Crash course on open educational resources

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Guest Lecture
24th and 27th June, 2013
Sukhothai Thammathirat Open University, Thailand

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Acknowledgement

I express my gratitude to:

– Assoc. Prof. Dr. Chalerd Pichitpornchaidorrex
tendingmethiskindinvitation;

– Ms. Rattip Phukkeson and all other colleagues at ST OU for having me here.
Lecture Outline

- Introduction to Open Educational Resources.
- OER from an Asian Perspective: Reflections of the OER Asia Study.
- AViable Model for OER Reuse in ODL Courses: Case Study.
Main Reference


Available at: http://www.col.org/resources/publications/Pages/detail.aspx?PID=411

Talking Points

- Definition of OER
- Current Status
- The “O” in OER
- Copyright
- Access
- Curation
- Funding and Sustainability
- Impact
- Future Direction
Definition

• “web-based materials, offered freely and openly for use and research in teaching, learning and research” (Joyce, 2007).

• “teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no limited restrictions” (UNESCO Paris OER Declaration, 2012).


The “O” in OER

The four ‘R’s model:

- **Reuse**—the most basic level of openness. People are allowed to freely use all or part of the unaltered, verbatim work.

- **Redistribute**—people can share copies of the work with others.

- **Revise**—people can adapt, modify, translate, or change the form of the work.

- **Remix**—people can take two or more existing resources and combine them to create a new resource.
Copyright

OpenContentLicensing (OCL) schemes:

- PublicDomain
- CreativeCommons (CC)
- GNUFreeDocumentationLicensing
- Otherregionalorinstitutionallicenses
  - BCCommons (discontinued)
CCPorted vs. Unported

- **Unported**: abides by international copyright laws and is not subject to regional jurisdictions;
- **Ported**: a version customized to suit the copyright laws of a particular region or jurisdiction.

Access (ALMS)

- **Access to editing tools**: how accessible are the software tools needed to reuse the resource?
- **Level of expertise required to revise or remix**: how easy is it to revise or remix a resource without advanced technical skills or specialist knowhow?
- **Meaningfully editable**: can the resource be reused or remixed with less time and effort than needed to create it from scratch?
- **Source file access**: does the resource provide access to an editable source file which can be used to reuse or remix?
Curation

- **Content repositories**—hosts content internally within the repository (e.g., Connexions, WikiEducator).

- **Portal repositories**—provides searchable catalogues of content hosted in external repositories (e.g., OER Commons, DOER).

- **Content and portal repositories**—hosts content internally in addition to providing...

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Funding and Sustainability

1. Endowment Model

2. Membership Model

3. Donations Model

4. Conversion Model

5. Contributor-Pay Model

6. Sponsorship Model

7. Institutional Model

8. Governmental Model

9. Partnerships and Exchanges

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Impact

• “just as the Linux operating system and other open source software have become a pervasive computing technology around the world, so too might OER materials become the basis for training the global masses” (Farber, 2009).

• The move towards OER can significantly reduce the cost of learning (Caswell, et al., 2009).


Future Direction

Massive Open Online Courses (MOOC)

UDACITY
Questions

OER from an Asian Perspective Reflections of the OER Asia Study
Main Reference


Available at: http://www.col.org/resources/publications/Pages/detail.aspx?PID=441.

The OER Asia Survey

- Aimed to identify the current state of play in the Asian Region with respect to OER practice.

- The survey mainly concentrated on, but not limited to, the current situation in Malaysia, Vietnam, Indonesia, India, Philippines, Japan, China, Hong Kong, South Korea.

- Duration: 27 months
Scope

- **Learning Content:** Full courses, courseware, content modules, learning objects, collections, and journals.
- **Tools:** Software to support the development, use, reuse, and delivery of learning content including searching and organization of content, content and learning management systems, content development tools, and online learning communities.
- **Implementation Resources:** Intellectual property licenses to promote open publishing of materials, design principles of best practice and localization of content.

Objectives

1. To determine the demand for OER;
2. To establish the regional capabilities to develop and/ or use OER;
3. To determine, list and describe the range of OER activities in the region;
4. To list and describe the methods adopted for the creation of OERs;
5. To identify the policy, legal, and technological issues relating to the use of OERs;
6. To identify/determine requirements of quality and their relevance in the OER environment;
7. To undertake an economic analysis of the OER development and use;
## Responses

### Individual

- **Philippines**: 36 (9%)
- **Vietnam**: 35 (8%)
- **China**: 75 (18%)
- **Indonesia**: 42 (10%)
- **Japan**: 12 (3%)
- **Korea, South**: 64 (15%)
- **Hong Kong**: 40 (9%)

(N=420)

### Institutional

- **Philippines**: 11 (11%)
- **Vietnam**: 14 (15%)
- **China**: 32 (33%)
- **Hong Kong**: 4 (4%)
- **Indonesia**: 8 (8%)
- **India**: 8 (8%)
- **Other**: 4 (4%)

(N=98)

## Respondent Profile

<table>
<thead>
<tr>
<th>Participant Title</th>
<th>Public</th>
<th>PrivateNot-for-profit</th>
<th>Private-for-profit</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Prof.</td>
<td>20</td>
<td>2</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>80.00%</td>
<td>8.00%</td>
<td>12.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Dr.</td>
<td>77</td>
<td>15</td>
<td>10</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>75.50%</td>
<td>14.70%</td>
<td>9.80%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Mr.</td>
<td>168</td>
<td>32</td>
<td>22</td>
<td>222</td>
</tr>
<tr>
<td></td>
<td>75.70%</td>
<td>14.40%</td>
<td>9.90%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Ms.</td>
<td>47</td>
<td>14</td>
<td>10</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>66.20%</td>
<td>19.70%</td>
<td>14.10%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Total</td>
<td>312</td>
<td>63</td>
<td>45</td>
<td>420</td>
</tr>
<tr>
<td></td>
<td>74.30%</td>
<td>15.00%</td>
<td>10.70%</td>
<td>100.00%</td>
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</table>
Teaching Profile

<table>
<thead>
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<th>Participant Title</th>
<th>Undergraduate</th>
<th>Postgraduate</th>
<th>HighSchool</th>
</tr>
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<tbody>
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<td>14</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>Dr.</td>
<td>76</td>
<td>63</td>
<td>-</td>
</tr>
<tr>
<td>Mr.</td>
<td>132</td>
<td>46</td>
<td>19</td>
</tr>
<tr>
<td>Ms.</td>
<td>51</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>273</td>
<td>143</td>
<td>23</td>
</tr>
</tbody>
</table>

OER: Academic Use

I have used:
- Yes: 65%
- No: 23%
- Unsure: 12%

I will use:
- Yes: 80%
- No: 15%
- Unsure: 5%
The true cost savings for an institution would be visible only when more and more OER-based course materials are developed and shared freely amongst peer institutions through a “Partnerships and Exchanges” model (Downes, 2007) reducing the need for the development of common modules.

OER: Co-operation

Producing

- No: 47.16%
- Yes, in the same region/state: 20.7%
- Yes, in another part of the country: 13.4%
- Yes, internationally: 13.1%

Exchanging

- No: 16.5%
- Yes, in the same region/state: 17.6%
- Yes, in another part of the country: 46.15%
- Yes, internationally: 22.74%

OER: Barriers

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Yes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Lack of awareness</td>
<td>Yes</td>
</tr>
<tr>
<td>2 Lack of skills</td>
<td>Yes</td>
</tr>
<tr>
<td>3 Lack of time</td>
<td>Yes</td>
</tr>
<tr>
<td>4 Lack of hardware</td>
<td>No</td>
</tr>
<tr>
<td>5 Lack of software</td>
<td>No</td>
</tr>
<tr>
<td>6 Lack of access to computers</td>
<td>No</td>
</tr>
<tr>
<td>7 Lack of ability to locate specific and relevant OER for my teaching</td>
<td>Yes</td>
</tr>
<tr>
<td>8 Lack of ability to locate quality OER for my teaching</td>
<td>Yes</td>
</tr>
<tr>
<td>9 No rewards system for staff members devoting time and energy</td>
<td>Yes</td>
</tr>
<tr>
<td>10 Lack of interest in pedagogical innovation among staff members</td>
<td>Yes</td>
</tr>
<tr>
<td>11 Lack of support from management level</td>
<td>Yes</td>
</tr>
</tbody>
</table>
OER: Key Copyright Concerns

- Remixing different resources legally;
- Incorporates unlicensed third-party content;
- Discovering materials can be legally used;
- Publishing material created.

OER: Benefits in Teaching

- Gaining access to the best possible resources
- Promotes scientific research and education as publicly open activities
- Bringing down costs for students
- Bringing down costs for course development for institutions
- Outreach to disadvantaged communities
- Assisting developing countries
- Becoming independent of publishers (~50/50)
- Creating more flexible materials
- Conducting research and development
- Building sustainable partnerships
PointsforAction

- Further support is needed especially at the institutional level to facilitate capacity building in the use of digital resources and OER;
- A culture of collaboration between institutions needs to be established to harness the full potential of open content;
- More capacity building is needed at the institutional as well as national level to familiarise users with the benefits and limitations of open content licensing;
- Institutions need to establish set policies encouraging wider use and reuse of open content.

The Research Team

<table>
<thead>
<tr>
<th>OERAsia Team Member</th>
<th>Region and Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Emeritus Gajara Dhanaraj (Principal Investigator)</td>
<td>Malaysia: Wawasan Open University (WOU)</td>
</tr>
<tr>
<td>Professor Tsuneo Yamada</td>
<td>Japan: Open University of Japan (OUJ)</td>
</tr>
<tr>
<td>Professor Yong Kim (<a href="mailto:yongknou@gmail.com">yongknou@gmail.com</a>)</td>
<td>S. Korea: Korea National Open University (KNOU)</td>
</tr>
<tr>
<td>Professor Li Yawen (<a href="mailto:liy@ntnu.edu.cn">liy@ntnu.edu.cn</a>)</td>
<td>China: Beijing Open University (BJO)</td>
</tr>
<tr>
<td>Dr Yuen Kin Sun (<a href="mailto:younsung@bjtu.edu.cn">younsung@bjtu.edu.cn</a>)</td>
<td>Hong Kong: China Open University of Hong Kong (OUHK)</td>
</tr>
<tr>
<td>Mr Alex Wong (<a href="mailto:alexwong@bjtu.edu.cn">alexwong@bjtu.edu.cn</a>)</td>
<td>Hong Kong: China Open University of Hong Kong (OUHK)</td>
</tr>
<tr>
<td>Professor Patricia Aninto (<a href="mailto:patricia.aninto@gmail.com">patricia.aninto@gmail.com</a>)</td>
<td>Philippines: University of the Philippines Open University (UPOU)</td>
</tr>
<tr>
<td>Professor Daryono (<a href="mailto:daryono.daryono@gmail.com">daryono.daryono@gmail.com</a>)</td>
<td>Indonesia: Universitas Terbuka Indonesia (UT)</td>
</tr>
<tr>
<td>Dr Minh Do (<a href="mailto:minhdo@vtfoundation.org">minhdo@vtfoundation.org</a>)</td>
<td>Vietnam: Vietnam Foundation</td>
</tr>
<tr>
<td>Dr Venkataraman Balasubramanian (@<a href="mailto:vbalasubramanian@col.org">vbalasubramanian@col.org</a>)</td>
<td>India: Commonwealth of Learning (COL)</td>
</tr>
<tr>
<td>Dr Bharath Hariharan (<a href="mailto:bharathhariharan@yahoo.com">bharathhariharan@yahoo.com</a>)</td>
<td>India: University of Madras</td>
</tr>
<tr>
<td>Mr Ishan Abeywardena (<a href="mailto:ishan@wou.edu.my">ishan@wou.edu.my</a>)</td>
<td>Malaysia: Wawasan Open University (WOU)</td>
</tr>
</tbody>
</table>
Let’s discuss more over tea?

OER Asia Meeting: 16-17 April 2012

THE OPEN UNIVERSITY OF HONG KONG
AViableModelforOERReuseinODLCaseStudy

MainReference


Available at: http://www.col.org/resources/publications/Pages/detail.aspx?PID=441
Wawasan Open University (WOU)

Established in 2007 for adult learners

Vision: We aspire to be a vibrant learning community that inspires learning, supports innovation and nurtures all-round personal growth.

Mission: We commit ourselves to the expansion of opportunities in higher education and teaching excellence aimed at increasing the level of knowledge and scholarship among all Malaysians.
**Virtual Classroom and LMS**

**Global E-Learning Mainstream**
- Web 2.0 tools for active learning
- 21st Century Education
  - Learner-centered
  - Inquiry-based
  - Interactive units of work
  - Customizable contents

**e-Learning Courses & Resources**
- Collaboration
- Communication
- Creation
- Social Media
- OER & FOSS**

**OER = Open Educational Resources**
**FOSS = Free and Open Source Software**

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**Learning at WOU**

- PhD
- Masters
- Bachelor
- G.Diploma & G.Cert.
- STPM
- SPM & PMR

- Accreditation of Prior Experiential Learning

ENTRY

EXIT
ODLCourseDevelopmentTeam

- CourseTeamLeader(CTL)
- CourseCoordinator(CC)
- CourseWriter(s)(CW)
- AcademicMember(AM)
- InstructionalDesigner(s)(ID)
- Editor
- ExternalCourseAssessor(ECA)
- GraphicsDesigner(s)(GD)
- RepresentativefromLearningandLibraryServices(LLS)
- RepresentativefromInformationTechnologyServices(ITS)

CourseDevelopmentProcess

- Course Syllabus
  - Course Syllabus
  - Draft Course Materials
  - Course Guide
  - Course Assessment (TMA, Exam)
  - Finished Course Materials
  - Course Guide
  - Course Assessment (TMA, Exam)
  - Final Product
  - Print and distribute Course Materials to students

Library & ITS

Wrap-around course: 12 months; Stand-alone course: 18 months
CourseDevelopmentApproach

- Use pre-developed proprietary course material from more established ODL institutions such as the Open University of Hong Kong (OUHK) under license:
  - WOU pays royalties!

- Develop course material as wrap-around material to established textbooks.
  - WOU gives away textbooks for free!

NeedforOER

1. Move away from proprietary course material without under license;
2. Abandon the model which bundled costly textbooks with the course material;
3. Develop all course material in-house from scratch as self-contained or "stand-alone";
4. Reduce course development time (stand-alone: 18 months);
5. Better utilize resources (CDT).
Institutional Policy on OER

The first official venture into OER was announced in the beginning of 2011 when the WOU Council endorsed the use of OER wherever possible in the development of course material.

WOU-OER Policy: Prepared by the Office of Assistant Vice Chancellor (Academic Support) and approved by the Senate, Management Board, and Board of Governors of WOU (August 2012)

Available at: http://eprint.wou.edu.my/policies.html

Pilot Project

TCC242/05 Web Database Application

A five-credit hour middle-level core Information Technology (IT) course (equivalent to a second-year course in a conventional university).

The course deals with the development of database-driven web applications using the PHP scripting language and MySQL databases in the Linux, Apache, PHP, and MySQL environment commonly referred to as the "LAMP" architecture.
Reasons Behind Course Selection

1. The availability of required materials as OER;
2. The availability of official technical manuals released by php.net and mysql.com which can be used to check the integrity of the OER material;
3. The composition of the course which includes theory and practical exercises;
4. The expertise available in the CDT with respect to the subject matter.

Methodology

1. Formation of the CDT
2. Identification of the relevant OER material
3. Adaptation of the OER material
4. Quality Assurance
Formation of the CDT

- the CTL, CC, CW, AM, ID and ECA need to be subject matter experts in this particular area of IT.

- the composition of the CDT needs to be perfect with respect to the expertise as well as team dynamics.

- the team members need to have a general acceptance of the concept of OER and a thorough understanding of how to use it within the Creative Commons license framework.

The Team

<table>
<thead>
<tr>
<th>CDT Member</th>
<th>Level of Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CTL/CC</td>
<td>Senior Lecturer in IT and Computer Science</td>
</tr>
<tr>
<td>2. CW</td>
<td>Senior R&amp;D Engineer in Software Development</td>
</tr>
<tr>
<td>3. AM</td>
<td>Lecturer in IT and Database Management</td>
</tr>
<tr>
<td>4. ECA</td>
<td>Professor in IT</td>
</tr>
<tr>
<td>5. ID</td>
<td>Senior Instructional Designer</td>
</tr>
</tbody>
</table>
Identification of OER Material

the CC was assigned the task of material for each of the topics:

- Reviewed OER repositories were identified and shortlisted after discussion among the CDT;
- Each of the repositories were manually traversed using their native search mechanisms to locate the relevant OER material.

Selected Source of OER

Wikibooks

- English: Open-content textbooks (6,000+ pages)
- Español: Libros de contenido libre (8,000+ pages)
- Português: Livros didáticos gratuitos (9,000+ pages)
- Polski: Czytanie podręczników (5,000+ pages)
- Italiano: Libri a contenuto aperto (5,000+ pages)
- Deutsch: Infotexte und Lernbücher (25,000+ pages)
- Français: Témois pédagogues libres (11,000+ pages)
- 日本語: フリー教材 (9,100+ pages)
- Русский: Основополагающие учебники (1,000+ pages)

Search: Suche, Rechercher, Busca, Buscar, Ricerca, Hiedat, 検索, Szukaj, Kërke, Зооена, Ὄποιον, Makų, Tìm kiếm, Поиск, Traži
Adaptation of the OER Material

Quality Assurance

- Vetting of the second draft of study unit x
- Cross-checking the OER material with the official technical manuals
  - Amend second draft of study unit x
  - Produce third draft
- Vetting of the third draft of study unit x
  - Produce ECA report on the suitability of unit x and amendments needed
- Discus how best the comments by the ECA can be incorporated into study unit x
- Amend third draft of study unit x
  - Produce fourth draft of study unit x
- Vetting of the fourth draft of study unit x
  - Acceptance of the draft
  - Forward to Editor for production
Final Product

- The OER content adapted from Wikibooks comprised approximately 70% of the complete course material.
- The remaining 30% was developed by the CD Tin-house which included assessments, manuals, laboratory exercises, and a course guide.
- The course has been successfully presented twice in January 2012 and January 2013 semesters.
- Available for free download at: http://eprint.wou.edu.my/31/

Course Development Time

- Usual course development time for a "stand-alone" course is 18 months.
- TCC 242/05 Web Database Application went from the Blueprint stage to the Approval stage in approximately 10 months.
### Course Development Cost

<table>
<thead>
<tr>
<th>Course</th>
<th>Type</th>
<th>Completion Date</th>
<th>Development Cost (RM)</th>
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<tr>
<td>TCC242/05 Web Database Application</td>
<td>OER based</td>
<td>01-January-2012</td>
<td>24,635.79</td>
</tr>
</tbody>
</table>

### The Reasons Behind the High Cost

- **the CW's time saved with respect to writing the course material was spent ensuring the integrity of the OER content;**

- **additional content needed to be developed by the CW to bridge the gaps in the disparate OER material;**

- **the standard WOUQA process needed to be followed to ensure that the course material was at an acceptable standard.**
CostSavingsForInstitutions

The true costs savings for an institution would be visible only when more and more OER-based course materials are developed and shared freely amongst peer institutions through a “Partnerships and Exchanges” model (Downes, 2007) reducing the need for re-development of common modules.


Licensing

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Questions

About...

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- MSc in Wireless Enterprise Business Systems, Brunel University, UK.
- MSc in Engineering Management, Brunel University, UK.
- BSc in Computer Science, Bangalore University, India.
- PhD Candidate in Computer Science, University Malaya, Malaysia. Areas of specialisation: text mining, metadata, faceted search.

Professional Member of:
- Institute of Electrical and Electronic Engineers (IEEE)
- British Computer Society (BCS)
- Institution of Engineering and Technology (MIET)
- Microsoft Technology Associate (MTA)

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Research Profile: http://www.researchgate.net/profile/Ishan_Abeywardena/
Tech Blog: http://www.ishantalks.com
E-mail: ishanasa@wou.edu.my
ImageSources

- http://upload.wikimedia.org/wikipedia/commons/thumb/2/20/Nuvola_multimedia.png/120px-Nuvola_multimedia.png
- http://commons.wikimedia.org/wiki/File:Active_learning_-_map_of_Southeast_Asia.png