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## **Academic knowledge mobilization to promote culture change towards openness in education**

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### **Abstract**

Regarding Open Educational Resources (OER), it is necessary to go beyond knowledge dissemination. Educational experiences towards a culture change are presented in this article. They are: [a] the adoption of open digital materials for formal academic programs; [b] publication of academic content through the OpenCourseWare initiative (<http://ocw.itesm.mx/>); [c] digital knowledge dissemination through the initiative called “Knowledge Hub” (currently named “temoa”: [www.temoa.info](http://www.temoa.info)) that provides a public and multilingual catalog of OER, aimed at supporting the educational

community to find those resources that meet their particular needs for teaching and learning through a specialized and collaborative search systems and social tools; [d] mobilization of knowledge by facilitating remixing of core components of courses, sharing of new ideas for teaching by creating new topics and course subjects. Some examples are: (d1) an institutional repository of OER, (d2) OER as textbook alternatives (anthologies), (d3) open electronic textbook, (d4) OER as reusable resource like study cases, learning objects and learning resources, (d5) OER as content generated or modified by a learner, (d6) studies to integrate communities of practice through inter-institutional research projects, (d7) training of faculty from several educational institutions (University level to basic education “K-12”) to foster a culture of “*prosumers*” (producers+consumers).

## Keywords

Open practice, production, transference, mobilization, knowledge

## List of topics

- Introduction: towards a knowledge-based society
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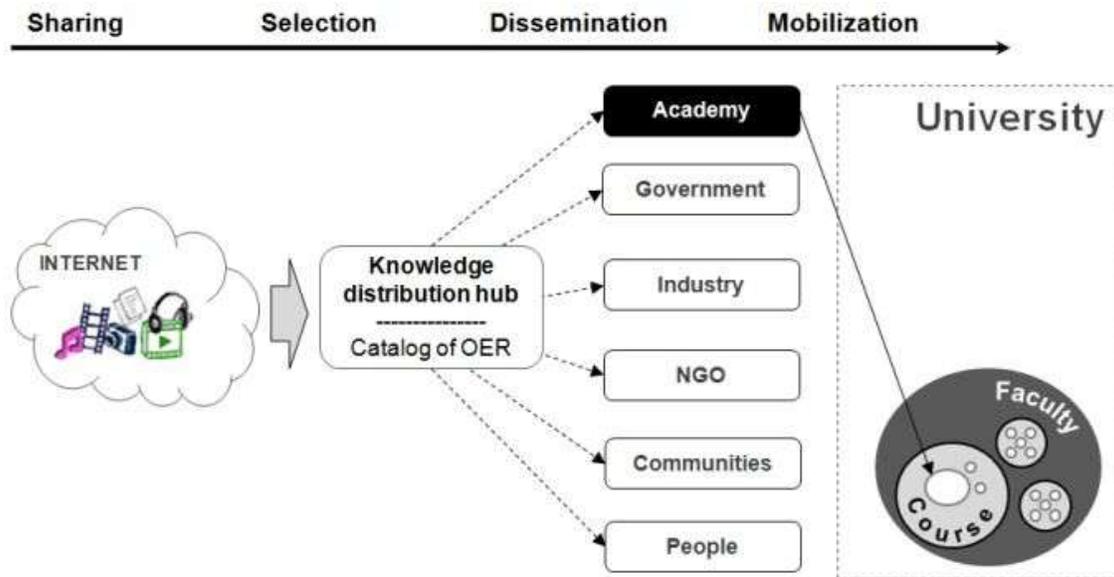
## Introduction: Towards a knowledge-based society

We are living challenging times in a transition to a new knowledge-based society (KBS) where educational resources are fully accessible through different media formats via information and communication technologies (ICT) on a massive and exponentially way through Web tools and search engines, including personal Websites and those devoted to formal educational institutions, libraries, information centers and civil society organizations (communities, associations, affiliations). There are advances in technology worldwide and hundreds of thousands of new resources published each day on the Internet in an exponential way. Accordingly, the way we see the world has changed dramatically. This also has a significant impact on education both in the way of learning as in the way of teaching.

The Internet has proved to be of great potential to facilitate knowledge dissemination from universities, educational institutions, organizations and governments, as well as to support the design of innovative educational strategies to improve and transform learning environments and to empower education. According to UNESCO (2011) the potential use of information technologies in education is crucial to provide those educators in a growing information society the tools needed to creatively impact the teaching-learning process, enabling them to overcome the challenges of a disruptive environment and global progress towards a more demanding knowledge-based society.

The challenge is to spur the value of use of existing knowledge in the process of sharing, assimilation and application of focused knowledge to specific needs through bounded communities in academia. In terms of effective knowledge application, entails the explicit definition of new knowledge through the process of tailoring from its source towards a specific application of need such that consequent actions are effective and significative (Bennet and Bennet, 2007).

In figure 1 is shown how knowledge represented by *Open Educational Resources (OER)* is first published on the Internet to the worldwide community. The problem then becomes that OER are too dispersed on too many Websites. This creates a problem for the users being able to discover the difference between educational resources and reliable sources vs. unreliable resources. Then, the emergence of “*infomediaries*” is needed, whose basic goal is to provide a service as aggregators of information, operating as catalogs (a metadata index). An “*infomediary*” (from the combination of the words “information” and “intermediary”) is a Website that gathers and organizes large amounts of data (metadata) and acts as an intermediary between those who need the information and those who supply the information. Next, there is a dissemination process to different markets, and in the case of universities, the faculty is the idoneous community to catalyze change by mobilizing knowledge into specific educational practices like the creation of courses, workshops, learning activities, conferences and other teaching activities.



**Figure 1.** Knowledge mobilization of academic content

### Case study: Mobilizing OER to educational practices

The case study that is presented in this paper took place at a Mexican university, the *Tecnológico de Monterrey* that has worked since the year 2007 on several open educational projects. These projects were working towards innovative practices to improve academic achievement. Based on experiences with the use and production of royalty free course materials, the *Tecnológico de Monterrey* has identified some key critical factors to develop a model to effectively knowledge transfer the adoption of OER. The *Tecnológico de Monterrey* is a private, non-profit academic institution founded at the year of 1943 and composed of 33 campuses across Mexico. These campuses offer high-school programs, undergraduate and graduate degrees, continuing education, as well as social programs. Through technology-based distance programs, since 1989 the *Tecnológico de Monterrey* has been a pioneer in distance education. With more of 20 years of experience through its Virtual University, it currently reaches 29 countries and offers undergraduate, postgraduate, continuing education, and social programs completely online.

In the subject of knowledge mobilization of academic content, the *Tecnológico de Monterrey* has being an active participant in each stage of the process by sharing and publishing academic content through the worldwide initiative of OpenCourseWare Consortium (OCW-ITESM, 2008). This has been accomplished by publishing undergraduate and graduate courses, by selecting relevant educational resources through the creation and maintenance of a Web catalog of indexed OER, and by fostering dissemination of academic content to those whom may be interested in its use (academy, government, industry, NGOs, communities, people). Lastly, it promotes not only the use of OER, but going far beyond the process of dissemination of knowledge by tailoring it from its source to its application, as OER Content Playlists to promote and facilitate remixing of core components of courses, share new ideas for teaching by creating new topics and course subjects. Some examples are:

OER as textbook alternatives (anthologies of educational resources), OER as reusable resource, or OER as a content generated or modified by a learner (Ramírez and Burgos, 2011) fostering a culture of “*prosumers*” (producers+consumers).

Some educational experiences that have promoted knowledge mobilization through OER at the *Tecnológico de Monterrey* are:

1. The application of OER, integrated with e-learning in graduate courses through the use of OER with the creation of anthologies equivalent to textbooks (Ramírez, 2010a). They have also integrated with traditional education systems through the application of OER in the context of the work of students (Burgos & Ramírez, 2010).
2. The creation and production of OER within six other Mexican institutions for the development of educational researchers (Ramírez, 2010b).
3. The creation of OER by the graduate students that designed educational cases for K-12, high school and higher education, as well as open objectives for the formation of teachers in a knowledge based society (Ramírez & Valenzuela, 2010).
4. The creation of an open textbook (Ramírez & Burgos, 2010), resulting from case studies/investigations where 120 graduate students implemented OER in their learning environs and documented the impact on their learning.
5. The university has developed an institutional repository of OER and mobile learning resources on educational research which is available through a website (<http://catedra.ruv.itesm.mx/>), where these resources are open, free and licensed for use, reuse and distribution;
6. The university has been training its own faculty and undergraduate and graduate students, and also has been training faculty from other educational institutions (K-12 to University level);
7. Finally, has conducted research on all these experiences in several aspects such as: use of technology, legal issues about open educational materials, training for using and producing OER and sharing best practices.

## **Sharing: Publication of academic content through OER**

The first documented phase for the *Tecnológico de Monterrey* towards knowledge mobilization is the educational experience of sharing and publishing academic content through the initiative of OpenCourseWare Consortium (OCW-ITESM, 2008; OCWC, 2011). The Consortium brings together over 250 educational institutions and organizations to create a pool of open educational content, fostering the development of courseware materials from its members to spur knowledge transference through open academic content, and by promoting its adoption to propitiate tailoring of educational materials to satisfy specific educational needs.

The process of adoption of open academic content started in the year of 2007 at the *Tecnológico de Monterrey* with the analysis of the several courses from international universities of higher education, like the Massachusetts Institute of Technology (MIT-OCW, 2011), the Carnegie Mellon University (OLI, 2011), and Yale University (OYC, 2011). The professors searched for matches between the syllabus of their courses and published in open initiatives like the mentioned before. The next step was to select specific contents and learning activities from these courses. These contents and activities were incorporated into undergraduate courses delivered during that Fall of 2007 academic period.

The implementation of these materials was smooth and successful. The contents and activities from OCWC courses provided an international perspective which made the recipient courses richer and more interesting for both professors and students. The main obstacles identified in this process occurred during the selection and design stage. The topics included and the depth of the contents of open courses varied significantly from local courses which made finding suitable matches between courses a difficult task.

To study the adoption process, the Graduate School of Education (EGE) of the *Tecnológico de Monterrey* conducted two follow-up case studies on the subject of knowledge transference and the adoption process of open academic contents: “Knowledge transference of digital resources from the OpenCourseWare initiative for face-to-face instruction” (Contreras, 2008) and the “Transference of open educational resources from global universities” (Gonzalez, 2008; González, Lozano and Ramírez, 2008).



**Figure 2.** Sharing of open academic content through OCWC (OCW-ITESM, 2008)

## **Selection: Documentation and evaluation of academic content**

The selection criteria of open academic content is based on the term of “Open Educational Resources, OER”, a term coined by the UNESCO at the year 2002 with the aim to identify open academic content through information communication technologies (ICT), for reference, use and adaptation for educational purposes:

*“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” (Smith and Casserly, 2006).*

For practical purposes, the definition requires to be study in parts to fully understand its educational impact for instrumentation and further interpretation for operationalization. For example, OER are “any type” of teaching, learning and research resources available over the Internet, narrowing the selection criteria from collections to OER available in digital format only. Also, we are talking about materials available in the public domain or released under an intellectual property license to assure the respect of authorship, leaving aside all educational material that doesn’t explicitly declare respect for copyright in their Websites or catalogs; in the past, there have been some studies to identify OER content providers that comply with the selection criteria and to fully understand the copyright boundaries (Bissell and Park, 2008; AU-SOC, 2009; Hofman, 2009).

Once the OER is available at the Internet, there are several challenges to be faced like the accessibility of open academic content (Haßler, 2009) and its discoverability over sea of information. To improve the discoverability process of OER over the internet and ease the task to educators to adopt them in educational practices, the *Tecnológico de Monterrey* proposed the creation of an important educational initiative, named “*Knowledge Hub*” (Burgos, 2008) at the World Economic Forum (WEF) in Davos, Switzerland, in January 2008 during a Global Universities Leaders Forum session (Galán, 2008). *Knowledge Hub* was later named as TEMOA (2010) that represents the words "to seek, investigate, inquire" in the Náhuatl language as a free use catalog that supports a multilingual search engine to allow the user to discover selected OER using enriched metadata by an academic community and enhanced by librarians, using Web 2.0 such faceted search and social networking tools. The catalog classifies educational resources in different areas of knowledge considering the scheme of reference of the “Hierarchical Interface to Library of Congress Classification (HILCC) proposed by the Columbia University (Davis, 2006; HILCC, 2008).

The portal Website of TEMOA provides public access through the Internet for educators, students and self-learners of all educational levels, from graduate education to K-12 basic education. It was created to assist educators in the challenging task of introducing innovations in the classroom to improve the teaching-learning process, and by consequence, student retention, motivation and attention. TEMOA is a Mexican distance education initiative of the *Tecnológico de Monterrey (ITESM)* globally available, conceived by the faculty’s needs to find instructional materials for teaching and learning with the certainty that the resources found, respects the intellectual property and legal rights from their original authors.

TEMOA provides its main service of Web catalog of OER in a free use basis (guest profile), but other secondary services are reserved for its community by a membership basis (collaborator profile). A user could play different roles depending on their educational interests and profiles, some of the roles are:

- **Guest profile.** Is offered to those users whom may be interested in the catalog for self-use or reference. This status is for users of the catalog who do not have a login account on the system, but that not limits the use of the search engine or the catalog itself.
- **Collaborator profile.** Is offered to those users whom are interested not only in the use of the catalog but they share time, experience and knowledge in a subject area of expertise by creating new educational resources or by evaluating and rating educational resources by a reviewing process. This status is for users of the catalog who have a login account on the system.

One of the services that are reserved for users with status of “Collaborators” is the possibility to create new knowledge from the base of existing knowledge at the catalog. The service offers the potential to create courses, topics and learning activities through the definition of annotated lists with OER, and search queries produced by the user at the catalog. The lists may be shared as they are published for free use, or could be copied and reorganized by combining specific elements to create new lists and adapt them to concrete needs of teaching or learning, all while retaining references of attribution to the original sources.

At the TEMOA initiative there is a selection criteria and a documentation and evaluation process of academic content (2011a; 2011b), this is through a process called “Lifecycle of an Open Educational Resource” were a potential OER content provider first its evaluated by an expert librarian considering a selection criteria and then each accepted resource goes through a number of different filters; such procedure allows a quality technical assurance process.



Figure 3. temoa.info open educational resources portal (TEMOA, 2010)

## **Dissemination: Communication and reference of academic content**

Academic content as OER may be studied as a "digital object" that provides knowledge, as well as can be seen as a "digital learning object" that is defined as "an entity digital information developed for the generation of knowledge, and development of skills and attitudes, which makes sense according to the needs of the person and corresponds to a concrete reality" (Ramírez, 2007, pg.356-357). From a this broad perspective, an OER may contain a specific subject, content unit, an objective and several descriptors to promote its reuse, and to support interoperability, accessibility and continuity of use over time.

It's important to point that an OER as a digital object may be recursive in itself, this means that it can consist of one or more (sub) digital objects, and in this sense, for effective instrumentation its necessary to define the "granularity" of the digital object to facilitate its communication properly, considering that depending the level of granularity it's required to define a particular schema of metadata. The granularity basically is defined by the scope or size (the atomic unit) of the digital object. For educational purposes, an OER can refer to the definition of a concept, a subject, a module (a group of subjects) or even a full course.

To ease the diffusion and dissemination of digital objects, it's very important to document and accurately describe each OER with a defined metadata (descriptors to give context). Metadata is simple data that describes other data and which together are used to describe and represent a digital object (potential use). A set of metadata can include descriptive data about the context, quality and conditions or specific characteristics of the OER. Metadata is more extensively used for query refinement in databases through specialized search engines, supported with information technology to optimize the searchable process.

The initiative of TEMOA facilitates a process of digital dissemination of OER by validating and filtering knowledge available on the internet, considering the need to ensure a specific selection of OER and a proper documentation with basic metadata (Ávila and Sanabria, 2008). While on the other side, covers the need to filter information that is available in a massive and exponential way over the Internet, reducing the problem of suspicions and questions about its authenticity, validity, and reliability (ACRL, 2004).



**Figure 4.** OER lifecycle for quality assurance (TEMOA, 2011b)

## Mobilization: Transference of academic content

There is a necessity to deal with uncertainty and provide an effective way to provoke knowledge transference and to satisfy particular needs of development. It's not enough to share and publish tons of knowledge and it's not enough to spur digital dissemination of knowledge. There is a more demanding need that is to ease the task to facilitate the learning and sharing of knowledge through a conscious development of connections, relationships and the flow of information through communities of people (Bennet and Bennet, 2007). Knowledge mobilization is about bringing people and actions together to create value and meaning to satisfy particular needs based on assimilation and application of focused knowledge.

The *Tecnológico de Monterrey* initiated a process of creating value through the creation, assimilation, leveraging, sharing and application of focused open academic content in specific scenarios. In the case of the graduate course for the master degree of education titled "*Research for the improvement of educational practices*" offered in the Graduated School of Education (EGE) at the *Tecnológico de Monterrey*, the use of OER was incorporated into specific learning activities. The use of OER was incorporated as an anthology of resources providing a suitable alternative of textbook (Ramírez, 2010) in a distance education modality; and then, by considering the main goal of the course to "prepare students in the research field from the philosophical aspects of science and education, to the everyday practice of educational actors", the study of OER was the main research subject line through the development of a final research project focused in the study of the incorporation and use of OER into real educational practices, considering the empirical basis from which the researchers had to start doing their reflections to inquire their praxis to deliver innovative and more personalized approaches to teaching and learning.

In figure 5, is represented the use of OER as an anthology of selected resources (content playlist) by the instructor of the course, providing a suitable alternative of textbook for the course (Ramírez, 2010c). In the table of contents there are 22 specific subjects and 30 educational resources selected for each subject; each of the resources comes from different sources (content providers) previously audited and reviewed for an expert team of librarians with the function to publish them at the catalog of TEMOA at the OER providers' directory. One of the greatest opportunities that the system provides, is that each resource and each subject, including the anthology itself can be reviewed and rated by the academic community in a scale of one to five diamonds (*from poor to awesome*) to give feedback to the instructor of the course of the perception of quality of the selected resources.



**Figure 5.** OER Content Playlist as an anthology of educational resources (Ramírez, 2010c)

The first educational experience consisted in the creation of one anthology of OERs for the course and the reuse of existing base-knowledge to fulfill the learning goals of the specific subjects, but the most demanding educational experience was to think "out of the box" of simple use of knowledge into learning activities and go farther to knowledge creation about educational practices by tailoring existing knowledge to concrete educational needs in real scenarios.

The second educational experience was the design of a final research project, focused in the study of OER into real educational practices to study its impact on real teaching-learning scenarios from basic education to higher education level. The project consisted of the development of one case study considering a rigorous research methodology, referring to a real situation taken in context to analyze it and to see how expressing and evolve the phenomena that the researcher was interested. The case study provides an observation that allows individuals identify or discover processes. The case study itself was treated as an integrated system of components, which do not necessarily have to work well together and even could find in them elements that seem irrational. Those aforementioned reflections were important to allow an understanding of the object of study. One of the advantages of the case study is to allow the researcher to be able to observe information converged

with a large number of factors that were interacting together. In this way, justice is given to the complexity and richness of social situations. The case study investigation was worked in teams, with the central axis of the incorporation of OER in the educational practices, trying to investigate their integration into diverse learning environments using technology. Thus, the investigation of educational practices were presented in a practical and innovative way, where OER were incorporated, trying to identify similar and different elements in them, culminating in a series of proposals to improve the educational practices being inquire.

As a result of the course, students presented the documentation of 30 case studies of use of OER in several contexts, disciplines and educational levels which were integrated in an electronic book publication as an OER itself (Ramírez and Burgos, 2010); the front cover of the book is shown in figure 6.



**Figure 6.** Open textbook with 30 case studies of use of OER (Ramírez and Burgos, 2010)

## Lessons learned and conclusions

A learning environment enriched with technology allows instructors to offer new ways of teaching and reflect on their teaching practice, empowering the student in the development of essential skills in the use of such technology to stimulate the learning process. The OER as they can be found in a natural state in digital format and available through electronic media like the Internet potentiates its incorporation into the classroom using ICT to encourage an active role in the teaching-learning process.

A lesson learnt as good educational practice is to promote among the academic community a culture of “prosumers” that, according its definition, is about people whom produce something (product/ service) for their own consumption (Kotler, 1986). In this case it is educators that produce OER for their own consumption and educational needs. Also some

recommendations that could be offered to decision makers to foster new learning environments to prepare educators in a knowledge-based society are to:

- Promote a new culture and educational practice to acquire the skills required to exploit fully the use of OER, for example, digital literacy and information literacy.
- Promote a community-based system of open sharing of educational best practices, with the intention of facilitating the effective reuse of OER and learning of significant experiences in the use of OER in teaching and learning activities.
- Establish mechanisms for monitoring and recognition that support educational practice to share experiences on the use of OER through intellectual and scientific evidence.
- Clarify and define licensing schemes and mechanisms for the protection of copyright and intellectual property to foster the production and reuse of OER.

## References

- ACRL (2004). Information Literacy Competency Standards for Higher Education, Association of College & Research Libraries (ACRL) a Division of the American Library Association. Retrieved January 17, 2011 from <http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm>
- AU-SOC (2009). Code of Best Practices in Fair Use for OpenCourseWare, By a committee of practitioners of OpenCourseWare in the United States, Center for Social Media: School of Communication American University, <http://www.centerforsocialmedia.org/ocw>
- Ávila, H., and Sanabria, D. (2008). *El Proyecto Knowledge Hub: De México hacia el resto del mundo*. México D.F.: Ponencia presentada en el III Encuentro de Catalogación y Metadatos CUIB, Centro Universitario de Investigaciones Bibliotecológicas de la UNAM y el Instituto de Investigaciones Bibliográficas, <http://hdl.handle.net/10760/12524>
- Bennet, A., and Bennet, D. (2007). *Knowledge Mobilization in the Social Sciences and Humanities: Moving from Research to Action*, MQI Press (Knowledge Series)
- Bissell, A., and Park, J. (2008). What Status for Open? An Examination of the Licensing Policies of Open Educational Organizations and Projects, a report from ccLearn (Creative Commons) to the William and Flora Hewlett Foundation, <http://creativecommons.org/weblog/entry/11700>
- Burgos, J. V. (2008). Knowledge Hub Open Educational Resources (OER) index: experiences of Tecnológico de Monterrey. In OER stories, UNESCO OER Community Open Educational Resources. Retrieved October 21, 2008 from [http://oerwiki.iiep-unesco.org/index.php?title=OER\\_stories/Knowledge\\_Hub](http://oerwiki.iiep-unesco.org/index.php?title=OER_stories/Knowledge_Hub)

- Burgos, J. V (2010). *Distribución de conocimiento y acceso libre a la información con Recursos Educativos Abiertos (REA)*, Revista Digital “La Educ@ción”; (143) edición especial “Innov@ción Educativa para el Desarrollo Humano”, Organización de los Estados Americanos (OEA-OAS), en [www.educoea.org/portal/La\\_Educacion\\_Digital/laeducacion\\_143/](http://www.educoea.org/portal/La_Educacion_Digital/laeducacion_143/)
- Burgos, J. V., and Ramírez, M. S. (2010). *Open Educational Resources: Experiences of use in a Latin-American context*. In Open ED 2010 Proceedings at Barcelona (UOC, OU, BYU), retrieved January 4, 2011 from <http://hdl.handle.net/10609/5062>
- Contreras, M.P. (2008). Transferencia de conocimiento con recursos digitales de OpenCourseWare (OCW) para contenidos en clase presencial, Tesis de Maestría en Tecnología Educativa, Escuela de Graduados en Educación del Instituto Tecnológico de Estudios Superiores de Monterrey, disponible en <http://biblioteca.itesm.mx>
- Davis, S. P. (2006). *HILCC a Hierarchical Interface to Library of Congress Classification*, Columbia University Libraries Digital Library Initiative, Taylor & Francis Group; informawold; Journal of Internet Cataloging, Vol 5(4) December 2002, p.19-49, <http://www.informaworld.com/smpp/814121334-48121463/content~db=all~content=a909291161>
- Galán, V. (2008). *El Tec diseña un 'Google' académico*. CNN Expansión.com. Retrieved October 10, 2008 from <http://www.cnnexpansion.com/tecnologia/2008/04/16/tec-de-monterrey-elabora-buscador>
- González, G. (2008), Transferencia de recurso educativo abierto en modelos de universidades globales, Tesis de Maestría en Educación, Escuela de Graduados en Educación del Instituto Tecnológico de Estudios Superiores de Monterrey, disponible en <http://biblioteca.itesm.mx>
- González, G., Lozano, F. G., and Ramírez, M. S. (2008). *Procesos de transferencia de recurso educativo abierto en modelos de universidades globales hacia cursos de e-learning y blended learning*. Memorias del XVII Encuentro Internacional de Educación a Distancia. Virtualizar para educar. Guadalajara, Jalisco.
- Haßler, B. (2009). Access to Open Educational Resources, report of a UNESCO OER Community Discussion; (9-27 February, 2009); <http://oerwiki.iiep-unesco.org/index.php?title=Access2OER/Contents>
- HILCC (2008), Columbia HILCC: A Hierarchical Interface to LC Classification, Columbia University Libraries Digital Program, retrieved January 5, 2011 from <http://www.columbia.edu/cgi-bin/cul/resolve?cul.1BQN3R>
- Hofman, J. (2009). Introducing Copyright: A plain language guide to copyright in the 21st century, The Commonwealth of Learning, retrieved January 17, 2011 from [www.col.org/introducingcopyright](http://www.col.org/introducingcopyright)
- Kotler, P. (1986). *The prosumer movement: a new challenge for marketers*, in Advances in Consumer Research Volume 13, eds. Richard J. Lutz, Provo, UT: Association for Consumer Research, Pages (510-513), retrieved January 17, 2011 from <http://www.acrwebsite.org/volumes/display.asp?id=6542>
- OCWC (2011). OpenCourseWare Consortium, retrieved January 17, 2011 from <http://www.ocwconsortium.org>
- OCW-ITESM (2008). OpenCourseWare of Tecnológico de Monterrey, retrieved January 5, 2011 from <http://ocw.itesm.mx>

- OLI (2011). Open Learning Initiative, Carnegie Mellon University, retrieved January 17, 2011 from <http://www.cmu.edu/oli>
- OYC (2011). Open Yale Courses, Yale University, retrieved January 17, 2011 from <http://oyc.yale.edu>
- MIT-OCW (2011). Massachusetts Institute of Technology in OCW (OpenCourseWare), retrieved January 17, 2011 from <http://www.ocw.mit.edu>
- Ramirez, M.S. (2007). *Administración de objetos de aprendizaje en educación a distancia: experiencia de colaboración interinstitucional*. Tecnología Educativa: en un modelo educativo centrado en la persona, Burgos & Lozano (Comps.), México: LIMUSA
- Ramírez, M.S. (2010a). Ed5049. Demandas educativas en la sociedad del conocimiento, temoa: Open Educational Resources Portal, retrieved at January 6, 2011 from <http://www.temoa.info/es/node/42476>
- Ramírez, M. S. (2010b). *Generando recursos educativos abiertos y móviles para la formación de investigadores educativos: una colaboración interinstitucional*. XI Encuentro Internacional Virtual Educa (sección del seminario de uso de recursos tecnológicos para la educación y la investigación educativa: experiencias del Tecnológico de Monterrey). Santo Domingo, República Dominicana.
- Ramírez, M.S. (2010c). Ed5047. Investigación para la Mejora de las Prácticas Educativas, temoa: Open Educational Resources Portal, retrieved at January 6, 2011 from <http://www.temoa.info/node/45210>
- Ramírez, M.S., and Burgos, J. V. (2010) (Coords.). *Recursos Educativos Abiertos en Ambientes Enriquecidos con Tecnología: Innovación en la Práctica Educativa*, Tecnológico de Monterrey; México, Septiembre 2010 -1st edition, available at [www.lulu.com](http://www.lulu.com)
- Ramirez, M.S. and Burgos, J.V. (2011). *Innovative experiences of Open Educational Resources in a Latin-American context*. OCWC Global 2011: Celebrating 10 years of OpenCourseWare, Cambridge Massachusetts (May 4-6), retrieved January 11, 2011 from <http://conference.ocwconsortium.org>
- Smith, M.S., and Casserly, C.M. (2006). *The Promise of Open Educational Resources; Change: The Magazine of Higher Learning*; Sep-Oct 2006; 38(5); p. 8 (EJ772126). <http://dx.doi.org/10.3200/CHNG.38.5.8-17>
- TEMOA (2010). Temoa: Open educational resources portal, retrieved January 5, 2011 from <http://www.temoa.info>
- TEMOA (2011a). Acceptance criteria for OER providers, retrieved January 17, 2011 from <http://www.temoa.info/en/oer-criteria>
- TEMOA (2011b). Quality assurance: Lifecycle of an Open Educational Resource, retrieved January 17, 2011 from <http://www.temoa.info/node/42112>
- UNESCO (2002). Forum on the Impact of Open Courseware for Higher Education in Developing Countries, with financial support and co-operation from the William and Flora Hewlett Foundation and the USA based Western Cooperative for Educational Telecommunications (WCET): final report. pp.24, <http://unesdoc.unesco.org/images/0012/001285/128515e.pdf>

UNESCO (2011). Observatory Portal: Monitoring the Development of the Information Society towards Knowledge Societies, United Nations Educational Scientific and Cultural Organization, retrieved January 6, 2011 from <http://www.unesco.org/webworld/observatory/>

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