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Using Open Educational Resources in the Basic Composition Classroom

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Open educational resources are growing in prevalence in the United States as well as globally and include OCW (OCW) as well as other learning initiatives. Institutions involved in OCW initiatives in the United States include founder Massachusetts Institute of Technology, Johns Hopkins Bloomberg School of Public Health, Carnegie Mellon, Tufts University, University of California - Irvine, University of Norte Dame, and Utah State University among others nationally and globally (OCW Consortium, 2009; OCW Finder, 2007) . There are other initiatives as well that combine resources from various institutions such as Sharing of Free Intellectual Assets (Sofia) and Multimedia Educational Resource for Learning and Online Teaching (Merlot). Other resources aimed at opening access to books and other print materials such as the Google Open Content Initiative and the Internet Archive Open Content Alliance (OCA) are also available.

OPEN EDUCATONAL RESOURCES

The open educational resources movement consists of **freely accessible electronic access to course materials, but it also involves other aspects such as open access to books and library materials, and access to modules of educational information instead of complete courses**. It may also include educational communication tools or implementation resources as well (International Institute for Education and Planning, 2005). Essentially, it is teaching, learning, and research resources, content or otherwise, which reside in the public domain or have been released under an intellectual-property license that permits their free use or repurposing by others. This may include learning content, tools such as software, or implementation resources such as methods or principles (Smith & Casserly, 2006; Stover, 2005; Trenin, 2007). Their intention, overall, is to foster learning and the acquisition of competencies in both teachers and learners (Open eLearning, 2007).

Open educational resources are growing in prevalence in the United States as well as globally and include OpenCourseWare (OCW) as well as other learning initiatives. Institutions involved in OCW initiatives in the United States included founder Massachusetts Institute of Technology (MIT), Johns Hopkins Bloomberg School of Public Health, Carnegie Mellon, Tufts

University, University of California—Irvine, University of Norte Dame, and Utah State University among others nationally and globally (OCW Consortium, 2009; OCW Finder, 2007). There are other initiatives as well that combine resources from various institutions such as Sharing of Free Intellectual Assets (Sofia), Connexions, Multimedia Educational Resource for Learning and Online Teaching (Merlot), or Academic Earth. Other resources aimed at opening access to books and other print materials such as the Internet Archive Open Content Alliance (OCA) are also available.   A good place to start for open educational resources is http://oerrecommender.org/.

The meaning and scope of open educational resources has been growing. It includes digitized materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning, and research. It includes learning content from full courses to collections of specific materials, tools such as software and systems, and implementation resources such as Creative Commons licenses or best practices (Trenin, 2007). However, there is not one set definition. The Open eLearning Content Observatory Services, a European project which is co-funded by the EU Commission and located at http://www.olcos.org/, describe the following key attributes: a) the access to the content is provided free of charge to all, b) the content is liberally licensed for re-use in educational activities, and c) the systems and tools use open programming interfaces (Open eLearning, 2007). Generally speaking, however, open educational resources are equated with access to course materials in whole or in part. The Hewlett Foundation, for example, a significant financial supporter of the OER movement, defines it 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" (The William and Flora Hewlett Foundation, 2007).

Try a few:
- OER Recommender: http://oerrecommender.org/
- Academic Earth: http://academicearth.org/
- BasicComposition.com Open Resource: http://www.basiccomposition.com/

Learning Objects

One aspect of OER are learning objects. **Learning objects are small, reusable pieces of instructional material** that can be used to facilitate student learning. They are components that are reusable either in multiple classes or in multiple learning environments or locations and are generally housed on the Internet. Examples of learning objects include images, short

video or audio clips, tutorials, case studies, simulations, and the like. Learning object portals aid locating resources and include Multimedia Educational Resource for Learning and Teaching Online otherwise known as <u>MERLOT</u>, <u>Connexions</u>, <u>National Science Digital Library</u>, and many more (Cramer, 2007). Wiley summarizes, "learning objects are generally defined as educationally useful, completely self-contained chunks of content. The most popular operationalization of this definition is a three-part structure comprised of an educational objective, instructional materials that teach the objective, and an assessment of student mastery of the objective" (Wiley, 2005).

Connexions, as an example of a learning object repository, can be found at http://cnx.org/ and was founded by Rice University. It offers modularized chunks of course content that are collaboratively developed by public users for public users. The intent of Connexions is to offer content that can be used non-linearly. As of early 2008 there are over 4500 modules in the repository (Connexions Project, 2008).

The National Science Digital Library program, under the support of National Science Foundation and located at http://nsdl.org/ is another example of an educational repository. It is an online library of science, technology, engineering and mathematics education and research resources and contains information aggregated from a variety of other digital libraries, NSF-funded projects, and NSDL-reviewed web sites. Since 2000, over 200 projects have been funded in efforts to create collections, services and tools for teachers and learners as well as perform targeted research in the application of digital libraries in education (About National, 2008; NSDL Fact Sheet, 2008).

Try a few:
- Connexions: <u>http://cnx.org/</u>
- Merlot: <u>http://www.merlot.org/</u>
- National Science Digital Library: <u>http://nsdl.org/</u>
- Internet Archive: <u>http://www.archive.org/</u>

OPENCOURSEWARE

OpenCourseWare Described

The OpenCourseWare (OCW) aspect of the open learning initiative was dedicated to the development of **freely available, stand-alone college-level online course and teaching materials** informed by the best current research. OCW includes items such as lecture notes, reading lists, course assignments, syllabi, study materials, tests, samples, simulations, and the like (Educause Learning, 2006; Vest, 2004). A participant does not need to register or log in, instead all the content is accessible at no cost and available to everyone to use – generally in an educational or non-commercial setting (Educause Learning, 2006; Vest, 2004; Kirkpatrick, 2006).

Try a few:

- OCW Finder: http://www.ocwfinder.com/
- MIT OCW: http://ocw.mit.edu/
- Yale OCW: http://oyc.yale.edu/
- Berkeley OCW: http://webcast.berkeley.edu/
- OCW at UVU: https://open.uvu.edu
- OCW Consortium: http://www.ocwconsortium.org/

MIT OpenCourseWare

Massachusetts Institute of Technology (MIT) has perhaps the most well known OCW (OCW) project known to date at http://OCW.mit.edu/ and has been creating OCW materials for longer than most. It began publication of its courseware for public consumption in 2002. The MIT OCW initiative has made content from all of their approximately 1800 courses available on the Internet at no cost for non-commercial purposes (Matkin, 2005; Carson, 2006). The idea originated from MIT faculty in 1999 and as of 2002 offers materials such as class notes, syllabi, assignments, problem sets, reading lists, and presentations (Vest, 2004; Lerman & Miyagawa, 2002; Olsen, 2002; Young, 2001). As of this writing MIT has published all of their 1800 courses from all five of its schools and from 33 academic departments (Smith & Casserly, 2006; Vest, 2006).

MIT's OCW is visited over 1.2 million times per month from individuals around the globe with the help of nearly 80 mirror sites on university campuses around the world including 54 in Africa and 10 in East Asia. OCW is primarily in English but has been translated into languages including Spanish, Portuguese, traditional Chinese, and simplified Chinese (Smith & Casserly, 2006; Vest, 2006; Kirkpatrick, 2006).

Current Users of MIT OCW

Of the visitors of the MIT OCW, 49% are self-directed learners, 32% are students, and 16% are educators from around the world, with 61% of OCW use originating from outside the United States (Carson, 2006). The purposes for using MIT OCW range significantly.

Self-directed learner uses include:
(a) enhancing personal knowledge (56%),
(b) keeping current in the field (16%), and
(c) planning future study (14%).

Student uses include:
(a) complementing a course (38%),

(b) enhancing personal knowledge (34%), and
(c) planning course of study (16%).

Educator uses include:
(a) planning a course (26%),
(b) preparing to teach a class (22%), and
c) enhancing personal knowledge (19%) (Carson, 2006).

As the MIT 2005 Program Evaluation Findings Report notes, "Visitor intent to return to the site is a strong indicator of perceived impact" (Carson, p. 64, 2006). For the year 2005, 98.7% of all new visitors said they would either definitely or probably return, and 99.3% of all return visitors said they would either probably or definitely return.   However, MIT OCW is not the only one around.

Other OpenCourseWare (OCW) Participating Systems

An OCW consortium can be found at http://www.ocwconsortium.org/ and has been formed to develop shared mission, goals, priorities, visibility, and search ability. Currently over 200 other OCW projects have been launched in countries including Brazil, China, France, India, Japan, Portugal, Spain, United States, and Vietnam, offering combined access to more than 2,500 courses (OCW, 2008; Smith & Casserly, 2006; Vest, 2006). From within the United States this includes projects such as the Utah State University OCW and Carnegie Mellon Open Learning Initiative to name a few. From outside the United States many initiatives are strong and growing. For example, the China Open Resources for Education otherwise known as CORE has over 1,100 courses available now (China Open Resources for Education, 2007), and the United Kingdom Open University aims to have 5,400 hours of learning content available by April 2008 (The Open University, 2007). OCW is truly global in scale and reach. One example, Universia.net, is a consortium of 985 or more universities in Latin America, Spain and Portugal with Spanish and Portuguese translations of courses (Portal Universia, 2007).

One example of an OCW site is OpenLearn at http://openlearn.open.ac.uk/. OpenLearn gives free access to course materials from The Open University. It covers topics including arts and history, business and management, education, health and lifestyle, information technology and computing, law, mathematics and statistics, modern languages, science and nature, society, study skills and technology. It also contains knowledge and content mapping using Compendium, a software tool for visual thinking that helps tie materials together, along with other useful resources such as instant messaging, forums, and journals.

Try a few:
OCW Consortium: http://www.ocwconsortium.org/

OpenLearn: http://openlearn.open.ac.uk/
Universia.net: http://openlearn.open.ac.uk/
China Open Resources for Education: http://www.core.org.cn/en/

The Reach of OCW

OCW and other open educational resources provide open access to educational resources and contribution methods around the world and in many languages. As an example of its reach, currently the OCW Consortium consists of members from 30 countries and includes over 21 institutions in the United States (OCW Consortium, 2009). The reach of OCW resources housed in the United States also extends beyond the boundaries of local, state, and nation. MIT's OCW for example had approximately 60% of its traffic from non-United States locations in 2005. Although North America constituted 42.9% of visits, 21.2% came from Western Europe, 15.1% from East Asia, and 6.1% from South Asia (Carson, 2006, p. 12-13). As Atkins, Brown, & Hammond note, "International impact has been led by the OCW activities, but there has also been significant impact in the broader agenda of OER and ICT-supported learning beyond OCW. This impact has occurred through international projects such as Teachers Education in Sub-Saharan Africa (TESSA), Open University UK, Open University Netherlands, European Association of Distance and Teaching Universities, India National Knowledge Commission (through a grant to MIT), OECD, and UNESCO International Institute for Educational Planning (IIEP)" (2007). That said, there are requirements for OCW to be accessible no matter where you reside.

OTHER OPEN EDUCATIONAL RESOURCES

Reference Materials and Resource Repositories

Another type of learning resource is the availability of reference materials. This includes items such as the Library of Congress website at http://www.loc.gov/ or the National Aeronautics and Space Administration (NASA) website at http://www.nasa.gov/. It also includes various resource repositories, some of which contain learning objects and some of which contain other digital resources. Basically they are "digital resources developed specifically for teaching purposes, by those who teach, are housed, catalogued and described, in ways that make them accessible across institutions" (Malcolm, 2005). It also includes items such as digital libraries.

Examples of digital libraries include the European Library and its related European Digital Library Project funded by the European Commission located at http://www.edlproject.eu/; the Google Print Library Project launched in 2003 and located at http://books.google.com/googlebooks/library.html; or even smaller scale projects like the Bibliographical Center for Research (BCR) Collaborative

Digitization Program at http://www.bcr.org/cdp/ started in 1998 as the Colorado Digitization Project (Stigter, 2007; Open eLearning, 2007). Another example, European Digital Library project, started in September 2006, integrates the catalogs and digital collections of national libraries in Belgium, Greece, Iceland, Ireland, Liechtenstein, Luxembourg, Norway, Spain and Sweden (Stigter, 2007).

One increasingly popular reference material site is Wikipedia which can be found at http://www.wikipedia.org/. Wikipedia is a free collaborative encyclopedia website in which anyone can post content or make modifications to already existing content. It is operated by the non-profit Wikimedia Foundation at an annual cost of $4.6 million. As of March 2008 it experiences about 300 million page views a day and has over 10 million entries (Semuels, 2008; Worthen, 2008).

An example of a rich teaching resource site for kindergarten through twelfth grade instructors is OER Commons, an open learning network where teachers can share and assess course materials, which can be found at http://www.oercommons.org and is produced by the Institute for the Study of Knowledge Management in Education (Wojcickil, 2008).

Try a few:

- European Digital Library Project: http://www.edlproject.eu/
- Google Books Library Project: http://books.google.com/googlebooks/library.html
- BCR Collaborative Digitization Program: http://www.bcr.org/cdp/
- Wikipedia: http://www.wikipedia.org/
- OER Commons: http://www.oercommons.org
- Library of Congress: http://www.loc.gov/index.html
- NASA: http://www.nasa.gov/

Social Bookmarking (Folksonomy)

Social bookmarking sites work to build **communities of users based on their decision to link to, cite, and otherwise reference specific websites, journals, and other resources**. It is a method for Internet users to store, organize, search, and manage bookmarks of web pages on the Internet with the help of metadata, typically in the form of tags that collectively and/or collaboratively become a folksonomy. Folksonomy is also called social tagging and is the process by which many users add metadata in the form of keywords to shared content (Wikipedia). Social bookmarking sites include, but are not limited to Delicious, Digg, Diigo, Stumbleupon, Citeulike, Sitemark, and Trailfire. Visit http://www.ebizmba.com/articles/social-

bookmarking to see the top 20 most popular social bookmarking Websites for July 2009.

Try a few:

- Delicious: http://delicious.com/
- Digg: http://digg.com/
- Diigo: http://www.diigo.com/
- Stumbleupon: http://www.stumbleupon.com/
- Citeulike: http://www.citeulike.org/
- Sitemark: http://www.sitemark.com/
- Trailfire: http://www.trailfire.com/

Here are some ideas of how social bookmarking could be helpful in education:

- Create a set of resources that can be accessed on any computer connected to the Internet
- Conduct research and share that research with your peers
- Track author and book updates
- Groups of students doing a classroom project sharing their bookmarks, a teacher subscribed to their rss feed to see the direction of their research.
- Post research and information bookmarks. All members continuously benefit from this shared resource.
- Rate and review bookmarks to help other students to decide on usefulness of resources
- Setup a group tag in order to share educational resources
- Unintended learning through the discovery of resources and information shared by others through their bookmarks
- Share links to current news items that relate to classroom discussions (D'Souza, 2006)

As Christine Greenhow, the founding chair of the Social Networks Research Collaborative at the University of Minnesota notes, "Several tools, similar to Delicious, allow educators and learners to assemble, annotate, recommend, and share resources, such as books, journal articles, websites, and contacts. Social bibliography sites—also called 'social bookmarking' sites—such as Citeulike and Diigo not only allow students to better document their trajectory on the Web, but also to archive and comment on resources they collect along the way. Social bibliography sites are 'social' in that they allow users to browse other users' online bibliographies and interact with them" (2009).

Open Access Journals & Publications

Although open access journals are not Web 2.0 per se, they are relevant when it comes to topics such as Digital Repositories or Self-Archiving Systems. Open access journals are those that are **scholarly journals publicly available at no cost to the end user.** A full list of open access journals can be found at the directory of open access journals at the Directory of Open Access Journals (http://www.doaj.org/).

Try a few:

- Directory of Open Access Journals: http://www.doaj.org/

Document Sharing

Document sharing sites **allow you to share and collaborate online.** In some cases you simply post your work and can share it publically and obtain commentary on it , such as in digital repositories such as SelectedWorks or MIT's DSpace. In some cases you may do this through a person or entity or you might use a self-archiving site. In other sites you can actually co-edit or co-author documents such as in Google Docs, Slideshare, or 280 Slides.

Try a few:

- Mendeley: http://www.mendeley.com/
- DSpace: http://dspace.mit.edu/
- SelectedWorks: http://works.bepress.com/
- 280 Slides: http://280slides.com/
- Google Docs: http://docs.google.com/

Feed Readers, News Aggregators & News Raters

Feeds are a way for websites large and small to distribute their content well beyond just visitors using browsers. **Feeds permit subscription to regular updates, delivered automatically via a web portal, news reader, or in some cases good old email.** Aggregators can sort, search, and even re-appropriate blog content. With an aggregator, users can stop visiting several individual blogs and websites, and instead access and read everything in one searchable, modifiable place.

Some examples of RSS readers and news aggregators include: Google Feedfetcher, Firefox Live Bookmarks, NetVibes, NewsGator Online, NewsFire Mac OS X RSS Reader, Google Reader, and Bloglines. Examples of sites where users rate and highlight news are Digg, Feed Chronicle, Yahoo Buzz, Mixx, and Propeller.

Try a few:

- Feedfetcher: http://www.google.com/feedfetcher.html
- Live bookmarks: http://www.mozilla.com/en-US/firefox/livebookmarks.html
- Digg: http://www.digg.com/
- Feed Chronicle: http://www.feedchronicle.com/

SITUATIONAL ANALYSIS

Demographics of Utah

The state of Utah has a population over 2.6 million people, making it 34th in terms of population size among the 50 states. In 2006 Utah's population grew 2.5% as compared to 1% nationally, and between 2005 and 2020 the population is expected to grow 24%, while the national average expected growth is 14%. It is also expected that Utah will have a 31% increase in the number of high school graduates from 2002 to 2017, while the national average is estimated at only 8%. (The National Center for Public Policy & Higher Education, 2006; Governor's Office of Planning & Budget, 2007).

Education is not equal for all residents of Utah. As of 2000, only 7% of Utah's Caucasian working-age population had less than a high school credential, with 38% having an associate's degree or higher. However, for Hispanics and Latinos, 42% had less than a high school credential, and only 14% have an Associate's degree or higher (The National Center for Public Policy & Higher Education, 2006). Equally, there are age discrepancies. If one considers only the age group of 18 to 24 in Utah, then there are 15.3% who are less than high school graduates, and only 5.7% with a bachelor's degree or higher (U.S. Census Bureau, 2005).

Open Communication Channels

As with OCW materials, a key aspect of open educational resources is simply an increase in open communication with diverse and global audiences. Campbell notes, "high-speed networked computing increases the rapidity, extent, and potentially the depth of our communal mental engagement in such a way that the result differs not only in degree but also in kind from print alone" (2006). This communication can take the form of discussions, interactions, simulations, modules of content, journals, and more. As Smith & Casserly note, "we are aware that all **creators of knowledge need a place to put their materials and that flow of knowledge should be multidirectional and adaptable to the local learning environment**" (2006). The Internet and the OER movement are making this increasingly possible. Boettcher points out, "scholarly communication is evolving from a buzzword into a discipline" and includes research, development, and writing (2006). A limitation to this scholarly communication, though, is that

commercial publishers see intellectual property as a commodity and thus have tight restrictions on the flow of scholarship (Boettcher, 2006). This has encouraged the development of open access journals or other institutional repositories such as the Public Library of Science journals (PLoS) located at http://www.plos.org/journals/. Founded in 2000, PLoS was the first major open-access journal publication (Vest, 2006).

Creative Commons and ccLearn

Larry Lessig of Stanford is pursuing something called the **Creative Commons which frees materials from automatically applied copyright restrictions by providing free, easy-to-use, flexible licenses for creators to place on their digital materials that permit the originator to grant rights as they see fit** (Smith & Casserly, 2006; Fitzergerald, 2007). As the Creative Commons Website located at http://creativecommons.org/ notes, "Creative Commons provides free tools that let authors, scientists, artists, and educators easily mark their creative work with the freedoms they want it to carry. You can use CC to change your copyright terms from 'All Rights Reserved' to 'Some Rights Reserved'" (Creative Commons, 2007). This holds promise for OER movements because it helps control the costs and legal issues revolving around offering materials freely online (Caswell, Henson, Jensen, & Wiley, 2008). Currently over 30 nations now have creative commons licenses although it has only been in place for four years (Smith & Casserly, 2006).

A development stemming from Creative Commons is **ccLearn**, which was launched in July of 2007 **focuses specifically on open learning and open educational resources**. It emphasizes diminishing legal, technical, and social barriers. A primary goal of ccLearn is to build a comprehensive directory of open educational resources with the assistance of Google with encourages their discovery and subsequent use (Atkins, Brown, & Hammond, 2007; Bissell, 2007; Brantley, 2007).

AEShareNet

AEShareNet located at http://www.aesharenet.com.au/ permits users to incorporate either instant licenses or mediated licenses. Of the instant licenses users can choose from (a) free for education, (b) unlocked content, (c) share and return, or (e) preserve integrity. The free for education license permits others to use or copy the materials for educational purposes but not others; the unlocked content license means the resource may be freely copies, adapted or used by anyone; the share and return license can be used and enhanced by anyone but rights must be consolidated with the original copyright owner; and preserve integrity says the material may be copied but must remain in its original form with the owners copyright notice (TVET Australia Product Services, 2007). This, as with Creative Commons, also holds

promise for OER movements by helping control costs and legal issues when offering materials freely online.

Incentives and Disincentives for OCW Use in Utah

Based on a random study of 140 residents throughout Utah between 16 and 64 years of age (survey sent to 753 individuals; 180 responses total; 140 responses deemed usable), the following are the greatest incentives and disincentives for OCW use:

Results indicated that the greatest incentives for OCW use were
(a) no cost for materials (M=4.59, SD=0.68),
(b) having resources available at any time (M=4.35, SD=0.89),
(c) pursuing in depth a topic that interests me (M=4.24, SD=0.93),
(d) learning for personal knowledge or enjoyment (M=4.22, SD=0.93), and
(e) materials in an OCW are fairly easy to access and find (M=4.12, SD=0.98).

Results indicated that the greatest disincentives for OCW use were
(a) there is no certificate or degree awarded (M=3.28, SD=1.54),
(b) it does not cover my topic of interest in the depth I desire (M=3.17, SD=1.31),
(c) lack of professional support provided by subject tutors or experts (M=3.14, SD=1.25),
(d) lack of guidance provided by support specialists (M=3.09, SD=1.26), and
(e) feeling the material is overwhelming (M=3.06, SD=1.31) (Arendt, 2009).

REFERENCES

Arendt, Anne M. "An Assessment of Utah Resident Incentives and Disincentives for Use of OpenCourseWare." Diss. Utah State University, 2009. Digital Commons at USU. Utah State University, May 2009. Web. 25 Sept. 2009. <http://digitalcommons.usu.edu/etd/389/>.

Atkins, D. E., Brown, J. S., & Hammond, A. L. (2007). A review of the open educational resources (OER) movement (Report to the William and Flora Hewlett Foundation, pp. 1-80) [Electronic version]. San Francisco: William and Flora Hewlett Foundation.

Bissell, A. (2007). Announcing ccLearn - the education division of creative commons. Retrieved April 16, 2008, from Creative Commons CC News Web site: http://creativecommons.org/weblog/entry/7583

Boettcher, J. (2006). Framing the Scholarly Communication Cycle. Online, 30(3), 24-26.

Brantley, P. (2007). Open Education Search. Retrieved April 17, 2008, from O'Reilly Radar Web site: http://radar.oreilly.com/archives/2007/08/open-education-search.html

Carson, S. (2006). 2005 program evaluation findings report MIT OCW. Cambridge: Massachusetts Institute of Technology.

Caswell, T., Henson, S., Jensen, M., & Wiley, D. (2008). Open educational resources: Enabling universal education. International Review of Research in Open and Distance Learning, 9(1), 1-12. About National Science Digital Library. (2008). Retrieved April 17, 2008, from National Science Digital Library Web site: http://nsdl.org/about/

China Open Resources for Education. (2007). Total number of China quality OCW reached 1100. Retrieved August 8, 2007, from http://www.core.org.cn/en/news/2007/070202.htm

Consortium for School Networking (CoSN), (2009, May 1). Leadership for Web 2.0 in Education: Promise and Reality. Retrieved July 22, 2009, from Consortium for School Networking (CoSN) Advancing K-12 Technology Leadership Web site: http://www.CoSN.org/Portals/7/docs/Web%202.0/ExecSummaryCoSN%20Report042809Final.pdf

Cramer, S. (2007). Update your classroom with learning objects and twenty-first-century skills. The Clearing House, 80(3), 126-132.

Downes, S. (2007). Models for sustainable open educational resources. Interdisciplinary Journal of Knowledge and Learning Objects, 3, 44.

Educause Learning Initiative. (2006). ELI innovations & implementations— The Open Learning Initiative (ELI5013). Boulder, CO: Educause.

Hanselman, M. (2009, February 26). OCW receiving national, international recognition. Utah State Today, p. 3. Retrieved February 27, 2009, from Utah State Today Web site: http://www.usu.edu/ust/index.cfm?article=34468

International Institute for Education and Planning. (2005). Final forum report. Retrieved August 5, 2007, from http://portal.unesco.org/ci/en/files/21713/11438000259OER_Forum_Final_Rep ort.pdf/OER%2BForum%2BFinal% 2BReport.pdf

Kirkpatrick, K. (2006). OCW. Searcher, 14(10), 53-58. Retrieved July 27, 2007, from Professional Development Collection database.

Lerman, S. R., & Miyagawa, S. (2002). OCW. Academe, 88(5), 23.

Malcolm, M. (2005). The exercise of the object: issues in resource reusablity and reuse. British Journal of Educational Technology, 36(1), 33-41.

Matkin, G. (2005). The move toward open educational resources. Distance Education Report, 9(9), 1-2.

NSDL Fact Sheet. (2008). Retrieved April 17, 2008, from National Science Digital Library Fact Sheet Web site: http://nsdl.org/about/?pager=factsheet

OCW Consortium. (2009). OCW Consortium members. Retrieved February 18, 2009, from http://www.ocwconsortium.org/index.php?option=com_content&task= view&id=80&Itemid=160

OCW Consortium: About Us. (2009). Retrieved February 18, 2009, from http://www.ocwconsortium.org/about-us/about-us.html

OCW Finder. (2007). Retrieved June 2, 2007, from http://opencontent.org/OCWfinder/

Open eLearning Content Observatory Services. (2007). Open educational practices and resources (OLCOS Roadmap 2012, pp. 1-149) [Electronic version]. Austria: Open eLearning Content Observatory Services.

Portal Universia. (2007). Universia.net. Retrieved August 8, 2007, from Universia Courses Web site: http://cursos.universia.net/app/es/index.asp?

Semuels, A. (2008, March 17). Wikipedia experiences growing pains. The Seattle Times. Retrieved April 16, 2008, from The Seattle Times Business/Technology Web site: http://seattletimes.nwsource.com/html/businesstechnology/2004286879_btwikipedia17.html

Singer, M. (2008). Find Your New Self In A Second Life. Retrieved April 16, 2008, from ebPublishing Inc. Loyal Subscriber Site San Leandro Times Web site: http://www.ebpublishing.com/*ws4d-db-query-Show.ws4d?*ws4d-db-query-Show***KHI-GH-115115120116115122-1354***-Database***-***sltimes(directory)***.ws4d?sltimes/column(R).html

Smith, M. S., & Casserly, C. M. (2006). The promise of open educational resources. Change, 38(5), 8-18.

Smith, N (Aug, 2009, 12). IM on Steroids: Companies Who Yammer Together, Stay Together. Digital Media Buzz, Retrieved Aug 13, 2009, from http://www.digitalmediabuzz.com/2009/08/im-on-steroids-yammer/

Stigter, F. (2007). Improving library services outcomes of EDL project knowledge sharing workshop. Retrieved August 7, 2007, from The European library press release Web site: http://www.edlproject.eu/downloads/improvinglibraryservices.pdf

Stover, C. (2005). World conference calls for open educational resources. Distance Education Report, 9(12), 2, 8.

The National Center for Public Policy, & Higher Education. (2006). Measuring up 2006. The state report cared on higher education Utah. Retrieved June 1, 2007, from Measuring Up. The national report card on higher education Web site: http://measuringup.highereducation.org/reports/stateprofilenet.cfm?myyear=2006&stateName=Utah

The Open University. (2007). How OpenLearn started. Retrieved August 8, 2007, from http://www.open.ac.uk/openlearn/about-us/our-story.php

The William and Flora Hewlett Foundation Open Educational Resources (OER) – Making High Quality Educational Content and Tools Freely Available on the Web. (2007). Retrieved August 7, 2007, from The William and Flora Hewlett Foundation Web site: http://www.hewlett.org/Programs/Education/OER/

TVET Australia product services. (2007). TVET Australia welcomes you to the

AEShareNet licensing system. Retrieved December 8, 2007, from TVET Australia Product Services AEShareNet Licensing System Web site: http://www.aesharenet.com.au/

Vest, C. (2004). Why MIT decided to give away all its course materials via the Internet. Chronicle of Higher Education, 50(21), B20-B21.

Trenin, D. T. (2007). Giving knowledge for free: The emergence of open educational resources [Electronic version]. Danvers, MA: Organization for Economic Co-operation and Development.

U.S. Census Bureau. (2007). State and county quickfacts. Retrieved September 11, 2007, from U.S. Census Bureau state and county quickfacts for Utah Web site: http://quickfacts.census.gov/qfd/states/49000.html

United Nations General Assembly. (2007). Universal declaration of human rights. (Original work published 1948) Retrieved December 8, 2007, from United Nations universal declaration of human rights Web site: http://www.un.org/Overview/rights.html

Vest, C. M. (2006). Open content and the emerging global meta-university. Educause Review, 41(3), 18-30.

Wiley, D. A. (2005). Learning objects in public higher education. In Innovations in instructional technology (pp. 1-9). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Wojcickil, E. (2008, April 1). Wikipedia founder proposes support for open textbooks. Yahoo News. Retrieved April 17, 2008, from Yahoo news opinion HuffingtonPost.com Web site: http://news.yahoo.com/s/huffpost/20080401/cm_huffpost/094418

Worthen, B. (2008, March 31). Wikipedia Hits 10 Million Truthy Entries. The Wall Street Journal. Retrieved April 14, 2008, from Wall Street Journal Business Technology Web site: http://blogs.wsj.com/biztech/2008/03/31/wikipedia-hits-10-million-truthy-entries/?mod=WSJBlog