OPEN EDUCATIONAL RESOURCES

CONVERSATIONS IN CYBERSPACE

Education on the Move

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Chapter 1
OPEN EDUCATIONAL RESOURCES: AN INTRODUCTORY NOTE
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The forum opened with a general reflection on Open Educational Resources. During this first session, the group had an opportunity to discuss the concept, the terminology and the types of projects that have been developed. This overview was intended as background for the presentation and discussion of the specific initiatives and issues that followed.

> OER [Open Educational Resources] champions sharing of knowledge worldwide to increase human intellectual capacity. … UNESCO can encourage the development of OER in education, culture, and religion to enhance mutual understanding for international peace (UNESCO, 2004).

While it is clear that higher education systems and institutions worldwide face unprecedented challenges in meeting the increasing demand for initial and continuing education, it is also clear that there are developments that will increase access, make learning opportunities more flexible and help contain rapidly increasing costs.

As information and communication technologies (ICT) have become more available, those involved in teaching and learning have found that a vast number of resources are available from many sources. However, these resources can be hard to find without a significant amount of searching. Once found, it is hard to know whether they are of high quality. Searching the World Wide Web on a specific topic normally generates too many references – somewhere in the links may be the information sought, but few people have the time to search through them all.

Many university faculty members are using the web in their courses, which means that the amount of course content available in electronic format is growing. Yet, until recently much of this material was locked up behind passwords within proprietary systems. The Open Educational Resources movement aims to break down such barriers and to encourage and enable the sharing of content freely. One can compare the concept of

Open Educational Resources with that of Free and Open Source Software (FOSS). Just as FOSS allows users to modify software as needed, OER allows users to adapt content to suit their own needs. Indeed, academic researchers have long shared their work in scholarly journals, realizing that knowledge in their fields of study will grow more rapidly if scholars are not obliged to duplicate each other's research. OER applies that concept to teaching materials and tools. Through the use of OER, academics worldwide can build on the pedagogy, knowledge and tools created by their colleagues to enhance student learning.

1.   OER AND OPEN CONTENT: DEFINITIONS

The term 'Open Educational Resources' was coined in July 2002 at the UNESCO-hosted Forum on the Impact of Open Courseware for Higher Education in Developing Countries. Participants at that forum defined Open Educational Resources 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 (UNESCO, 2002).

OER is a very broad concept. A wide variety of initiatives and online materials can be classified as educational resources: from courses and course components to museum collections, open access journals and reference works. And, over time, the term has come to cover not only content, but also learning and content management software, content development tools, and standards and licensing tools for publishing digital resources. These tools allow users to adapt resources in accordance with their cultural, linguistic, curricular and pedagogical requirements.

This forum will focus on the open provision and use of course elements and materials only – in other words, open content for courses. This still offers scope to explore a wide variety of projects, from initiatives that seek to develop and provide complete learning programmes, to institutions that publish the materials they use in their own teaching (e.g. syllabi, lecture notes, reading lists, assessments), to sites that gather course elements from many different institutions. Other initiatives support the provision and use of open content through, for example, developing software tools or building communities of use. Open content may be a valuable resource, support and catalyst for teachers and learners, but it is not meant to replace institutionally supported open and distance learning. The use of open content does not imply a credential for the user.

2.   UNESCO MEETINGS: EXPLORING THE POTENTIAL

The 2002 Forum on the Impact of Open Courseware for Higher Education in Developing Countries included representatives of universities from eleven countries, as well as from international and non-governmental organizations (NGOs). The goal of the forum was to examine the possibilities of, and the issues associated with, 'open courseware' (a term that was replaced during the forum with 'Open Educational Resources'). The delegates concluded that the worldwide success of Open Educational Resources would depend upon a community that could – within minimal technical constraints – access, adapt, translate, use, produce and offer the material. This meeting was supported by the William and Flora Hewlett Foundation, which has made OER a major part of its education programme and has supported a wide range of projects.[2]

At the 2004 UNESCO Second Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualifications in Higher Education, a full session was devoted to Open Educational Resources. Following the presentations, a working group elaborated the list of OER to include:

- learning resources: courseware, content modules, learning objects, learner support and assessment tools, online learning communities;
- resources to support teachers: tools for teachers, and support materials to enable them to create, adapt and use OER, as well as training materials for teachers, and other teaching tools;
- resources to assure the quality of education and educational practices.

The participants in the meeting pointed to a role for UNESCO, as expressed in the quotation at the beginning of this chapter. In addition, they underlined the fact that, although OER have the potential to increase the quality of information and teaching, they also have the potential to contribute to a homogenization of education. OER that is created in only a few countries and disseminated to all the others could constitute a threat to cultural diversity.

3.   OER INITIATIVES: SOME DEVELOPMENTS

The OER movement gained considerable visibility in 2001, when Charles Vest, then president of the Massachusetts Institute of Technology (MIT), announced MIT's intention to put all of its course materials online for anyone to use. This decision resulted in the OpenCourseWare (OCW) project,[3]

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2   http://www.hewlett.org/Programs/Education/OER/
3   http://web.mit.edu/ocw/

which by October 2005 included over a thousand courses. In addition, open content consortia are being formed in response to MIT OCW, either to widen access to MIT's materials (e.g. China Open Resources for Education[4]), or to develop their own open content projects (e.g. Japan's OCW Alliance[5]).

Several American universities have since followed MIT's example (Johnstone, 2005) but have chosen to focus on specific subject areas to make available as open content (e.g. agricultural engineering, public health, dentistry, instructional technology). While much of the development of open content is coming from universities, there are also initiatives at other levels.

Although MIT's OpenCourseWare is one of the better known and more widely copied models, other important OER projects have taken different approaches, with very different results. The Connexions project[6] of Rice University in Texas has two components. The Content Commons component offers collaboratively developed material that can be modified for any purpose. The second component comprises FOSS tools to help students, instructors and authors manage the information available in the Content Commons. Faculty from all over the world are contributing to and using the materials in the Content Commons, especially in the areas of engineering and music education.

Another approach is exemplified by Carnegie Mellon University's Open Learning Initiative[7] (OLI). Developed by cognitive scientists, experts in human–computer interaction and Carnegie Mellon faculty, it aims to offer 'a new paradigm for online education' (Carnegie Mellon, 2005). OLI's complete courses have innovative features such as cognitive tutors, virtual laboratories, group experiments and simulations. These tools allow academics at other universities to develop their own content in this pedagogically rich environment.

The Creative Commons project[8] seeks to facilitate the development and use of OER by addressing copyright issues. The non-profit organization, developed by lawyers, offers flexible licenses for creative work, with the aim of giving web-content producers other options than the usual 'open to all' or 'open to no one'. Creative Commons hopes to build a layer of reasonable, flexible copyright licenses in the face of increasingly restrictive default rules.

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4   http://www.core.org.cn/en/
5   http://www.jocw.jp/sub2.htm
6   http://cnx.rice.edu/
7   http://www.cmu.edu/oli
8   http://www.creativecommons.org

Among the more notable of the many other current OER projects are:

- Wikipedia:[9] an online, community-developed and maintained encyclopedia that by October 2005 contained over 2 million entries, in over 100 languages;
- EduTools:[10] supported by the Hewlett Foundation, EduTools provides course management software product reviews and a decision support tool, in addition to course reviews;
- the African Digital Library;[11]
- the Knowledge Commons;[12]
- the Open Content Alliance:[13] a collaborative effort of a group of cultural, technology, non-profit and governmental organizations from around the world to build a permanent archive of multilingual digitized text and multimedia content.

The OER world is already a rich one, but there is much more to be done.

4.   THE OER MOVEMENT: LOOKING FORWARD

Marshall Smith, director of the Education Program of the William and Flora Hewlett Foundation, offers the following vision for the OER movement:

> There is a lot of educational material available on the web, but it is rarely organized in a way that can actually help increase the quality of instruction. Open courseware projects allow a professor anywhere in the world to see exactly how his or her colleagues present a specific body of knowledge to students. This growing set of resources has the potential to increase the quality of teaching worldwide (personal communication, October 2005).

Support for the OER movement is a major component of the Hewlett Foundation's education programme. Indeed, the Foundation has provided support for many of the projects mentioned here. However, sustaining the OER movement will be a complex undertaking, and not all of the issues and variables can be identified in advance.

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9   http://www.wikipedia.org
10   http://www.edutools.info
11   http://www.africaeducation.org/adl
12   http://www.edclicks.com/
13   http://www.opencontentalliance.org/

OER began with a small, deliberately diverse group of institutions exploring and developing resources. As more institutions and more materials from more courses are added to the mix, OER will be able to serve a broader group of learners. The initial providers are contributing course content, but other projects are being developed to create library resources, teaching resources and online communities of learners.

To succeed, OER will require many creative people willing to both contribute and make use of the resources. The OER movement can be viewed as a grand, but achievable, undertaking to share intellectual capital. A decade from now, the pioneer providers and users of OER may hardly recognize the movement. If it is to be effective, OER will need to evolve in order to meet the evolving needs of the higher education community.

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