



ACCESS AND USE OF OERs IN ODL: AN INDIAN PERSPECTIVE

Prasad ChLN and Cherla RM Dr.B.R.Ambedkar Open University, India

Summary

Although Open Educational Resources (OER) and Open Distance Learning (ODL) are aimed at dissemination of knowledge through wider participation, they differ in approaches. It may not be easy for the ODL system to prepare the content as-good-as OER because of its limited resources. The problem is how to present the OER content in order to fulfil the needs of the ODL system.

OER can be used by the ODL system by transforming the content to suit self-learning needs. In this process it is necessary to know the needs of ODL learner who should be the beneficiary. A survey has been conducted to estimate the awareness of OER, expectations and needs of the learners of the ODL system.

Majority of the learners do not have access to Internet at home even though there is large-scale expansion of Broadband services in India. Most of the learners are not aware of OER but have been using them. OER content can be used by ODL system by adaptation to suit the local context by incorporating examples, and case studies of that region making it more learner-friendly. The OER content should be recast to make it self-learning material suitable for ODL.

Introduction

Open Educational Resources (OER) is a relatively new phenomenon. The term Open Educational Resources has been defined by UNESCO in 2002 as: "The open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes."

The currently most used definition of OER is: "Open Educational Resources are digitised materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research." To further clarify this, OER is said to include:

- Learning Content: Full courses, courseware, content modules, learning objects, collections and journals.
- Tools: Software to support the development, use, re-use and delivery of learning content including searching and organization of content, content and learning management systems, content development tools, and on-line learning communities.

- Implementation Resources: Intellectual property licenses to promote open publishing of materials, design principles of best practice, and localization of content.¹

In other words OER may be defined as teaching, learning, and research resources that are provided in the public domain permitting their free use by others. Open educational resources may include course materials, videos, audios, assignments, software, and any other materials used to provide greater access to knowledge. Therefore the purpose of these OER is to use information technology to help equalize access to knowledge and educational opportunities targeting educators, students, and self-learners worldwide. The World Wide Web made it possible to provide an opportunity for everyone to share, use, and reuse knowledge. OER are the parts of that knowledge that comprise the fundamental components of education - content and tools for teaching, learning, and research.

Open Educational Resources (OER) are understood to comprise content for teaching and learning, software-based tools and services, and licenses that allow for open development and re-use of content, tools and services.²

ICT based learning is also capable of putting learning tools of various kinds into the hands of students and teachers, both to broaden and to deepen the learning and teaching experiences during formal periods of study and thereafter.³

Some of the leading OER projects, viz., MIT OCW, Rice Connexions Project, and Utah State and other emerging OCW Consortia have been described below.

The Massachusetts Institute of Technology (MIT) OpenCourseWare (OCW)⁴ Project has the objective to provide free access to the materials for all the students, faculty, and other learners, anywhere in the world, at any time, for free. The MIT OCW project has created a very high-quality open educational resources that includes material for the courses taught at MIT which includes the syllabus, lecture notes, assignments, problem and solution sets, labs and projects, tutorials, and video lectures. The MIT OpenCourseWare Project is noteworthy in its scale, completeness, quality, and positive influence on others.

The Connexions Project⁵ provides an environment for collaboratively developing, freely sharing, and rapidly publishing scholarly content on the Web. Although Connexions began with a focus on digital signal processing, its content now contains educational materials for a wide audience, from children to college students to professionals, organized in small modules across growing topic areas that are easily connected to larger courses. All content is free to use and reuse under the Creative Commons attribution license.

Utah State University is a major provider of open content⁶ and as a free source of open learning support through the Center for Open and Sustainable Learning (COSL).⁷ The Center provides support to those interested in starting OCW at their institutions. It has developed eduCommons, an OCW management system with workflow process that guides users in publishing materials in an openly accessible format. The Utah State Open Learning Support⁸ (OLS) is a website where individuals can connect to share, discuss, ask, answer, debate, collaborate, teach, and learn.

Carnegie Mellon Open Learning Initiative⁹ (OLI) courses include a number of innovative online instructional components such as cognitive tutors, virtual laboratories, group experiments, and simulations. A primary objective of the project is to build a community that will play an important role in course development and improvement. The courses are developed in a modular fashion to allow faculty to either deliver the courses as designed or to modify the content and sequence to fit the needs of their students and/or their course goals. These courses will be broadly disseminated at no cost to individual students and at low cost to institutions.

Creative Commons¹⁰ with a tagline of *share, reuse, and remix, legally*, is a critical infrastructure service for the OER movement providing free tools that let authors, scientists,

artists, and educators easily mark their creative work with the freedoms they want it to carry. Creative Commons was founded in 2001 to help revive the shrinking public domain as copyright durations were repeatedly extended in large part due to the pressures from the media industry.

Creative Commons has developed a Web application that helps people dedicate their creative works to the public domain or retain their copyright while licensing them as free for certain uses, on certain conditions. *Creative Commons* licenses are designed for creative works like music, film, photography, literature, courseware, etc. The aim is not only to increase the sum of raw source material online, but also to make access to the material cheaper and easier.

Other Projects:

There are several other OER besides the projects that have been highlighted. Following are some of the projects that range from very specialized open knowledge sites and data sets to comprehensive collections and curricula.

- (a) Commonwealth of Learning is supporting Open Educational Resources activities to infuse the principles of Open Educational Resources into the Commonwealth of Learning's wide array of activities.
- (b) United Nations Educational Scientific and Cultural Organization (UNESCO) International Institute for Educational Planning (IIEP) are creating an international community of practice on Open Educational Resources.
- (c) Open University (UK) made its higher education learning resources freely available on the Internet, providing users with tools to help them manage their learning, and developing supported collaborative learning communities.
- (d) Open Universiteit Nederland is working on the OpenER project to introduce OER to Dutch higher education by focusing on high-quality, independent self-study learning materials in an open resource format.
- (e) Harvard University developed the Open Collections Program, making Harvard's library treasures freely available on the web.
- (f) Johns Hopkins University is developing the Johns Hopkins Bloomberg School of Public Health OpenCourseWare.
- (g) IET Foundation is selecting, translating, adopting, and using OpenCourseWare materials from MIT and other OCW institutions by Chinese Universities. It is also translating original course materials from Chinese Universities for use globally to enhance education, through Chinese Open Resources for Education (CORE).¹¹

Indian Initiative:

To improve, adapt, and grow the overall knowledge capital and its availability to all Indian students in higher education system, the National Knowledge Commission (NKC) has been constituted. One of the recommendations made by NKC is to increase the amount of Open Educational Resources (OER) and Open Access (OA).¹²

In India, there are at least three major initiatives for creating OER. One of the major programs in India is the National Program on Technology Enhanced Learning (NPTEL). The NPTEL project is being carried out by seven Indian Institutes of Technologies (IIT's), the Indian Institute of Science, Bangalore and other premier institutions around the country and being funded by the Ministry of Human Resource Development. The objective of NPTEL is to enhance the quality of engineering education by developing curriculum-based video and web courses for the students.

The second important OER project is the *Ekalavya* project launched by IIT, Bombay. In this project, the content is developed in various Indian languages and is distributed through the internet. The *Ekalavya* project has also developed an Open Source Educational Resources Animation Repository (OSCAR) and provides web-based interactive animations for teaching various concepts and technologies.

E-Grid is the third main OER initiative of India, supported by the Ministry of Human Resource Development at IIIT, Kerala that develops and maintains pedagogically sound OER. Subject specific portals are governed by subject experts within the program.

Open Distance Learning

The Open Distance Learning (ODL) is nearly five decades old in India. The first School of Correspondence Courses was established in 1962 in Delhi University. Gradually the system of correspondence education has transformed into distance learning and the first Open University, the Andhra Pradesh Open University was established in 1982 in the State of Andhra Pradesh. Now there are thirteen Open Universities and more than fifty Directorates of Distance Education in India.

In ODL print material forms an important component of instruction. The learners are provided course material in self-instructional format for the learner to read and understand the material. Additional support is provided to the learners in the form of audio-visual lessons. Some amount of academic support is provided to the learners so that they do not get stuck and lose motivation in studies. Counselling classes are organized by the ODL institutions during weekends wherein learner's doubts are clarified by experienced teachers.

The philosophy of ODL is to make the teaching / learning process learner friendly by providing more freedom and flexibility to the student. The process of Distance Learning needs some kind of interaction, either face-to-face or technology-mediated, to the student. It may not be easy for the ODL system to prepare the content as-good-as OER because of its limited resources, whereas, OER are developed by wider participation. OER can be used by the ODL system by transforming the content to suit self-learning needs. OER can't replace ODL but they can go together. The problem is how to present the OER content in order to fulfil the needs of the ODL system.

The lack of awareness among potential users and limited Broadband connectivity are impeding the growth of Open Access material in India. A survey has been conducted to assess awareness, access and needs of learners in an ODL institution in Hyderabad, India that forms the basis for this paper.

Methodology:

Population: Postgraduate students enrolled for specialisations in Chemistry, Physics, Botany, Zoology, and Environmental Studies of Dr.B.R.Ambedkar Open University at Hyderabad study centre during the academic year 2008-09 formed the population for the present study. The number of students was 222. Students who volunteered to take part in the survey from the postgraduate programmes formed the convenient sample of 47 for the study. The age of the respondents ranged from 20 to 45 with the average age being 31.45. Women constituted 53.2% of the sample.

Tool: The researchers have developed a questionnaire schedule and the refined, final form consisted of 14 items with some internal validation.

Procedure: Students attend Contact-cum-Counselling classes organised by the university on Sundays at their study centres. Attending these classes is not compulsory but optional. Students are encouraged to attend these classes and seek clarification to their doubts.

The survey has been conducted in March 2009.

Results & Analysis:

- On the 'frequency of use of Internet' 34% of the respondents use it 'Regularly' and 57% use it 'Sometimes' and 8.5% 'Never.' Records of these respondents have not been included for further analysis.
- Analysis of results shows that, 86.1% of the learners either visit Internet Cafe or have access to Internet in their place of work. Others have personal access.
- Among those users of Internet 76.7% of the learners use it to e-mail / chat with their friends and families. Only 53.5% of the respondents on the whole and 59.1% of Women use it to access documents and course content.
- Only 46.8% of the learners felt that they have sufficient skills in the use of Internet. 59.1% of Men have skills, whereas, 64% of Women do not have the skills.
- 80.9% of the respondents have felt the need for training in the use of Internet.
- 63.8% of the learners have not heard of OER. 45.5% of Men and 28% of Women said that they know about OER. Only 16.3% of the users could identify the OERs.
- 55.3% of the respondents on the whole and 63.6% of Men felt that none of the teaching / learning course material comes from OER or any other Internet resource. 44% of Women said that some of the material comes from OER.
- Only 57.14% of the users of OER seem to be comfortable with using the Internet / OER content.
- Among the users of OER-
 - 84.2% felt that they get less than 25% of their course content from the Internet.
 - 50% of Men experience difficulty in understanding the language used in OER content. 70% on the whole and 78.6% of Women do not experience any difficulty in language used.
 - 50% of the respondents and 57.1% of Women said that the difficulty level in understanding OER content is 'Moderate.' 50% of Men feel that the OER content is 'Difficult.'

Conclusions:

Majority of the learners do not have access to Internet at home even though there is large-scale expansion of Broadband services in India. Learners with a moderate income couldn't have invested on this service as it is not affordable to them or felt the necessity to have this service as the course instruction does not compel the usage of Internet.

Some of the learners use the Internet 'sometimes' but not 'regularly.' If the course of study demands usage of Internet to present Seminars, conduct Project Studies, submit Assignments, etc then the learners may be accessing it more often.

Among those who use Internet, more-than-one half of the learners are accessing documents and course content is a good sign. Though there are several others like e-mailing, chatting, audio-visual downloads, etc the learners are using Internet for a good purpose.

Slightly more than one half of the learners feel that they don't possess necessary skills to use Internet. A majority of the respondents (80%) seek training in the usage of Internet. Some students of Computer Sciences, and Engineering might be taking formal instruction in usage of Software and Internet but majority start using them by trial & error method. Therefore they sought training in the usage of Internet.

Two-thirds of the learners are not aware of OER but might have been using them unknowingly. Lack of awareness may be due to lack of publicity or popularisation through various publicity media.

As the students are comfortable with Internet / OER they may be used more often in content delivery and student support services.

OER content can be used by ODL system by adaptation to suit the local context by incorporating examples, and case studies of that region making it more learner-friendly.

Recasting of the OER content to make it self-learning material for ODL can be made by incorporating self-check items to check the progress made by the learner periodically. By listing out the objectives at the beginning and summarising at the end of a lesson the OER content can be transformed to suit self-learning needs of ODL.

To conclude from the study, even though the learners do not have access to Internet at home and lack skills to use, they have been using for accessing documents and course content. As awareness they have of OER is not satisfactory, they need training in usage of Internet and OER.

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⁴ <http://ocw.mit.edu/index.html>

⁵ <http://cnx.org/>

⁶ <http://ocw.usu.edu/>

⁷ <http://cosl.usu.edu/projects>

⁸ http://mit.ols.usu.edu/index_html

⁹ <http://www.cmu.edu/oli/index.html>

¹⁰ <http://creativecommons.org/>

¹¹ Atkins D.E. *etal* (2007) A Review of OER Movement: Achievement, Challenges, and New Opportunities (Report to the William and Flora Hewlett Foundation) <http://www.oerdeserves.org>

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