OPEN EDUCATIONAL RESOURCES MANAGEMENT (OERM)

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Abstract

Network communication and Internet have expanded the way in which education can be delivered to the learners of today. Today's networking technologies provide a valuable opportunity to the practice of learning techniques. Educators are discovering that computer networks and multi-based educational tools are facilitating learning and enhancing social interaction. Network based telecommunications can offer enormous instructional opportunities, and the educators will need to adapt current lesson plan to incorporate this new medium into all their classes.

Keywords: management, educational resources.

1. Introduction

Network communication and Internet have expanded the way in which education can be delivered to the learners of today. Today's networking technologies provide a valuable opportunity to the practice of learning techniques. Educators are discovering that computer networks and multi-based educational tools are facilitating learning and enhancing social interaction. Network based telecommunications can offer enormous instructional opportunities, and the educators will need to adapt current lesson plan to incorporate this new medium into all their classes.

Free Software Movement, where "free" is interpreted in the political, not in the commercial sense, has gained a considerable momentum since its origins. In the face of quickly changing technological development, and the very high cost of proprietary software

solutions, the attempting to participate in Information and Communications Technologies, for development of the open source software becomes a solution. There is a global trend toward open source software, which has become viable, cost effective and sustainable options. Most of the world's population lives in developing countries, where many key political, economic and cultural institutions are not strong enough to help people meet their basic health and educational needs. It is from this dimension that the Free Software and Open Source Foundations were formed. Together with the Free Software and Open Source Foundations a new movement to support education generates the Open Educational Resources Management (OERM) offering learning materials freely available in the public domain.

2. Open Educational Resources (OER)

The William and Flora Hewlett Foundation was the first organization who define and offer the OER solution as: "OER are teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques used to support access to knowledge".

Some benefits of OER include:
- fosters pedagogical innovation and relevance that avoids teaching from the textbook;
- broadens use of alternatives to textbooks while maintaining instructional quality;
- lowers costs of course materials for students;
- implementation of the Educational Resource Logical Model.

Some disadvantages of OER are:
- quality of available OER materials inconsistent;
- materials may not meet SCORM requirements and must be modify to bring into compliance;
- no common standard for review of OER accuracy and quality;
- need to check accuracy of content;
- customization necessary to match departmental and/or college curriculum requirements;
- technical requirements to access vary;
- technological determinism created by the delivery tool.

A theme and implicit goal of this model is to build a community so that the emerging OER management movement, stimulated by the Hewlett Foundation, will create incentives

for a diverse set of institutional stakeholders to enlarge and sustain this new culture of contribution.

3. Open Participatory Learning Infrastructure (OPLI)

The OERM initiative has been a vehicle for building a culture of sharing. A new proposal or a new step for e-learning 2.0/ OER was developed within a broader initiative – an international *Open Participatory Learning Infrastructure (OPLI)* initiative for building a culture of learning.

The key OPLI framework elements enablers, transformative initiatives, international grand challenges are parts of a possible perfect storm of innovation in discovery and learning.

The key *enablers,* proposed for the next step in e-learning 2.0/OERM are:

- open source code, open multimedia content and the community or institutional structures that produce or enable them;
- the growth of participatory systems architecture;
- the continuing improvement in performance and access to the e-learning technology;
- increasing availability and use of rich media, virtual environments;
- the emerging deeper basic insights into human learning (both individual and community) that can informed and validated by pilot e-learning 2.0/ OER projects and OER-based research.

The proposed OPLI enables are interconnecting with other *transformative initiatives,* developed by common Web 2.0/e-learning 2.0 enablers like:

- the worldwide e-science movement, or cyber infrastructure (CI)-enabled science;
- the less developed and funded, but potentially high-impact enhanced humanities.

These initiatives are all in service of meeting international, strategic social networking *grand challenges*:

1. to significantly transform effectiveness of and participation in scientific discovery and e-learning;

2. to enable engaged world universities, meta universities, and a huge global increase in access to high-quality education;

3. to create cultures of learning for supporting people to thrive in a rapidly evolving knowledge-based world.

4. WEB 2.0/ e-Learning 2.0 Management Technologies Map

WEB 2.0/e-Learning 2.0 continues to grow at a tremendous rate. E-Learning 2.0/ OPLI management strategists predict that by the year 2010, more than half of all training may be online and under OER or OPLI initiatives. WEB 2.0 / e-Learning companies are springing up everywhere. It seems as though you can't pick up a business or training magazine without seeing articles about the benefits or the problems that are a result of e-learning. The field is growing at an amazing rate and its standards have yet to be developed or even agreed upon. So how in the world does a training department go about implementing an e-learning 2.0 program in an organization? Or how does an educational department go for e-learning implementation with regarding the OERM logical model? One way is to develop a strategy for creating e-learning 2.0 / OERM courses that can serve as a guide or road map as you are working your way through the chaos. It is essential to link e-learning 2.0 goals to business goals or special programs goals to ensure the ultimate success of the entire e-learning / OERM program. The concept of Web 2.0 /e-learning is still evolving, although the term is in wide use (96.6 million hits on the term "Web 2.0" in Google). A good overview is available at the O'Reilly website, from that article I'we have borrowed Figure 1 to give the reader a general flavor of the attributes of Web 2.0.
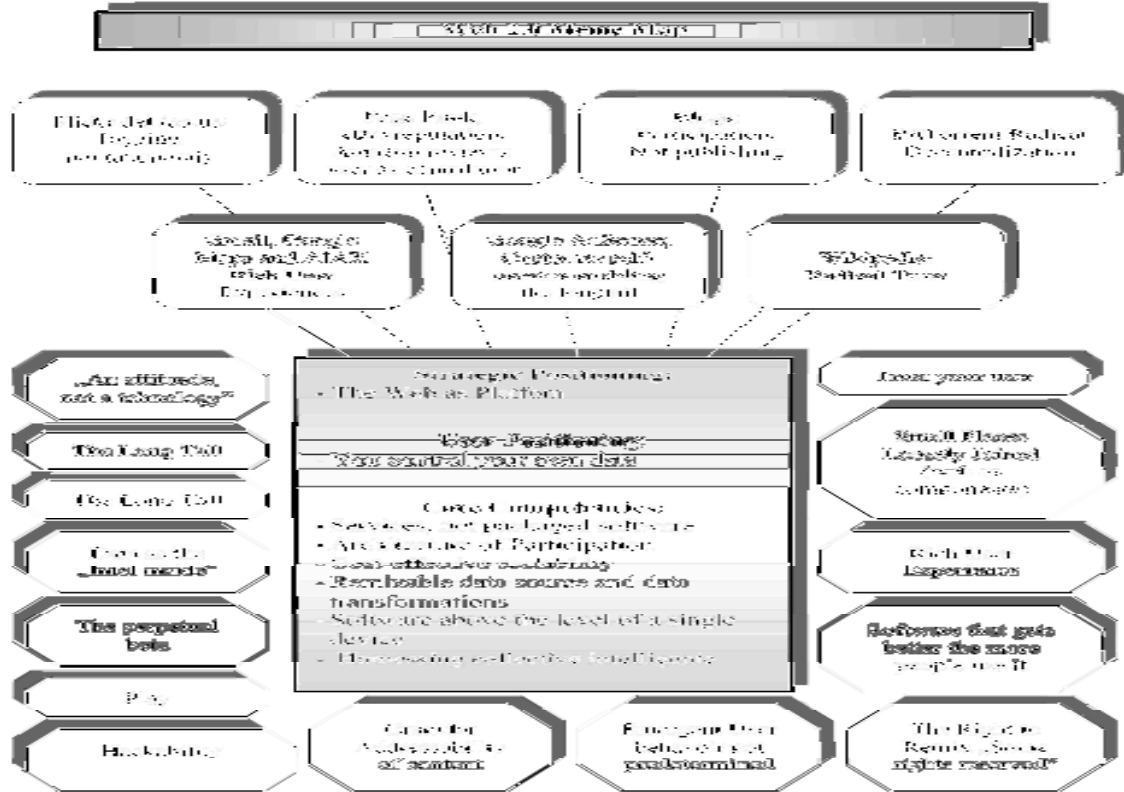

Fig. 1. Attributes of Web 2.0
(from http:/www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/whats-is-web-20.html)

E - Learning 2.0 / OPLI Strategy Goals Analyze. To achieve the Web 2.0/ e-learning 2.0 strategy goals in developing OER courses together with the developing of the Contend Management System, I used the grid gold analyze system.

	NO DO YOU HAVE IT? YES	

YES
 	
DO YOU WANT IT?
 	
NO
	ACHIEVE
	• *E-Learning/ OPLI training packages* with three levels of tuition:
	  ▪ free-No support;
	  ▪ tutoring: +10% support;
	  ▪ tutoring & Labs + 20% support.
	• *Develop* EOR/OPLI training packages focus on e-learning 2.0 study-pilot;
	• *Customize portal training package* for EOR/OPLI:
	  ▪ design new e-learning courses;
	  ▪ custom Online Course Authoring;
	  ▪ customized secure customer page.
	• *Create special plans for each OER/OPLI tool*:
	  ▪ business version for our online training site;
	  ▪ attract revenue by adds and sponsors;
	  ▪ use online special supporting tools.
	• *Advertise customize EOR/OPLI courses* to local universities, open source organization;
	• WEB 2.0 Base Training Solution Provider.
		PRESERVE
		• *Creativity, experience and enthusiasm* of the current staff;
		• Opportunities to inform and involved customers in online open support strategy;
		• *Improving* online response time and effectiveness;
		• Positive image of the organization;
		• Diversification of services: online activities;
		• Flexibility to respond to different needs;
		• Updating open courses with regarding the market;
		• *Define target customers;*
		• *Develop international market by localizing the business;*
		• International projects and affiliation under open international universities.

	AVOID • Being seen as only courses provider; • Stagnation in opening new course; • Poor public perception and misperceptions; • Instability of operation; • Unproductive faculty involvement.	**ELIMINATE** • Lower operating costs; • Barriers to progress; • The barriers to EOR/OPLI degree programs; • Faculty involvement.
	NO DO YOU HAVE IT? YES	

(right margin labels: **YES** — **DO YOU WANT IT?** — **NO**)

5. Funding Models for Open Educational Resources

It is often confusing to people to learn that an open source company may give its products away for free or for a minimal cost. How do open source companies make money?

The open source business model relies on shifting the commercial value away from the actual products and generating revenue from the "Product Features", or ancillary services like

systems integration, support, tutorials and documentation. This focus on the product features is rooted in the firm understanding that in the real-world, the value of software lies in the value-added services of the product features and not in the product or any intellectual property that the product represents. A final strength of the open source business model lies in its ability to market itself. Because open source products are typically released for free, open source companies that can produce quality products features and generate a good reputation can almost immediately grab huge shares of any market based on the complex and far-reaching global referral networks generated by users.

By using the open source technology model, we can create a superior product feature, which immediately has a competitive advantage, and which generates multiple scalable revenue streams while being freely available throughout the community.

Regardless of the OER production model, review of the various funding models by international research can be categorized the OER business in three overall types:

- cost/benefit models;
- third-party funding models;
- value-added models.

Cost/benefit models – These are based on institutional self-funding in order to receive other benefits. Benefits could include cost savings by replacing proprietary resources with OER for production and delivery; brand building benefits of publishing OER; and student services by enhancing the student experience with access to online resources.

Third-party models – Funding can come from many sources including government funding, foundation support, voluntary donations by users, creating an endowment, and membership fees for users. Third party funding is often used to start up a new OER initiative. Many current OER initiatives are funded by third parties such as the Hewlett Foundation.

Value-added models – These provide value-added services to specific user segments such as University of California-Irvine providing the self-study version of a course as OER, and charging a service fee for instructor support. Another example is the Monterey Institute of Technology and Education which runs the National Repository of Online Courses (NROC) for high school, advanced placement and higher education. NROC uses a consortium model where member institutions contribute to and use the courses in the repository. The courses are also available for free to students through the Hippo Campus initiative.

OER funding models deeper analyze can be presented as:

Endowment Model – on this model, the project obtains base funding. A fund administrator manages the base funding and the project is sustained from interest earned on that fund.

Membership Model – on this model, a coalition of interested organizations is invited to contribute a certain sum, either as seed only or as an annual contribution or subscription; this fund generates operating revenues for the OER service.

Donations Model – on this model, a project deemed worthy of support by the wider community requests and receives donations. Donations are in turn managed by a non-profit foundation, which may apply them to operating expenses or, if amounts are sufficient, seek to establish an endowment. Numerous open source and open content projects are funded in this manner, including Wikipedia (Foote, 2005) and the Apache Foundation (Apache, 2005).

Conversion Model – as summarized by Sterne and Herring (2005), "In the Conversion model, you give something away for free and then convert the consumer of the freebie to a paying customer." This approach, they argue, is needed because "there is a natural limit to the amount of resources the Donation model can bring to an open source project, probably about $5 million per year." Linux distributors, such as SuSe, RedHat and Ubuntu, where the software is available for free under an open source license, have adopted this model. Subscribers receive services (such as installation and support) or advanced features.

Contributor-Pay Model – adopted by the Public Library of Science (PLoS), Doyle (2005) states that the "PLoS Open Access Model: One Time Author-Side Payments" consists of a mechanism whereby contributors pay for the cost of maintaining the contribution, and where the provider there after makes the contribution available for free. Interestingly, this is a model that has earned some support from publishers, particularly in view of foundations, such as the Wellcome Trust, that have begun to require that materials funded be freely available.

Sponsorship Model – this model underlies a form of open access that is available in most homes: free radio and television. The sponsorship model can range from intrusive commercial messages, such as are found on commercial television networks, to more subtle 'sponsorship' message, as are found in public broadcasting. In online educational initiatives, various companies have supported OER projects on a more or less explicit sponsorship basis, often in partnership with educational institutions.

Governmental Model – similar to the institutional model, the governmental model represents direct funding for OER projects by government agencies, including the United Nations. Numerous projects sustained in this manner exist, for example, Canada's School Net project.

Partnerships and Exchanges – though perhaps not thought of as a funding or financing model, partnerships and exchanges nonetheless play an important role, or potential role, in the development of OER networks. Partnerships depend not so much on exchanges of funding as on exchanges of resources, where the output of the exchange is an OER.

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