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Inside

GIVING KNOWLEDGE FOR FREE – THE EMERGENCE OF OPEN EDUCATIONAL RESOURCES

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An extraordinary trend is emerging in higher education. Although learning resources are a key form of intellectual property in a competitive world, more and more institutions and individuals are sharing digital learning resources over the Internet openly and without charge, as open educational resources (OER). Anyone with internet access can download teaching materials from the entire set of Massachusetts Institute of Technology's (MIT) courses, and from many other universities around the world. 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. In this context, it is important that higher education institutions recognize the main challenges. Among these, the OER movement will soon have an impact on all higher education institutions. A new OECD report asks why this is happening, who is involved and what the implications are.

The report's title, *Giving Knowledge for Free*, reveals the potential implications of the OER movement. OER is not only a fascinating technological development and potentially a major educational tool. It accelerates the blurring of formal and informal learning, and of educational and broader cultural activities. It raises basic philosophical issues to do with the nature of ownership, with the validation of knowledge and with concepts such as altruism and collective goods. It reaches into issues of property and its distribution across the globe. OER projects can expand access to learning for everyone but most of all for non-traditional groups of students and thus widen participation in higher education.

What are open educational resources?

The definition of OER currently most often used is "digitised materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research". OER includes learning content, software tools to develop, use and distribute content, and implementation resources such as open licences. The learning content at issue is open courseware, *i.e.* 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, sound or videos in digital format, some only for use and others open also for adaptation and reuse. Figure 1 illustrates the different elements of OER.

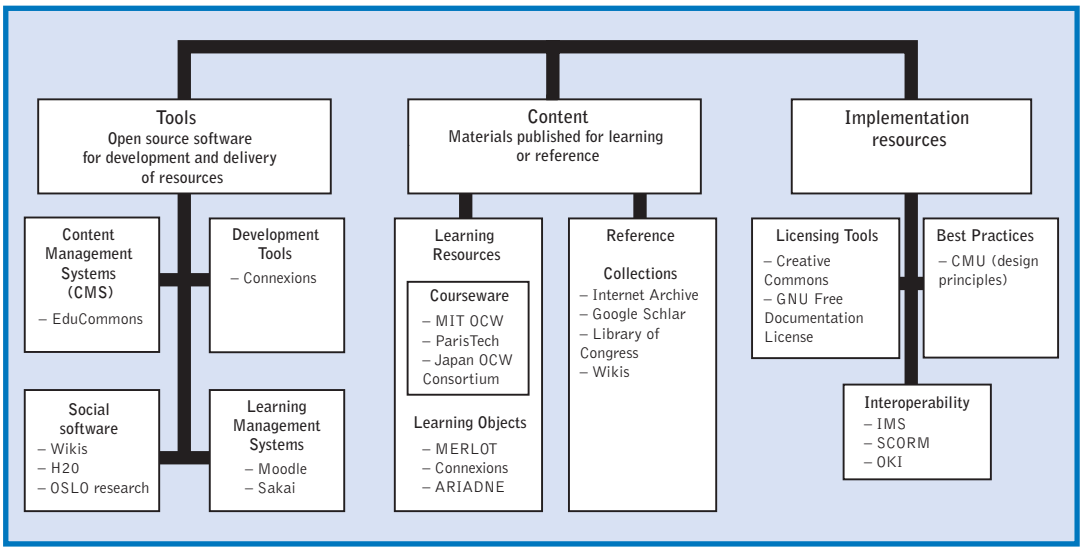
Who is using and producing OER and how much?

Although no definite statistics are available, there is a rapid expansion in the number of OER projects, as well as the number of people involved and the number of resources available. In January 2007 the OECD identified over 3 000 open courseware courses available from over 300 universities worldwide. Although the dominant language so far is English, translation of resources (with growing numbers in Chinese and Spanish) combined with a growing number of non-English OER projects cater for increased language diversity and increased global use. The potential number of users is therefore enormous.

Why are people sharing for free?

The reasons for individuals and institutions to use, produce and share OER can be divided into basic technological, economic, social and legal drivers. These are briefly laid out in Table 1 (see next page). On top of the drivers and inhibitors there are incentives and arguments for governments, institutions and individuals for developing and sharing OER.

Figure 1: Open educational resources: a conceptual map



Source: Margulies, 2005

Table 1: Motivations for producing and sharing open educational resources

Motivations for producing and sharing open educational resources		
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

Copyright law takes its definition from international conventions and is similar in most countries. Copyright primarily serves an economic function by granting creators monopoly rights in their creations for a limited time. 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 its negotiability in the digital environment. 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* licence is by far the best-known licence for content for which use is growing exponentially.

How can OER projects be sustained in the long run?

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. The report outlines five different cost-recovery models to be considered by OER projects: the replacement model, the endowment model, the segmentation model, the conversion model and the membership model.

Implications for policy and practice

The OER movement has implications at many levels. The rapid pace of development of the OER movement means that it will soon have an impact on all higher education institutions. Management of institutions will need to consider the risk of doing nothing and to develop an information technology strategy which among other things includes how the institution should deal with the opportunities and threats posed by the OER movement. Institutions willing to embrace the opportunities offered by OER will need to create incentives for faculty members to participate in the initiative such as implementing teaching portfolios with at least one OER element, as a part of the tenure process.

At a national level OER represents a further blurring of the borders between formal and informal learning, and countries are recommended to 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.

A *review of the existing copyright regime* in order to promote further use of information technology in education should consider actions to create at least a neutral policy regarding commercial actors and OER. *Public-private partnerships* should be used more as a way to combine know-how and resources from both sectors. Wherever possible and reasonable *open standards* should be used and *open source software licensing* employed.

Interoperability issues, such as harmonisation of copyright legislation and agreements on standards, are dealt with at the international level. A good *knowledge base* regarding the OER movement needs to be developed internationally, with *awareness raising* activities to make the concept of OER better known. Funding bodies on all levels are recommended to support these activities.

But it is also important to consider that the OER movement as such has three important challenges for the future:

- The issue of quality control and relevance of resources, in view of the learner's needs.
- Intellectual Property Rights, in a context where laws cannot follow the pace of growth of OER. A review of the existing copyright regime is needed in many countries to create at least a neutral policy regarding commercial actors and OER.
- How to transform grass-roots initiatives into sustainable models at institutional or even at national level.

IMHE NEWS

The IMHE welcomes the following new members:
> Secrétariat des Chaires de recherche du Canada – Canada
> Vrije Universiteit, Amsterdam – Netherlands

EDUCATION AT A GLANCE 2007

Higher education graduation rates have grown massively in OECD countries in recent decades. Governments pursuing an expansion of higher education have often been driven by the belief that more high-level skills are needed in an advanced knowledge economy, requiring a much greater proportion of the workforce to be educated beyond the secondary school level than were before. And indeed, in many countries there has been significant growth of jobs and industries in sectors dependent on a more skilled workforce.

However, it is certainly conceivable that at least some of the extra graduates will end up doing jobs that do not require graduate skills and that they obtain these jobs at the expense of less highly qualified workers. Such a crowding-out effect may be associated with a relative rise in unemployment among people with low qualifications (as higher-qualified workers take their jobs), but also potentially with a reduction in the pay premium associated with tertiary qualifications (as a rise in graduate supply outstrips any rise in demand for graduate skills). Although the evidence suggests that this is not yet the case in the UK for example (see article by Anna Scesa).

The question must be asked: has the increasing supply of well-educated labour been matched by the creation of an equivalent number of highly skilled jobs? Or one day will everyone have a university degree and work for the minimum wage?

For a discussion of these questions and many more, turn to the 2007 edition of Education at a Glance: OECD Indicators (available from 18 September 2007).

Each year, this OECD flagship publication enables countries to see themselves in the light of other countries' performance. It provides a rich, comparable and up-to-date array of indicators on the performance of education systems and represents the consensus of professional thinking on how to measure the current state of education internationally.

This year's editorial examines the impact of expanding higher education, while the 27 indicators look at who participates in education, what is spent on it, how education systems operate and the results achieved. The latter includes indicators on a wide range of outcomes, from comparisons of student performance in key subject areas to the impact of education on earnings and on adults' chances of employment.

Education at a Glance 2007 also includes new material on:

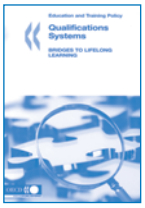
- Whether the socio-economic background of students affects their participation in higher education
- Vocational education and training (VET) at the high school level, including who is enrolled in VET and, drawing on PISA data, a comparison of student performance with the type of programme in which students are enrolled
- Teacher salaries
- How schools monitor their performance and how they use this information

Other areas examined by Education at a Glance 2007 that may be of particular interest to IMHE members include: How many students finish tertiary education? What are students' expectations for education? How much do tertiary students pay and what public subsidies do they receive? Who studies abroad and where?

All indicators in Education at a Glance 2007 cover the OECD countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States

Some indicators also include data on one or more of the following partner economies: Brazil, China, Chile, Estonia, India, Israel, the Russian Federation and Slovenia

PUBLICATIONS OF INTEREST



Education and Training Policy Qualifications Systems: Bridges to Lifelong Learning, OECD Publishing, ISBN: 9789264013674

After reviewing policies and practice in 15 countries, this book presents nine broad policy responses to the lifelong learning agenda that relate directly to national qualifications systems. They also identify twenty linkages between qualifications systems and lifelong learning goals.

OECD Factbook 2007: Economic, Environmental and Social Statistics, OECD Publishing, ISBN 9789264029460

***O**ECD Factbook 2007* is the third edition of a comprehensive and dynamic new statistical publication from the OECD. More than 100 indicators cover a wide range of areas: economy, economic globalisation, education, energy, environment, foreign aid, health and quality of life, industry, information and communications, population/labour force, trade and investment, taxation, public expenditure and R&D. Data are provided for all OECD member countries with area totals, and for selected non-member economies.

OECD Principles and Guidelines for Access to Research Data from Public Funding
OECD Publishing, ISBN 9264034021

These Principles and Guidelines for Access to Research Data from Public Funding (hereafter the "Principles and Guidelines") provide broad policy recommendations to the governmental science policy and funding bodies of member countries on access to research data from public funding. They are intended to promote data access and sharing among researchers, research institutions, and national research agencies, while at the same time, recognising and taking into account, the various national laws, research policies and organisational structures of member countries.

Academic Malpractice Threats and Temptations, Magna Carta Observatory and the National Unions of Students in Europe (ESIB), Bononia University Press
http://www.magna-charta.org/pdf/proceedings_essay.pdf

The following Essay is an explanation of the Statement of concern, the first two sections discussing the mission and strategies the universities need to be aware of if they are not to induce their members – teachers and researchers, administrative staff or students – into the temptation of easy or fake achievements. The third section, much less philosophical or sociological than the first two, offers, in a report-like fashion, a synthesis of the results obtained from the ESIB enquiry on academic malpractice in various countries of Europe. The last pages of the booklet call for institutional measures to be taken by university government in order to uncover, control or eradicate academic malpractices in higher education and research.

Higher Education in the World 2007, Global University Network for Innovation, Palgrave, ISBN 0-230-00047-9
This series of annual reports from the Global University network for Innovation (GUNI) explores in depth the key issues facing higher education institutions in the twenty-first century, with special emphasis on the theme of the social commitment of universities.

IMHE CALENDAR

3-4 Sept. 2007	***Supporting Success and Productivity: Practical Tools for Making you University a Great Place to Work***, "What works" conference, University of Cambridge, Harvard University, Universitas 21 and IMHE, Paris, France. www.oecd.org/edu/imhe/whatworks2007
19-21 Sept. 2007	***Globally Competitive, Locally Engaged: Higher Education and Regions***, International conference, Valencia, Spain. www.oecd.org/edu/imhe/valencia
May/June 2008	***Spaces and Places for Learning Innovation and Knowledge Transfer*** in collaboration with the OECD Programme on Educational Building and the Helsinki University of Technology, Helsinki, Finland. Contact: imhe@oecd.org
June/July 2008	***The Emerging Global University Market*** in collaboration with the Nordic University Association and the Nordic Association of university Administrators, Reykjavik, Iceland. Contact: imhe@oecd.org
21-22 August 2008	"What works" conference. Conference Proposal: outline ***Academic enterprise or the enterprising academy? Conflict or cohesion in the core values of the university?*** CHEMPaS, University of Southampton, United Kingdom (to be confirmed). Contact: imhe@oecd.org
8-10 Sept. 2008	IMHE General Conference on the theme ***The Quality, Relevance and Impact of Higher Education*** (title to be confirmed), Paris, France. Contact: valerie.lafon@oecd.org

OTHER MEETINGS OF INTEREST

26-29 August 2007	***9th EAIR Forum,*** Innsbruck, Austria. www.eair.nl
12-15 Sept. 2007	***19th Annual EAIE Conference***, Trondheim, Norway. www.eaie.org
23-25 Sept. 2007	***Lifelong Learning in the City-Region' in Pecs***, Hungary. www.pascal2007conf.pte.hu/index.htm
28-31 October 2007 and 31 Oct.-3 Nov. 2007	***3rd Meeting of the International Rankings Expert Group*** **(IREG-3)** and ***2nd International Conference on World-Class Universities (WCU-2)*** Shanghai Jiao Tong University, Shanghai, China. http://ed.sjtu.edu.cn/meetings.htm
6-7 November 2007	IAU 2007 International Conference in conjunction with the World Higher Education Forum, Kuala Lumpur, Malaysia. www.unesco.org/iau/
17-18 April 2008	***Higher Education under Market Conditions: Theory and Practice***, Mykolas Romeris University, Ateities 20, Vilnius, Lithuania. Contact: justina@mruni.lt

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www.oecd.org/edu/imhemeetings

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