deviation	2.65779	2.39327
Level 06	Mean	4.2000	5.6000
	N	20	20
	Std. Deviation	1.79473	1.69830
Total	Mean	4.3924	5.6835
	N	79	79
	Std. Deviation	2.41479	2.35091

According to table 7 in terms of study levels, they do not show a significant growth comparing to each study levels. Level 3 and 4 shows the highest average Mean values on OER awareness. It can be decided that the recent investments from OUSL to promote OER and decision to increase the usage of OER as learning materials has impacted on the high OER awareness levels of level 3 and 4 students. But it was observed that the usage of OER in all study levels can be increased. However, the recent curriculum developments for Sri Lankan Quality Framework (SLQF) have created some space for OER to play a vital role in OUSL teaching and learning process.

Co relationship between completed credits and OER awareness levels and SBL awareness levels

Table 08: Co relationship among student performance, OLE and SBL

Correlations

		completedcredits	OLEthen	SBL
completedcredits	Pearson Correlation	1	-.052	-.001
	Sig. (2-tailed)		.646	.991
	N	79	79	79
OLEthen	Pearson Correlation	-.052	1	.281[*]
	Sig. (2-tailed)	.646		.012
	N	79	79	79
SBL	Pearson Correlation	-.001	.281[*]	1
	Sig. (2-tailed)	.991	.012	
	N	79	79	79

*. Correlation is significant at the 0.05 level (2-tailed).

It was discovered that there is no co relationship between completed credits and awareness on OLE and SBL. As observed students take numerous approaches in their studies and because of that they do reach to their academic goals. Small group tutoring sessions called "Kuppi" and sharing short notes are some of the popular methods used by students to achieve better performance. But it can be predicated that if they practice OLE and SBL more they could have achieve better results with minimum effort for their studies. In carrying out the survey it was questioned from the students how they think about OER and free technologies in their studies at OUSL. Some of their thoughts have been quoted below and they have been segregated as positive and negative to build up an overall picture on awareness levels.

Table 09: OERs and free technologies experience of students

Positive	Negative
"Good so far"	"Not so good"
"It was good. Needed more lectures though"	"It was difficult due to my poor English knowledge"
"Found very difficult at first, but now I think it is the best way to gain more knowledge."	"Didn't familiar with that. Had so many issues"
"It was help to gain self confidence"	
"Students learn to direct their own learning, ask questions, and complete independently."	
"Individual studies, where the student is not spoon fed like the other educational institutes"	

It was discovered at the secondary research that even though the NODES was handed over to the university in 2016, the University has not been able to make much headway with its operations due to various logistic issues. Now that these issues are being addressed and during the year 2018 it would become fully operational, and serve the purpose for which it was established (OUSL Annual report, 2017).
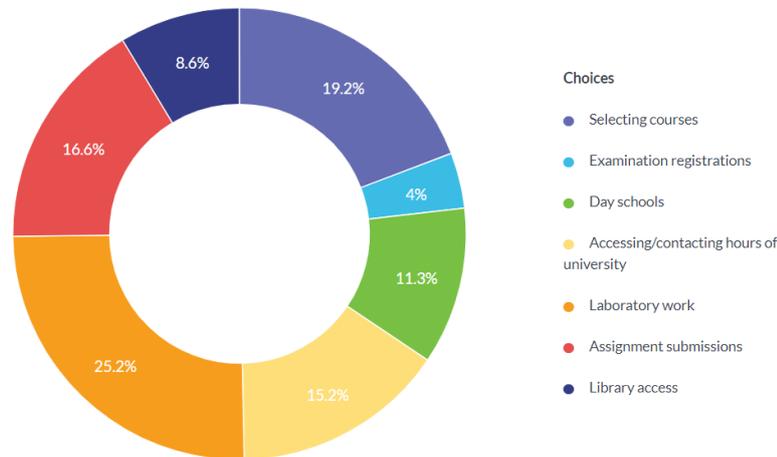

Figure 02: Demand for taking control on learning activities

It was discovered that the students have adequate freedom to control their own study plans. However, they requested more control over laboratory works as more than 80% of laboratory works required compulsory attendance and lab report submissions at the end of the session. Course selection and assignment submission were ranked as second and third areas where more control was needed. Virtual lab classes, online course selection and assignment submission via my OUSL were some of their suggestions.

Conclusion

Though OER and free technology movement has been funded from range of foundations the OER initiatives should be seamlessly integrated with institutional polices, structure, procedures and should always supported by the academics to increase the awareness on these useable technologies. In most of the cases the investments are not being utilized under proper supervision. Mostly, it is forgotten to spread the awareness of available OER and free technology facilities. The openness can be interrupted by bureaucratic hurdles which have the potential to fragile OER and free technology movement. They can be equally utilized for both technology education and art and design education. Developing more strong institutional policies or rules and regulations will be a great push to enhance awareness on OERs, MOOCs and free technologies. At the same time academics should be provided adequate motivation to promote teaching and assessing based on OER and free technologies. Orientations programs for students can be included with awareness campaigns on OER and free technologies as the existing orientation program do not support proper awareness levels.

More investments can be made on OER awareness campaigns. Replacing lesson materials with available OER materials will be an ideal method to promote OER. The teaching and assessing process can also be streamlined using more OLE component in the curriculum as it will support to increase awareness on OER. Also, OLE makes the students to be independent and develop self confidence to compete in the job market. However, it should be emphasized that language capabilities should also be increased parallel to OER and free technology expansion as many of them are available in English medium. Increasing the accompanying resources such as tests, quizzes and home work assignments also a remedy to increase OER and free technology awareness. As an example continues assessment tests (CATs) can be converted into OER based exams where the student can submit answer scripts online in a given time frame. The interaction of multimedia approach should also be increased which allows students to access using a variety of digital devices and engaging activities and open ended questions that stimulate critical thinking as students prepare for a virtual classroom.

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