OPEN
EDUCATIONAL
RESOURCES

CONVERSATIONS
IN CYBERSPACE

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Open Educational Resources
Conversations in cyberspace

INTRODUCTION

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The term 'Open Educational Resources' (OER) was coined in 2002 during the UNESCO *Forum on the Impact of Open Courseware for Higher Education in Developing Countries*, convened to consider the potential, for developing countries, of the Massachusetts Institute of Technology (MIT) initiative to put course materials online for open access. The participants in the meeting defined Open Educational Resources as digitalized materials offered freely and openly to educators, students and independent learners to use and reuse for teaching, learning and research. With their final declaration, the participants expressed

> their satisfaction and their wish to develop together a universal educational resource available for the whole of humanity, to be referred to henceforth as Open Educational Resources. Following the example of the World Heritage of Humanity, preserved by UNESCO, they hope that this open resource for the future mobilizes the whole of the worldwide community of educators (UNESCO, 2002, p. 28).

In the years following that meeting, there has been a growing number of initiatives, and an OER movement has emerged worldwide, transforming the sentiments expressed in this statement into action.

This book documents the conversation in cyberspace of a large and active international community convened to consider the concept of Open Educational Resources and its potential. In response to an invitation from the UNESCO International Institute for Educational Planning (IIEP) to take part in an internet discussion forum, some 500 individuals from 90 countries came together in 2005 to learn about a number of OER initiatives, and to reflect on some of the associated issues. They stayed together for a subsequent series of focused discussions, and they remain together in 2008 as this book is being prepared. The interaction in the community has been very lively, and much information and many ideas have been shared through the exchange of well over 2,000 messages. A website

has served to make all documents available broadly, and a wiki[1] has provided additional information and acted as a common work space.

This publication – the record of that intense conversation – aims to share even more widely the contributions made by so many. It is intended for those who may be interested in, or perhaps only intrigued by, the Open Educational Resources movement – its promise and its progress.

1.   EDUCATION AND KNOWLEDGE SOCIETIES

The right to education is entrenched in Article 26 of the 1948 Universal Declaration of Human Rights: elementary education is to be compulsory and free; technical and professional education is to be made generally available; and higher education is to be equally accessible to all on the basis of merit (United Nations, 1948). This Article charges nations with a significant duty, one that many still cannot fulfil, even sixty years later.

Recognizing the importance of the gap between the objective and the reality, representatives of the international community agreed – at the 1990 World Conference on Education for All (EFA) in Jomtien, Thailand – to universalize primary education and significantly reduce illiteracy by the end of the decade. The EFA movement represents a global commitment to provide quality basic education for all children, youth and adults. When they met again in Dakar, Senegal, in 2000, many countries were far from achieving those objectives, but the commitment was re-affirmed with six main goals to be achieved by 2015:

- Goal 1: Expand early childhood care and education;
- Goal 2: Provide free and compulsory primary education for all;
- Goal 3: Promote learning and life skills for young people and adults;
- Goal 4: Increase adult literacy by 50 per cent;
- Goal 5: Achieve gender parity by 2005, gender equality by 2015;
- Goal 6: Improve the quality of education (UNESCO, 2000).

As of 2007 – nearly the half-way mark – projections indicate that, with current trend lines, the specific goals will not be reached by many countries within the time frame specified (UNESCO, 2007). Furthermore, in an era characterized by knowledge societies, provision of education at all levels is

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1   A wiki is a website where users can add and edit content themselves. It is especially suited to collaborative projects, as a whole community can come together in a common workspace to create, edit and discuss content. The most famous example of a wiki is undoubtedly Wikipedia, the online encyclopedia 'that anyone can edit' (http://en.wikipedia.org/wiki/Main_Page).

becoming ever more crucial as the accelerating rate of change results in an accelerating rate of obsolescence in knowledge and skills of the population. The UNESCO report *Towards Knowledge Societies* urges governments to spend more to expand quality education for all, increase community access to information and communication technology, and improve cross-border scientific knowledge sharing. In his preface to the report, Koïchiro Matsuura, UNESCO Director-General, cautions that if they are to remain human and liveable, knowledge societies will have to be societies of shared knowledge (UNESCO, 2005, p. 5). Open Educational Resources have a key role to play in opening access to knowledge and promoting its sharing across the divides – digital, societal and cultural.

2.   THE NEED FOR NEW APPROACHES

When a concept such as OER is put forward, most people will ask 'why?' and 'what will it do better?'. The current need for new approaches has been clearly articulated by Brenda Gourley, vice chancellor of the UK Open University. She identifies three imperatives for finding effective new ways to expand access to quality educational opportunities. First, there is a demographic imperative. In knowledge societies, the education model that developed eight or nine centuries ago will no longer suffice. Knowledge societies require more citizens with high-level skills, given an ever-changing context that demands a population of lifelong learners. Meeting the scale of such a demand for learning opportunities cannot be addressed easily in the current model. The second imperative is a financial one. The cost of meeting escalating demand by building more infrastructure is simply not feasible: it would be too costly, and it would take too long. Other options must be encouraged, using technology and distance education to reach more learners in a more cost-effective manner. And, finally, there is the educational imperative: to extend education to many more people, in a model appropriate to the twenty-first century (Gourley, 2004).

While the traditional model of classroom-based education may remain the core of national education systems, other approaches have been explored, tested and, in some cases, adopted. Over the years, various new technologies have been tried and tested for their potential use in education, particularly to expand access – including broadcast radio and television, audio and video cassettes, teleconferencing and videoconferencing, computer conferencing and computer-assisted instruction. Each was found to be useful in some way, but none had a profound impact on education. Many reasons for this could be put forward, but one might be a lack of available and appropriate content

for the technology and application in question. There is currently what may prove to be a fruitful convergence: connectivity to the internet is increasing; low-cost computers and enhanced mobile phones are being developed; and the body of open content in digital format is growing.

It may be the internet and the web that will fulfil the promise and deliver the level of change that had been expected of previous technologies, but their full impact may not yet be evident. The impact of the web has been compared to that of electricity: although it took several generations from its invention to the point at which all the infrastructure was in place, once that happened, everything changed – the home, the work place, transportation, and so on. 'Worldwide, electricity became a transformative medium for social practices. … In quite the same way the World Wide Web will be a transformative medium, as important as electricity… The web has just begun to have an impact on our lives' (Seely Brown, 2000, pp. 11–13).

If the web has yet to have its full impact, information and communication technology (ICT) is already causing change in many areas. Certainly, it is still unevenly distributed and unevenly accessible, but its reach is growing. Education systems must assess how best to take advantage of new ways of teaching and learning that are congruent with the needs of the society, be they economic, social or personal. Furthermore, there needs to be more equitable access to content. It has been noted that the so-called 'digital divide' may be less related to equipment and technology than to content and the need to bridge the content divide. If global production is the goal of globalization, value creation should be the vehicle, with local languages, cultures and comparative advantages combined for beneficial outcomes at both local and global levels. In this context, education enables individuals to participate in this process of value creation, and ICT helps to make education global (Lanvin, 2008).

3.   OPEN EDUCATIONAL RESOURCES

The sharing of content in education, while certainly not a new phenomenon, has been greatly enabled by word processing software, which allows the production of digital content, and the internet, which allows the content to be easily, almost effortlessly, shared.

The history of the OER movement is often said to have begun in 1994, when Wayne Hodgins coined the term 'learning object', which he defined as 'small (relative to the size of an entire course) instructional components that can be reused a number of times in different learning contexts' (Wiley, 2000, p. 3). In 1998, David Wiley added the term 'open

content', which advanced the notion that the underlying principles of the Free and Open Source Software (FOSS) movement could be applied to content, and introduced the first widely adopted open license for content, the Open Publication License.

The founding of Creative Commons, in 2001, resulted in an elaborated set of licenses that allow copyright holders to specify the rights they wish to waive, a tool to facilitate the sharing of content. Also in 2001, MIT announced their OpenCourseWare (OCW) initiative, which aimed to make most of its instructional materials openly available on the web (Wiley, 2006). Since then, interest and action has grown considerably, and in early 2008 the Cape Town Open Education Declaration was released: 'a statement of principle, a statement of strategy and a statement of commitment ... meant to spark dialogue, to inspire action and to help the open education movement grow' (*The Cape Town Open Education Declaration*, 2008).

Looking closely at the numerous initiatives, one can discern differences in rationale and context that show that OER is in fact the nexus of a range of efforts that address the need to 'unlock knowledge' and open access to knowledge for all. MIT OpenCourseWare represents an institutional response, the advice of a committee convened to consider how MIT might make use of educational technology and distance education. The recommendation was to give away all the course materials on the web, and the result has been a web-based publishing venture that has made available almost all course materials for its more than 2,000 subjects. Charles Vest, the president of MIT at the time the decision was taken to create OCW, has described it as an adventure, and one that was congruent with the history and values of the institution (Vest, 2006). In 2005, as the OCW model was being adopted by more and more institutions, the OpenCourseWare Consortium was established with the stated mission of advancing education and empowering people worldwide through open courseware. The Consortium supports (as of early 2008) collaboration among more than 180 members from around the world to build a wealth of open educational content based upon a shared model with 95 websites and well over 4,000 courses (OpenCourseWare Consortium, 2008).

Rice University Connexions represents another approach – the response of an individual academic to frustration with the limitations of the traditional college textbook. Richard Baraniuk imagined, instead, 'textbooks adapted to many learning styles and translated into myriad languages … textbooks that are continually updated and corrected by a legion of contributors' (Wales and Baraniuk, 2008). His response was to create Connexions, an environment for collaboratively developing, freely sharing and rapidly publishing scholarly

content on the web. Authors, teachers and learners are invited 'to create, rip, mix and burn textbooks, courses and learning materials from a globally accessible, open-access repository'. At present, Connexions has one of the highest levels of use of Open Educational Resources on the web, with 16 million hits per month representing 600,000 visitors from 196 countries (Thierstein and Baraniuk, 2007).

It is not only academics and institutions that have come to see the advantages of sharing content. India offers an example of a national response: the National Knowledge Commission was established as a high-level advisory body to the prime minister, with the objective of transforming India into a knowledge society. In its second report to the nation in 2007, the Commission highlighted the potential of OER:

> Our success in the knowledge economy hinges to a large extent on upgrading the quality of, and enhancing the access to, education. One of the most effective ways of achieving this would be to stimulate the development and dissemination of quality Open Access (OA) materials and Open Educational Resources (OER) through broadband Internet connectivity (National Knowledge Commission, 2007, p. 51).

Collectively, these initiatives point to a growing energy and synergy in the OER movement, but it is still early and there is much to be done if it is to become a pervasive approach in addressing the knowledge divide.

4.   UNESCO AWARENESS-RAISING ACTION ON OER

Open Educational Resources – whether full courses, course materials, modules, videos, software, tests or textbooks – allow educational institutions, teachers and learners to access, adopt, adapt and reuse them. However, if there is little or no awareness of availability, open content will not be exploited fully.

As the UN agency responsible for education, and with its network of National Delegations and Commissions, UNESCO is uniquely positioned to take up the challenge of informing Member States of the OER movement and its potential to contribute to improving access to knowledge and to Education for All. The UNESCO International Institute for Educational Planning (IIEP) organized and implemented a two-year initiative with the objective of increasing awareness of Open Educational Resources at the international level, and supporting capacity building and informed decision-making, particularly on the part of potential users and providers of openly available resources.

To meet this objective, IIEP envisioned the systematic creation of an international OER community. Two discussion forums were structured as virtual seminars, with the presentation of a document followed by discussion and debate:

- the first, in 2005, presented OER and some examples of providers and users of OER, their experiences and related issues;
- the second, in 2007, put forward the findings and draft report of a study of OER undertaken by the Organisation for Economic Co-operation and Development (OECD).

In between the two forums, the emerging Community of Interest deliberated on several specific topics:

- a research agenda for OER;
- a Do-It-Yourself/Do-It-Together resource to promote development of OER;
- FOSS solutions for OER, and lessons from the FOSS movement in a joint session with the IIEP Community of Interest on Free and Open Source Software for education.

By mid 2007, an international Community of Interest had been established, with almost 650 members from 98 countries, including 67 developing countries. Not only did members share their interests and experiences, but they had developed the capacity to act as champions of the movement in their own setting, identifying what would be the best and most appropriate action.

5.   THE PUBLICATION

The chapters of this book follow the flow of the discussions in the community over the two-year period covered. Each chapter is preceded by a brief comment that aims to give an indication of the structure of the session and the flow of the community interaction. The separate sessions of each forum were informed by a background note that served to launch the interaction with the expert discussants. The topic-related sessions held between the two forums were more informal in format, and two of the three did not have background notes. Preparing the final reports – which aim to give a succinct record of the voluminous interaction – represented a Herculean task. While it may be impossible to capture the energy that permeated the exchange of over 2,000 messages, the gist of the discussion has been set down faithfully by the brave authors of the reports.

6.   NEXT STEPS – A COMMUNITY AND A NETWORK

UNESCO has an important role in providing a space for international discussion and debate on issues of interest and concern to its Member States. And the five main functions of the Organization – as a laboratory of ideas, a clearinghouse, a standard setter, a capacity builder in Member States and a catalyst for international cooperation – make it an ideal host for informal international internet discussions and the more formal international Communities of Interest. Such opportunities for interaction make it possible for those who would never otherwise have a chance to meet, to come together to share experience and expertise and to profit from an international discussion and debate. And this has been the case for the OER Community that links so many individuals from so many organizations and countries. It is an exemplary community – thoughtful and reflective, active and productive, and above all, open.

The UNESCO OER Community now constitutes a recognized space for international exchange of information, resources and views. However, discussion has been in one language, and topics have been general (even if discussion may be specific). The next step is to promote local awareness raising and appropriate OER development and use. Certainly the establishment of a decentralized network of nodes will build upon and extend the work of the community. And, perhaps more importantly, nodes will operate in the local language and culture to stimulate and enable development and use of OER as befits local need. The focus of a node may be a geographic locale or a linguistic group, or it may be a specific interest such as teacher education. Although nodes may act largely independently, those active in the node will have experiences and resources to share with the OER Community, which will remain active as a platform for ongoing interaction at the international level. The UNESCO website and the OER wiki will continue to act as a point of reference and a common work space for the international OER Community and the emerging OER Network.

It is to be hoped that, with time, all countries will participate in the OER movement in ways that suit their education and training strategies, and their citizens' needs, as they evolve in time into not only knowledge societies, but 'societies of shared knowledge'.

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