Why Give Knowledge Away for Free? The Case for Open Educational Resources, Jan Hylén

"At the moment the OER movement is taking its first steps beyond a culture focused around "my site" towards a culture that is focused around "our commons." Most people who create OER sites have a sense of who they expect their users to be and what needs those users have. This is all to the good, if it is not to the exclusion of those users whose needs--or innovations--we have totally failed to imagine." Towards a Global Learning Commons

An apparently extraordinary trend is emerging. Although learning resources are often considered as key intellectual property in a competitive higher education world, more institutions and individuals are sharing digital learning resources openly and without cost, as open educational resources (OER). The issues of why this is happening, who is involved, and the important implications were addressed in a 2006 study carried out by the OECD Centre for Educational Research and Innovation with the support of the Hewlett Foundation. The main conclusions are summarised here, together with some insights from a follow-up, and not yet published, study from spring 2008.

Higher education is facing a number of challenges: globalisation, an aging society, growing competition between higher educational institutions both nationally and internationally, and rapid technological development. OER is itself one of these challenges, but may also be a sound strategy for individual institutions to meet them. The trend towards sharing software programmes through open source software and research outcomes through open access publishing is already so strong that it is generally thought of as a movement. It is now complemented by the trend towards sharing learning resources: the OER movement.

OER are a fascinating technological development and, potentially, a major educational tool. They accelerate the blurring of formal and informal learning, and of educational and broader cultural activities. They raise basic philosophical issues dealing with the nature of ownership, the validation of knowledge, and concepts such as altruism and collective goods. They reach into issues of property and its distribution across the globe. They offer the prospect of a radically new approach to the sharing of knowledge, at a time when effective use of knowledge is seen as the key to economic success, for both individuals and nations.

OER projects can expand access to learning for everyone, but most of all, for non-traditional groups of students. They thus widen participation in higher education. They can be an efficient way of promoting lifelong learning, both for individuals and for government, and can bridge the gap between non-formal, informal, and formal learning.

What are OER?

OER are digitised materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research. They include: i) learning content; ii) software tools to develop, use and distribute content; and iii) implementation resources such as open licences. The learning content is open courseware such as educational material organised as courses and typically distributed as PDF files, as well as smaller chunks of learning, often referred to as learning objects. The content may involve websites, simulations, text files, images, audio or videos in digital format. Content may be for use only or also open for adaptation and reuse.

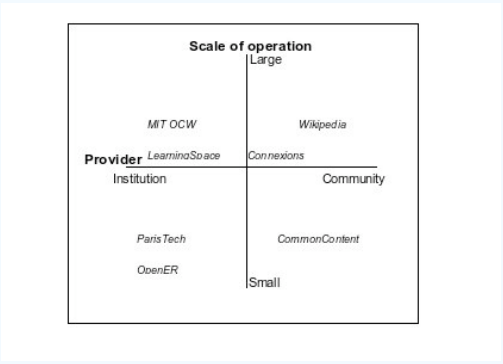
Who is Using and Producing OER?

Although no definite statistics are available, there is a rapid expansion in the number of OER projects, the number of people involved, and the number of resources available. In 2006, the OECD identified over 3,000 open courseware courses available from over 300 universities worldwide. When recontacted during the first half of 2008, six major OER initiatives reported an increase in the number of resources available as between 35 and 300%. There are hundreds of thousands of pieces of content representing thousands of learning hours which are freely available in repositories all over the world. The same six OER initiatives also reported that their visitors grew by 50 to 150% since 2006. Translation of resources combined with a growing number of non-English OER projects provide increased language diversity and global use. The potential number of users is enormous.

While the majority of producers of resources and OER projects are located in English-speaking countries in the developed world, promising initiatives like cater for a global development. The OER movement grows both top-down and bottom-up; new projects are started at the institutional level while individual teachers and researchers also use and produce OER. The institutions involved so far seem to be well-reputed internationally or in their own countries, rather than institutions that are unknown or have low status. OER Africa

In exchange for an accurate estimation of the number of ongoing OER initiatives, we can offer a preliminary typology of different repositories. There are both large-scale operations and small-scale activities. Furthermore, there are different types of providers: institution-based programmes and more community-based bottom-up activities. In both cases, there are all kinds of in-between models, as shown in Figure 1.

Figure 1: Categories of OER Providers



In the upper left corner of the figure, large-scale and institution-based or supported initiatives are found. Good examples are the MIT OCW programme and LearningSpace from the Open University in the United Kingdom. Both are large in terms of the financial funding provided and are entirely institution-based in the sense that all materials originate from own staff. LearningSpace does have a sister site called LabSpace, which is an experimental zone for downloading, remixing and sharing.

In the upper right corner of Figure 1, large-scale, non-institution-based operations are placed. The best example is probably Wikipedia, one of the Internet's real success stories and a good example of a large-scale community-based operation. Other examples would be MERLOT, Connexions, and ARIADNE. In the bottom left corner of the figure, examples of small-scale institution-based initiatives are listed. Finally, in the bottom right corner are examples of small-scale community-based initiatives.

Why are People Sharing for Free?

There are technological, economic, social and legal drivers behind this dramatic expansion. Educators and researchers relish the chance to exploit new broadband capabilities, improved technologies for creating and distributing content, and greater interactivity. The costs of these technologies are dropping. Sometimes the driver is the need to compete with other universities; institutions use OER initiatives to attract new students and to improve their public relations. There is a strong sense in different parts of the community that OER offers a major opportunity to sustain or restore altruistic notions of sharing for the common good.

The drivers and motivations for producing and sharing OER are summarised in Table 1.

Table 1: Motives for Producing and Sharing OER

Governments	Institutions	Individuals
Widening participation in higher education	Altruistic reasons	Altruistic or community supportive reasons
Bridge the gap between non-formal, informal and formal learning	Leverage on taxpayers' money by allowing free sharing and reuse between institutions	Personal non-monetary gain
Promote lifelong learning	"What you give, you receive back improved"	Commercial reasons
	Good public relations and showcase to attract new students	It is not worth the effort to keep the resource closed
	Growing competition – new cost recovery models are needed	
	Stimulate internal improvement, innovation and reuse	

Underlying drivers	Underlying inhibitors
Technical: Increased broadband availability; increased hard drive capacity and processing speed; new and improved technologies to create, distribute and share content; simpler software for creating, editing and remixing.	*Technical:* Lack of broadband and other technical innovations
Economic: Lower costs for broadband, hardware and software; new economic models built around free content for recovering costs.	*Economic:* Lack of resources to invest in broadband hardware and software. Difficulties to cover costs for developing OER or sustaining an OER project in the long run.
Social: Increased use of broadband, the desire for interactivity, increased skills and willingness to share, contribute and create online communities.	*Social:* Absence of technical skills, unwillingness to share or use resources produced by someone else.
Legal: New licensing regimes facilitating sharing of free content.	*Legal:* Prohibition to use copyrighted materials without consent.

Independently of whether institutions are engaged in OER projects or not, OER can be expected to affect curriculum, pedagogy and assessment. With thousands of opencourseware courses from internationally reputed higher education institutions available for free, teachers will need to consider that students compare their curriculum with others. Since the teacher's role as supplier of reading lists and teaching materials is diminishing, OER is likely to accelerate changes in the traditional teaching role and the evolution of more independent learners. An increase in non-formal and informal learning can be expected to enhance the demand for assessment and recognition of competences gained outside formal learning settings.

Copyright and Open Licences

While information technology makes it possible to multiply and distribute content worldwide and almost at no cost, legal restrictions on the reuse of copyright material hamper progress. Frustrated by this obstacle, academics worldwide have started to use open licences to create a space in the Internet world--a creative commons--where people can share and reuse copyright material without fear of being sued. To do this, copyright owners have to agree or give permission for their material to be shared through a generic licence that gives permission in advance. The Creative Commons is by far the best-known licence for content. Its use is growing exponentially, although low awareness on intellectual property rights issues among the academic community was regarded in both studies as a challenge to the OER movement.

How can OER Projects be Sustained?

The actual costs of an OER project vary considerably. Some initiatives have institutional backing involving professional staff, others build on communities of practitioners and rely on their voluntary work. There are all sorts of in-between models as well. Repositories can be organised as a place to share and exchange resources, meaning that people are either users or producers, or they can promote the collaborative production of common resources. The first model is called the user-producer model and the second the co-production model, with many models in between. The first model is more likely to be centralised than the latter.

Although real costs can be met with resources other than money, most initiatives need to raise some capital. To this end, a number of models for cost recovery are identified in the report. These include: i) the replacement model, in which open content replaces other uses and benefits from cost savings; ii) the foundation, donation or endowment model in which funding for the project is provided by an external actor; iii) the segmentation model, in which the provider offers value-added services to user segments and charges for these services; iv) the conversion model, in which "you give something away for free and then convert the consumer to a paying customer"; and v) the voluntary support model or membership model, which is based on fund-raising campaigns or paying members. The follow-up study in 2008 shows that long term sustainability is currently regarded as the most important challenge to most OER initiatives.

Policy Implications and Recommendations

OER represents a further blurring of the borders between formal and informal learning, and governments should study how OER can be efficiently used to meet some of the demand for increased lifelong learning. OER can make an important contribution to a diversified supply of learning resources. A plethora of digital learning resources supports methodological diversity, which again is a pre-requisite for promoting individualisation of the learning process. Governments are advised to take a holistic approach towards digital learning resources, of which OER is but one part. Governments should also review the existing copyright regime in order to promote further use of information technology in education and consider actions to create at least a neutral policy regarding commercial actors and OER. Funds should be made available for openly publishing education materials developed within publicly funded institutions, and governments should open up national digital archives and museum collections to the education sector.

The rapid pace of development of the OER movement means that it will soon have an impact on all higher education institutions. University managers need to consider the risk of doing nothing. Higher education institutions are advised to have an information technology strategy which includes the opportunities and threats posed by the OER movement. It should also comprise training offers and create incentives for faculty members to participate.

These are exciting prospects. But three important challenges for the OER movement identified in 2006 still seem to be the key issues for the future. These issues are:

1. Quality control: who will ensure that the material is relevant and accurate?
2. IPR: in a context where laws cannot follow the pace of growth of OER. Will governments be willing to adapt copyright regimes to facilitate the use of digital resources for learning?
3. Transformation: of grass-roots initiatives into sustainable models at the institutional or even national level. Will there be funding available or cost recovery models that make it possible for OER projects to sustain when the initial hype is over?

The future for the OER movement will to a large extent depend on how these challenges can be met.

This article is an extended and revised version of an article previously published in KERIS@, Vol. 4, No. 3 Autumn 2007, a quarterly print journal of Korea's Education & Research Information Service.

Recommended Resources

Centre for Educational Research and Innovation, OER

The Future of Delft Open Courseware: How to Build a Sustainable Environment for Open Educational Resources

British Columbia BCcampus OER Initiative

webcast.berkeley, University of California

OER Introduction Booklet