

Open Educational Resources: Role of Libraries

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Abstract

This paper discusses awareness about Open Educational Resources (OER), the level of integration with library resources and the barriers as perceived by academic librarians. It also tries to examine the possible roles of academic libraries in promoting and supporting OER development. It presents the results of a survey on the awareness, integration and involvement of academic libraries in OER.

Keywords: Academic Libraries, Open Educational Resources

1. Background

Academic libraries are committed to improving access to scholarly and educational content for their users and, with this objective in mind they continuously update collection of learning and teaching materials. Technology has created unparalleled opportunities to expand access to knowledge. Digital alternatives offer access to new forms of educational materials free of cost. Open Educational Resources (OER) are becoming an important source of providing access to quality information and of enhancing the teaching and learning experience for both faculty and students. This paper discusses the awareness about OER, the level of integration with library resources and barriers as perceived by academic librarians. It also examines the possible roles of academic libraries in promoting and supporting OER. It presents the results of a brief survey on the awareness, integration and involvement of academic libraries in OER.

1.1 Definition

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

*respects the authorship of the work”*¹. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. Creative Commons License is the most common license used but options vary in different countries. OERs include full courses, course materials, modules, textbooks, streaming videos, tests, software, technical papers and any other tools, materials, or techniques used to support access to knowledge. In other words, they are educational materials that are either in the public domain or have been licensed under an open copyright license such as Creative Commons (<http://creativecommons.org/>) so that they are not only freely accessible, but also permit people to engage in the “5Rs of Openness”: retain, reuse, revise, remix, and redistribute².

1.2 OER Movement

As pointed out by Wiley and Green, the primary motivation for the OER movement is the “powerful idea that the world’s knowledge is a public good”³. In addition there are many factors such as leveraging the internet to freely share educational resources with the world, making education more affordable and accessible to students, and revising content freely and legally to control courses and textbooks in new and innovative ways that drive the academic community to participate in the open education movement and to use OER in their courses. OER also provide campus and distance learners with the same level of access to and engagement with course materials.

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1.2.1 World-wide OER Developments

The present decade has been experiencing incremental growth of OER, where many universities and national institutions have established OER portals for providing wider access to educational resources. Tracing the developments of OER, it can be observed that one of the earliest of OERs is the MIT Open Courseware project that makes materials from nearly all MIT courses freely available online. With the support of the William and Flora Hewlett foundation, the Open Course Ware Consortium (OCWC) was founded in 2005, drawing together many other institutions that had followed the MIT OCW model.

Some country-level initiatives are worth mentioning. Learning Resource Exchange (LRE) for schools is a service launched by European Schoolnet in 2004 enabling educators to find multilingual OER from many countries and providers. Currently, more than 200,000 learning resources are searchable in one portal based on language, subject, type and age.

Government of Brazil introduced National legislation to mandate that all educational materials produced with public funds be open-licensed. Bangladesh was the first country to open all textbooks from grade 1-12 in April 2011. Teacher Education in Sub-Saharan Africa (TESSA), founded in 2005, is an innovative approach to improving the quality and extending access to teacher education. Many more OER projects are emerging at educational institutions in Australia, Brazil, Canada, Cuba, Denmark, Hungary, India, Iran, Ireland, the Netherlands, Pakistan, Portugal, Russia, South Africa, Spain, Sweden, Thailand, the United Kingdom, the United States, and Vietnam and other countries.

1.2.2 OER Developments in India

1.2.2.1 School level initiatives

NCERT has digitized all its textbooks from class I to class 12 and made them available free. Central Institute of Educational Technology, a unit of NCERT, digitized more than thousand audio and video programs and made them available at Sakshat portal, an initiative of MHRD, Govt. of India. National Repository for Open Educational Resources (NROER), managed by CIET, is a collaborative platform bringing together those interested in school and teacher education.

- TESS India is a UK Aid funded, Open University led multilingual teacher professional development program to enhance the classroom practice of primary and secondary school teachers through provision of freely available, adaptable Open Educational

Resources (OER).

1.2.2.2 Higher education initiatives

- IGNOU launched e-Gyankosh initiative in 2005 to distribute & share digital learning resources developed by them,
- National Program on Technology Enhanced Learning (NPTEL) is a project of IITs, the IISc, and other premier institutions in India and funded by the MHRD,
- The Spoken Tutorial project (IIT Spoken Tutorial) is the initiative of the 'Talk to a Teacher' activity of the National Mission on Education through Information and Communication Technology (ICT), launched by the Ministry of Human Resources and Development, Government of India.
- Under e-PG Pathashala of MHRD, INFLIBNET is developing postgraduate level e-content in 77 disciplines,
- The National Digital Library (NDL) pilot project at IIT Kharagpur is aimed at developing a framework for virtual repository of learning resources with a single-window search facility, and
- SWAYAM, a programme of Government of India has the objective of bridging the digital divide for students who have previously remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy

UNESCO and the Commonwealth of Learning (COL) have developed guidelines for OER. However, despite the advantages that OER offer, the users encounter several barriers in discovering, evaluating, adapting, and disseminating OER. These present a new role for academic librarians, who can participate in advocacy, promotion and integration of OER supporting their use. Many academic librarians have been instrumental in programs to support the adoption and production of OER at their institutions.

2. Review of Literature

The published literature that connects OER and libraries is still scarce.

Librarians are early adopters of technology⁴. As outlined by ACRL, OERs should become additional resources referenced by subject librarians in supporting students and lecturers⁵. Belliston has suggested that librarians can identify and index quality OERs, preserve OERs and help with IPR—and even create and use their own OERs⁶.

Robertson states that it is necessary to take into account the different challenges offered by educational resources or the active role librarians can play in the initial description, management, and distribution of OERs⁷. He proposes that libraries promote ‘openness’/ open resources; help users describe, discover, manage and disseminate OERs. They can evolve their approach to information literacy and study skills to include OERs, as well as support the use of OERs for learning and teaching. Robertson suggests that libraries can offer advice in relation to: metadata and resource description; information management and resource dissemination; information literacy (finding and evaluating OERs); subject guides; and managing and clearing Intellectual Property Rights⁸.

As pointed out by Robertson, OER may hold institutional content as syllabi and past examination papers; however the inclusion of lecture notes, presentations, or formative assessment materials, have generally, generally remained in closed virtual learning environments and controlled by lecturer or departments providing the course. Their integration with library resources and searching facilities is generally insufficient⁹.

To reduce the barriers to OER adoption, faculty requires additional support from their institutions. Academic librarians are ideally suited to help navigate the OER world and address challenges in OER initiatives. Staley and Malenfant said: “*This is an excellent opportunity for libraries to prove their worth as information collectors, organizers and evaluators*”¹⁰.

Library assets that could potentially benefit OER initiatives include: *search and discovery capabilities, copyright expertise, data storage, metadata and indexing, institutional repositories and preservation*¹¹.

SPARC *Open education factsheet* points out ways in which OER can be supported namely increasing awareness, supporting OER creation and advocating effective policies¹²

While the OER movement provides a wonderful opportunity for librarians to expand into new and exciting roles, there are issues that must be considered. One challenge faced by academic librarians is that new technologies are emerging at a very fast rate. Over the past two decades, libraries have faced enormous changes brought on by the advance of the Internet and Web technology. To remain relevant to a changing society, the services and resources offered by academic libraries have had to constantly evolve.

3. Objectives

Considering the various approaches suggested in the literature reviewed, the study was undertaken with

following objectives in mind.

- To determine the awareness about OER among LIS professionals
- To identify the tasks and processes carried out to promote OER
- To identify the involvement of librarians in OER initiatives
- To identify barriers to OER

4. Methodology

The study focused on the involvement of librarians in OER initiatives. The survey incorporated 13 questions, which used scaled, multiple choice, structured ranked and open-ended questions. The responses were gathered and analyzed using online software Survey Monkey. The population included higher educational Institutes in Mumbai. Disregarding partial, empty, duplicated, and problematic responses, the total number of researchable participants was 50.

5. Data Analysis

Data was analyzed using simple frequencies and tables.

5.1 Type of Institute

The response was sought from different higher educational institutes ranging from Arts, Science Commerce Colleges to Institutes of national importance (Table 1).

Table 1. Type of institute (n=50)

Answer Options	Response Count	Response Percent
Arts/ Science/ Commerce Colleges	23	46.0%
B. Ed Colleges	2	4.0%
Engineering Colleges	7	14.0%
Law Colleges	2	4.0%
Management Institutes	3	6.0%
Pharmacy College	1	2.0%
University/University Level	7	14.0%
Institutes of National Importance/ Repute	2	4.0%
Other	3	6.0%
Total Responses	50	100%

5.2 Level of Awareness

The level of awareness was considered based on responses to two questions, one on general awareness about OER and other on awareness of specific types of OER.

Table 2. OER awareness (n=50)

Answer Options	Response Count	Response Percent
Aware of OER and some of their used cases	22	44.0%
Fully aware of OER and know how they can be used by faculty and students	15	30.0%
Somewhat aware of OER but I am not sure how they can be used	8	16.0%
Heard of OER, but don't know much about them	5	10.0%
Total Responses	50	100%

As represented in Table 2, 22 (44%) respondents are fully aware of OER and 15 (30%) are aware how they can be used by the faculty and students. Majority of the respondents (74%) were fully aware of OER.

As indicated in Table 3, librarians show a substantial level of awareness. Considering Table 2 and 3 together, the results show that there is a high level of awareness about OER, but unequal in specific forms of OER

5.3 Use of OER

The acceptance of OER as a supplementary course material by 52% of the respondents (n=26) indicates a positive trend, while its use as a required course material is still at a low level (n=5). In 26% cases (n=13) librarians were not aware if anyone from their institutions were using it, while 12% reported that OER are not being used in their institutions (Table 4).

Table 4. Use of OER (n=50)

Answer Options	Response Count	Response Percent
Used as supplemental course material	26	52.0%
Not aware if anyone from the Institution is using it	13	26.0%
Not used	6	12.0%
Used as required course material	5	10.0%
Total Responses	50	100%

Table 3. Level of awareness of each type of resource in OER (n=50)

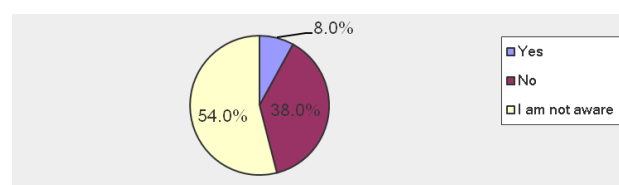
Answer Options	Not at all	To a little extent	To some extent	To a moderate extent	To a large extent	Response Count
Full Course Materials	3%	5%	17%	29%	56%	50
Open Textbooks	2%	10%	20%	28%	40%	50
Open Courseware (MOOC and other)	6%	8%	22%	32%	32%	50
Streaming Videos	6%	8%	24%	32%	30%	50
Total Responses						50

5.4 Librarians' Awareness of Faculty Involvement in Creating OER

Librarians' awareness about faculty involvement in OER is an important dimension in the OER initiative.

Table 5. Librarians' awareness of any faculty involvement in creating OER (n=50)

Answer Options	Response Count	Response Percent
Yes (Faculty were involved)	4	8.0%
No (Faculty were not involved)	19	38.0%
Not aware (Not aware if faculty were involved)	27	54.0%
Total Responses	50	100%

**Figure 1.** Awareness of involvement of faculty in OER creation.

As seen from Tables 2 and 3, though the awareness of Librarians in general about OER was high, Table 5 suggests that many of them were not aware about their faculty's involvement in OER creation as nearly 54% (n=27) said that they were not aware if faculty is involved in the same.

5.5 Involvement of Librarians in OER

The analysis of survey questions regarding the involvement and roles of the libraries and librarians in taking up OER initiatives showed that a considerable number of respondents are aware of the initiative at their institute but only 37.5% are partners in the same. There was not even a single case of the Library leading the OER initiative (Table 6).

Table 6. Involvement of the library in OER (n=8)

Answer Options	Response Count	Response Percent
The Library is aware of OER initiative, but is not involved	5	62.5%
The Library is a partner in the OER initiative.	3	37.5%
The Library is leading/co-leading the initiative.	0	0.0%
Total Responses	8	100%

5.6 Integration and Promotion of OER

To increase the usage of OER, it is essential that they are integrated with other learning resources.

Table 7. Integration and promotion of OER (n=50)

Answer Options	Response Count	Response Percent
The Library has a link to the OER Resources	32	76%
The Library included the OER in the e-resources collection, so they can be searched	17	40.5%
The Library included relevant OER in the subject reading lists	7	16.7%
The Library included relevant OER metadata records in the library catalogue (Entry in Library catalogue)	2	4.8%
Total Responses	42	

The integration of OER content in library services and collections is not yet widespread. Most of the initiatives are simply linking OER from the library home web page (n=24) or the e-resources collection (n=17), and in some cases OER are included as recommended resources in the subject reading lists (n=7). A few of the respondents integrate this collection of educational materials for searching functionalities, whether into the e-resources meta-search service (n=8) or the library catalogue (n=2). Primarily more than 57% librarians had provided link to OER resources, and only 2 i.e. 4.8% of had created metadata for the same as represented in Table 7.

5.7 Inclusion in Information Literacy Programmes

58% librarians had already included OER in their Information Literacy programmes. This corresponds with

the high level of awareness of Librarians about OER, while 16% were in the process of including it in their programs. 26% (n=13) had not included them in Information Literacy programs. Despite the high level of awareness, there are serious gaps in OER initiatives of libraries.

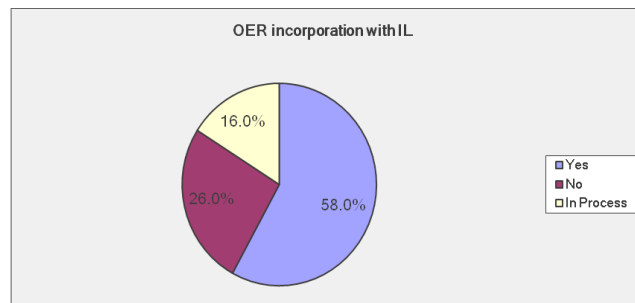


Figure 2. OER included as a part of information literacy.

Respondents who had included OER in their Information Literacy programs were asked to specify the resources included. This was an open ended question and many respondents skipped this question. Some of the resources included in the program were Coursera MOOC, NPTEL, Sakshat, Spoken tutorials etc.

5.8 Readiness to Promote or Support OER in Next Two Years

Librarians, who had not promoted OER, were willing to support and advocate OER in the next two years and only one was not sure about the same (Table 8).

Table 8. Readiness to promote or support OER in next two years

Answer Options	Response Count	Percentage
Yes sure	12	63.2%
Will Consider	4	21.1%
Might Consider	2	10.5%
No Opinion/ Don't Know	1	5.3%
Not Interested	0	0.0%
Total Responses	19	100%

5.9 Barriers to OER

Participants were asked to mark the barriers perceived by them on an eight point scale (1 being the most important barrier and 9 being the least) (Table 9).

Table 9. Barriers to OER

Answer Options	1	2	3	4	5	6	7	8	9	N/A	Rating Average	Res-ponse Count
Lack of Awareness of OER	16	7	1	2	2	2	1	5	2	7	3.37	45
Lack of Awareness amongst instructors about Copyright issues	7	11	4	3	8	4	2	4	1	2	3.91	46
Lack of time to create and use OER	6	4	5	15	3	3	4	2	1	1	4.07	44
Lack of Policies to support the creation and use of OER	6	3	7	8	7	4	6	2	0	2	4.23	45
Lack of skills to select appropriate OER	4	3	12	4	7	6	2	3	1	4	4.29	46
Do not trust the Quality of OER	1	7	5	4	3	9	5	5	1	4	4.98	44
Lack of resources appropriate to local content	3	2	4	3	6	8	10	7	1	3	5.55	47
Lack of incentives /reward to faculty	2	4	1	3	4	8	8	5	5	3	5.85	43
Low Internet bandwidth and poor Connectivity	1	4	4	2	6	2	1	5	15	6	6.33	46

The major barriers appear to be:

- Lack of awareness of OER,
- Lack of Awareness amongst instructors about Copyright issues,
- Lack of time to create and use OER, and
- Lack of skills to select appropriate OER.

6. Discussions, Conclusions and Summary of Findings (OMIT)

The study indicated a high level of awareness among the librarians about OER; however, the study suggests that even if the library and/or librarians are aware and informed about OER, the participation of the library is still not widespread, which is also attributed to the lack of OER initiatives by institutions. Librarians have taken some steps in integrating OER into the library collection and services. Much, however, needs to be done like creating metadata and adding them to the E-resource collection. Since only a few institutions are involved in creation of OER, the role of librarians is marginal today. Once the OER movement becomes popular, gets momentum and more and more faculty are involved, librarians will have to play a major role in this area. The three most important barriers perceived were

- Lack of awareness of OER,
- Lack of awareness amongst instructors about copyright issues, and
- Lack of time to create and use OER.

6.1 Suggestions

To sum up, it is suggested that libraries can contribute significantly to institutions, academic staff, and students as they engage with OERs in the following areas:

- Bringing OER to the notice of faculty and students (information dissemination and creating link, including in collections, creating metadata),
- Helping faculty and students find and evaluate OER (Digital or Information literacy (finding and evaluating OERs), and
- Managing Intellectual Property Rights and promoting appropriate open licensing.

In the current context it will be desirable for libraries to update their existing skills to better support OER initiatives.

Librarians have embraced the Open Access movement and have now championed the cause of Open Access in their institutions; they should now take the OER initiatives forward since it is a part of the larger movement of making knowledge open and accessible. Academic librarians need to find ways to rapidly and dynamically learn not only what is new and emerging in their field, but also what is new in higher education and learning as a whole.

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