Open slather? – supporting open educational practices and resources

Sarah-Jane Saravani
Library Manager
Waikato Institute of Technology
sarah-jane.saravani@wintec.ac.nz

Abstract

The creation of open educational practices and resources is a world-wide movement gathering momentum. The purpose is to enhance education and life-long learning, the underpinning ethos is that knowledge is a public good and access should be enhanced through the various means at hand. The library sector has long supported such a view, how do we face the challenge of ensuring that barriers to accessing educational resources are minimised?

The trend towards openness includes such established movements as Open Source Software, Open Standards and Open Access; more recently within these environments scholars are sharing their digital resources openly and freely over the Internet as Open Educational Resources. This development has important implications for educational institutions in promoting a sustainable model which addresses cultural and mindset change and organisational barriers.

For libraries, some of the pre-eminent issues are

System integration

Software integration

Policy changes to encourage institutional self-archiving

Supporting innovative IT-enhanced forms of instruction and access to educational content

Training and support to incorporate the concept of open content into resource and service provision

Familiarity with the contextualised learning environment and technologies

Integration of social software tools and services

Growth of educational repositories or digital libraries

Negotiate licensing arrangements to allow greater flexibility in use of resources

Creation of rich metadata to support resource discovery

Professional development

Creating expanded networking relationships

Identifying champions of Open Source initiatives to allow capitalisation of benefits

What we are witnessing is essentially the integration of Libraries 2.0 and e-Learning 2.0, this opens up a whole new scenario for us.

Introduction

This paper will examine five aspects of supporting open education practices – technical, licencing, teaching, user requirements and access support. There follows a brief overview of movements towards making information freely accessible, a focus on more specific details relating to sustainability and then, an exploration of issues this world-wide phenomenon has created for the library and information sectors.

The Scene

Very few would argue with the premise that knowledge is a public good, that the acquisition of knowledge goes hand-in-hand with learning, that progress depends upon informed intelligence and that the society which values expert knowledge tends to utilise it and, in so doing, harnesses a sustained movement towards the betterment of the lives of its people.

The Trigger

The promotion of lifelong education and learning has accelerated in recent years as a result of several factors. Firstly, the advent of technology has enabled connections, access and networks to be formed in an environment that is unique in human history – the World Wide Web. The growth of this phenomenon could lead to the assumption that a utopia now exists that enables any member of the human race with access to computing hardware, a telecommunications link and, possibly, a modicum of literacy, to gain advantage from the deluge of information freely available to satisfy every need. Is this happening? Do knowledge-seekers find exactly what they require, at that critical moment when they require it? In the vital context that brings meaning to the unrelated, is help always close at hand to offer expert guidance? Are their lives changed for the better as a result of the overall experience? Probably unlikely. Many searchers will have discovered that the word "web" is no misnomer in the complexity of finding relevant answers. Certainly, this technology has opened up unprecedented opportunities for everyone to share, use or re-use knowledge, resources, cultural heritage, but much information that falls within such descriptions is unavailable for a variety of reasons. These may be commercial, political, technical, cultural or educational. In an attempt to improve this situation in recent years a world-wide movement has developed with the aim of promoting open access to digital resources through the use of software-based tools, the Open Educational Resource (OER) movement.

The Aim

The second factor of significance in the push for ongoing access to education is the advancing culture of openness that has taken hold wherever there is concern for the improvement of society. Governments, multinational bodies, local groups, educators and technical experts have questioned the barriers that impede access to information. The open source movement has gathered momentum since the late 1990s, Apache project being an early runner in 1995, when software developers through their network communities began to formalise their information sharing to ensure that it was not lost in the general mobility of the industry. Projects from the Apache Software Foundation, for

example, are characterized by a collaborative, consensus based development process, an open and pragmatic software license, and a desire to create high quality software that leads the way in its field (Apache Software Foundation, 2007). The open source movement was born out of necessity to create efficient software. The emergence of back end systems designed to support a range of business requirements, using open code within communities of interest has led to high-quality open-source software. The open source model was first successfully adopted in the development of Linux, which is seen as a viable alternative to expensive UNIX operating systems in universities and research departments - if not also for commercial purposes. Open source software can be found freely available at large online repositories and is easily downloaded. Repositories such as SourceForge.net list thousands of software projects being developed by volunteer contributors worldwide. Both PHP and MySQL are freely available and run on most major operating systems. Portability has become less of an issue as a growing number of sophisticated open source applications are being ported to run on proprietary and a variety of open source platforms. Underpinning developments and innovations is the philosophy that source code - any sequence of instructions or statement written in human-readable computer programming language - is public domain, developers are free to redevelop as they want, the only proviso being to give credit to the original creator if creating a derivative work to pass along.

The Telescopic Lens

In order to ensure in such a model that source code is made freely available, and that all modified and extended versions of the programme continue to be free as well, a variety of licenses were formulated. The concept of "copyleft" emerged which was designed to add protection to works regarded as belonging to the public domain from the possibility of being converted back into proprietary products. One such license was GNU General Purpose License (GPL). GNU's Not Unix", which began life in 1983, strongly espouses the philosophy of the Free Software Movement (not to be confused with the open source movement) –

First, the freedom to copy the program and give it away to your friends and co-workers; second, the freedom to change the program as you wish, by having full access to source code; third, the freedom to distribute an improved version and thus help build the community. (GNU, 2007)

A variant on this theme of allowing expanded use of works was Creative Commons which started in 2001 and produced a variety of licences. Two of the more frequently-used are the Attribution, whereby licensees may copy, distribute, display and perform the work and make derivative works based upon it only if they give the author or licensor the credits in the manner specified by these, and the Noncommercial, whereby licensees may copy, distribute, display, and perform the work and make derivative works based upon it only for noncommercial purposes. The licences can be mixed and matched, producing a combination of 16 variations. The implications for educational providers' intellectual property rights are a major consideration that needs addressing by policy makers.

The Ammunition

The third element in the mix of open educational practices is the availability of digital educational content supported within an environment that allows its fullest use. Online

courses have been around since the early 1990s, and have continued to rise in popularity ever since. Most of these courses were offered by mainstream educational institutions who charge the students who take them, a model which continues today. This has been impacted upon with the advent of the open source software model mentioned in the previous paragraph; and free-to-use software for creating online courses is now widely available. Once again, it was developed, and is being further developed, on the open source model by a worldwide network of educators and software designers.

Several prominent universities now offer a wide range of course materials free of charge. In 1999, in what was widely regarded as an innovative move Massachusetts Institute of Technology (MIT) positioned itself on a pinnacle in the distance/e-learning environment with OpenCourseWare (MIT OCW). This leap into the future was based upon the conviction that the open dissemination of knowledge and information can open new doors to the powerful benefits of education for humanity around the world. The OpenCourseWare aims to "Provide free, searchable access to MIT's course materials for educators, students, and self-learners around the world". MIT OCW provides users with open access to the syllabi, lecture notes, course calendars, problem sets and solutions, exams, reading lists, even a selection of video lectures, from 1550 MIT courses representing 34 departments and all five of MIT's schools. The initiative will include materials from virtually all courses by the year 2008. (MIT, 2007)

The list of universities offering free courses online continues to grow and thus networks are formed. Support for provision of open educational resources, which are not cheap to produce, is aided through the efforts of such foundations as Hewlett, the Wellcome Trust, Mellon.Foundation. They are also supported through a culture of innovation and change. Where institutions create educational policies and organisational frameworks to support the utilisation of digital educational content, tools and services to develop core competencies - such as self-direction, critical thinking, team-work and communication – then communities of practice quickly develop around the creation of rich, relevant learning experiences.

The current development and usage of social software based tools and services (Web 2.0) have real potential to be highly supportive of open learning practices and processes. Social software, such as Weblogs, Wikis, RSS feeds, social bookmarking, podcasting, is increasingly being developed and used outside the commercial domain. Those educators with a finger on the pulse of future learning trends have experimented and become familiar with these tools, woven this contextualisation of ICT into their course materials and challenged students with the blurring of boundaries between educational and social activities. The real benefit to learners within this scenario is the layering of didactically-sound principles throughout these experiences which encourage learner-centred, as well as collaborative, approaches in developing competencies required in any knowledge society. For teachers, the challenge is to understand that providing access to the ever growing body of content in digital formats does not, in itself, add value but rather the ability to provide culturally-engaging experiences of long-term benefit to their learners. This is a partnership process.

The open education environment requires a three-fold base – 1. access to open content (including metadata) is free of charge; 2. content licences allow modification, repurposing (such content to comply with open standards and formats); and 3. that software source code is available.

The resulting repositories of educationally relevant resources will promote alliances in the creation, sharing and provision of resources based on a strong emphasis of reusability, allow for greater cost-effectiveness in the re-use of material, enrich the pool of resources

available for curriculum development and teaching practice, promote digital competence across a range of users, add the dimension of quality control and feedback across networks of users, and foster lifelong learning and social inclusion through greater accessibility to resources. (Open eLearning Content Observatory Services, 2007)

To assist the repository of digital resources a Learning Management System enables teachers to manage materials, activities, assessments and results. Moodle is a free, open source, and highly flexible course management system that allows educators to create their own online courses and is being used by an increasing number of educational and government institutions worldwide. The development of this LMS is assisted by a worldwide network of open source programmers which have enabled it to feature new releases and speedy fixes.

The Target

What should the recipient or learner expect to gain from the open education environment? Firstly, she should find herself at the centre of the educational process and be a sure beneficiary of current pedagogical thinking. She should expect to contribute to the learning process. Constructivism argues that old didactic teaching practices do not work in the new digital age, with its increasing variety of media available to stimulate creativity and engagement. Instead, constructivist approaches to learning better reflect a reality of knowledge construction through the engagement between novices and more experienced users in communities of practice.

Secondly, along with this more centralised role should be the expectation of access to quality resources which are the result of a dynamic process of selection, adaptation and contribution back to the global community. They should, through an ongoing process of peer review and collaboration, constitute high quality resources designed to withstand the test of time. The learner should enjoy access to resources that have been freely contributed, shared, repurposed, resubmitted and evaluated by educators who are fully committed to a pedagogical environment that is learner- rather than teacher-centred. This is not necessarily straight-forward or easy, depending on organisational or infrastructure strategies in place that may continue to favour the didactic approach to information delivery. However, a more open educational environment tends to allow greater scope for specific design for a particular curriculum or purpose while still ensuring certification requirements are met. (UNESCO, 2006)

Thirdly, access to teachers who are committed to the promotion and sustainability of open educational resources, those who may prefer access to a poor quality free resource, over which they have the freedom to modify and improve for the benefit of their learner community than, for example, a high quality PDF file that is locked down through a restrictive licencing arrangement. This type of teacher needs to be able to demonstrate competence and confidence with the environment being promoted, and have acquired adequate levels of technical expertise, such as the ability to install web software and instruct others if difficulties arise. It is a given that teachers in this environment have access to a full range of professional development and other support services to ensure the benefits of open educational practices are fully realised. It is also a given that incentive mechanisms will be in place for fostering the development and sharing of open educational resources and experiences.

Fourthly, the learner should expect to have the opportunity to integrate social software tools and services into a personal environment for study which will integrate seamlessly into their more formal educational environment and beyond that into lifelong learning. They should be developing e-portfolios that allow them to document their creative outputs and reflect on their progress. If their teachers are not already supplying this opportunity through courseware development and design then it should, at the very least, be a bargaining point. A change in focus should be clearly apparent to the learner, while there will almost certainly continue to be a place for lectures and seminars and for the teacher to have an important role in supporting learning, the focus should be on tools for learners – not just platforms for teaching – to express themselves in whatever media they feel comfortable in – including blogs and wikis, podcasts and videos – and to collaborate and share their stories. OER learning becomes a validation process - by providing tools for student expression which allow seamless linking between the learning and social environments. This contributes to the goal of removing barriers to learning, adding the element of context, focusing learning beyond physical constraints and making it fit for the community within it operates.

Fifthly, the learner should expect to contribute to the learning process. Her central role has already been mentioned above, but an explicit expectation of contribution needs to be clearly understood at the outset by those wishing to continue study. In terms of OER development, this approach means that learners need to be given opportunities to contribute to learning resources. While, by acknowledging professional experience, the teacher's importance as facilitator of the learning process in providing scaffolding and guidance is recognised, the students should play a key role in shaping classroom materials and learning resources. The expectation is that the value of OERs should increase through genuine student use and modification.

The Arsenal

Behind the innovation of the open education movement lies a world-wide body of professional organisations that have embraced the ideal of universal access to information for a very long time. Underlying the library and information profession is a publicly-stated strong commitment to intellectual freedom and an insistence on the basic human right of equal access to information. To this end substantive ethical codes and standards in support of the establishment and protection of free and equal access to all forms of information have been developed and upheld. Librarians feature amongst those incarcerated for their beliefs in a number of countries where such ideals are not universally upheld. Library associations around the world have developed codes of ethics along the lines of the American Library Association's (ALA) Code of Ethics, adopted in 1995, which includes in its preface

> In a political system grounded in an informed citizenry, we are members of a profession explicitly committed to intellectual freedom and the freedom of access to information. We have a special obligation to ensure the free flow of information and ideas to present and future generations. (American Library Association, 1995)

Virtually every national member of the International Federation of Library Associations and Institutions (IFLA) explicitly embraces the principle of free and equal access to information.

On a practical level then, how are libraries responding to the challenges technology has brought their way, by the advent of the open source movement, the free software movement, the changes in pedagogical approach that place learners, who in many cases are also library users, in a central, contributing role? When a learner has integrated the

constantly-growing range of software applications freely-available into a personal learning space, expects to find information at a single click with minimal tolerance for more structured searching and has possibly even adopted the philosophy that "If it doesn't come to me, it doesn't exist" do we once again hear the rumbling approach of barbarian hordes that have preceded the desecration of libraries down the centuries? It is not for nothing that the library and information profession has such an extended history, the ability to respond to the social, cultural and educational milieu within which libraries have found themselves has long been one of the more salient features of the profession which has ensured its longevity.

For want of a better term, enter Library 2.0. The basis for this concept, which first made its appearance in 2005, is that libraries continue to be important to people and that this is ensured through a process of focused and sustained change with the user firmly occupying central position. Such a concept directly reflects the open educational environment. What Library 2.0 does for the user is to invite them to contribute to the services they want, in the manner they are comfortable with. It is forward-looking and has the benefit of extending the concept of librarianship beyond physical, professional, administrative walls into the most basic unit of society – any citizen seeking information within the context of their cultural norm.

The Library 2.0 model seeks to harness the user's knowledge to supplement and improve library services - comments, tags, and ratings feed user-created content back into library web sites. As never before, libraries are faced with an almost overwhelming choice of possibilities to promote themselves as being critical to an open educational culture that is inclusive.

A few housekeeping tips follow to guide the process - keep web pages simple and uncluttered in design, eliminate library jargon that probably never has held meaning for non-librarians, allow tailoring of content to be fed into personal learning spaces, promote libraries as part of the wave of open educational practice, use technology to create personalised OPAC interfaces, encourage use of LibraryThing, Flickr, provide access to networked repositories such as Global Learning Objects Brokered Exchange (GLOBE), negotiate licence arrangements that recognise the universal right to information, get involved in metadata creation and support the open access repository your organisation is contributing its various learning and research outputs to, promote folksonomies as well as controlled vocabulary to harness the power of both worlds, ensure all library staff have completed 23 Things in conjunction with teaching staff and put the results on the library web page, post your own, local wikipedia relating to course material being offered through your organisation, make use of free sites such as PBWiki and create library courses that link to online courses, use technology to its fullest and form symbiotic links with those e-learning people who are constantly pushing boundaries when it comes to integrating technology into learning. Open source blogs and wikis are useful ways to engage customers and push fresh content to users, virtual reference services and downloadable media bring the library into the comfort of learners' homes.

All self-respecting academic libraries should be aiming at integrating fully into their organisation's learning management systems, such as Moodle, and become involved in course design, delivery and assessment. Staff should have access to professional development to ensure they are both comfortable and confident in the environment described, policies should be in place to encourage the growth of self-archiving, open access digital repositories. Libraries should actively make their voices heard in any debate around the benefits of freely-shared resources, they should form networks with like-minded

staff throughout their organisations and allow the boundaries between various areas of expertise and endeavour to blur for the common good. Collaboration is nearly always fun, it should also be an acknowledged right. Library and information professionals understand the critical importance of providing unhindered access to information, it is essential to ally this philosophy with others engaged in the evolution and practice of learning, whether it be through pedagogy or technology, the creation of codes and standards or development of strategy and policy.

A final word around the systems – both software and hardware, and including integrated library systems (ILS) - that libraries use. In an open environment modifiable automation systems and catalogues are preferable to proprietary, closed systems. The information libraries have created, hold and own should not be locked behind proprietary interfaces and the ability to create service applications that use that data in new and creative ways should be fundamental. The creation of open standards that protect the best use of, and access to, library-held resources within an evolving environment are fundamental in bringing education and lifelong learning closer to the demands of the knowledge society.

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