Developing Courses and Programs Using Open Education Resources: Challenges and Opportunities

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What is Open Source Content?

- Defined: Free, accessible, openly licensed (public domain) documents, media, lab activities, pedagogical materials, games, simulations, etc. which are used for education learning, assessment or research (Kauppinen, 2013).

- Supports: Shared expertise and peer-based learning to disseminate curricula and support a learner centric approach to education.

- Goal: Improve student and teacher access to quality learning materials.

OpenLearn   The home of free learning
from The Open University   http://www.open.edu/openlearn/free-courses

Why Open Source Content?

- Colleges and universities are searching for new ways to increase accessibility to their programs while also decreasing their costs.

- Cost of a college degree has increased over 1000% in the past 30 years (Jamrisko & Kolet, 2012).

- Student loan debt is currently over $1 trillion dollars (Kavoussi, 2012).

- Proponents of using open source content suggest that some open source tools promote collaboration and critical thinking and enhance student engagement (Leder, 2012).

Open Courseware (http://oerconsortium.org/find-oer/)

MIT OpenCourseWare   OCW Open Courseware Search   OpenCourseWare Finder
Tufts OpenCourseWare   Wikiversity

What are Some Examples of OER's?

Type of OER	Examples
Learning Management Systems	Moodle, Open Class
Textbooks	Flat World Knowledge, Bookboon, Open Stax College, The Community College Open Textbook Collaborative
Courses	Open Tapestry, Open Education Database, Open Learning Initiative
Videos	Khan Academy, Academic Earth, Watch Know Learn, You Tube EDU, Public Library of Science
Productivity tools	Open Office, LibreOffice, AbiWord
Supplemental Materials	MIT Open Courseware, Coursera, Connexion, MERLOT

What are the Advantages of Using OER's?

✓ Access: Easy access to learning material: Anytime, any place

✓ Distribution: Easy to distribute and disseminate with little or no cost

✓ Enhancement: Supplement passive learning from lectures and text books

✓ Free or low cost

✓ Continuous improvement: Change material quickly vs. static text books

✓ Exposed to new/innovative ideas from experts all over the globe vs. single instructor

COLLEGE OPEN TEXTBOOKS – Driving Awareness and Adoption of Open Textbooks at
http://www.collegeopentextbooks.org/

What are the Disadvantages of OER's?

x   Quality Control: Many OER repositories (such as Wiki sites) allow any user to post information; material may not be accurate.

x   Currency: Contributors to OER sites are not usually compensated; little incentive to keep the information updated, current, or even active.

x   Here Today, Gone Tomorrow: No contractual agreements to keep OER open for a specific period of time, no guarantees that a resource available today will be there tomorrow.

x   Technical Issues: No standard for development of these resources, students may not be able to access, no technical support.

x   Time: Finding and curating OER's can consume a tremendous amount of a university's resources as they try to align these resources with their current curriculum.

Are There More Disadvantages of Using OER's?

x   Lack of personalization and branding for the University: "As is"

x   Compliance issues: Some OER resources may not be in compliance with ADA or meet curriculum standards/requirements set by departments and accreditation bodies.

x   Language and cultural barriers: Many are only available in English not vetted for cultural bias.

x   Copyright concerns: Fair use exemption from U.S. copyright does not apply; resources must be checked to ensure using them does not violate copyright laws

Creative Commons develops, supports, and stewards legal and technical infrastructure that maximizes digital creativity, sharing, and innovation. (http://creativecommons.org/about)

What is a Cost Benefit Analysis?

Cost-benefit analysis (CBA) is the process for calculating and comparing benefits and costs (both tangible and intangible) of a project or decision (Sassone & Schaffer, 1978).
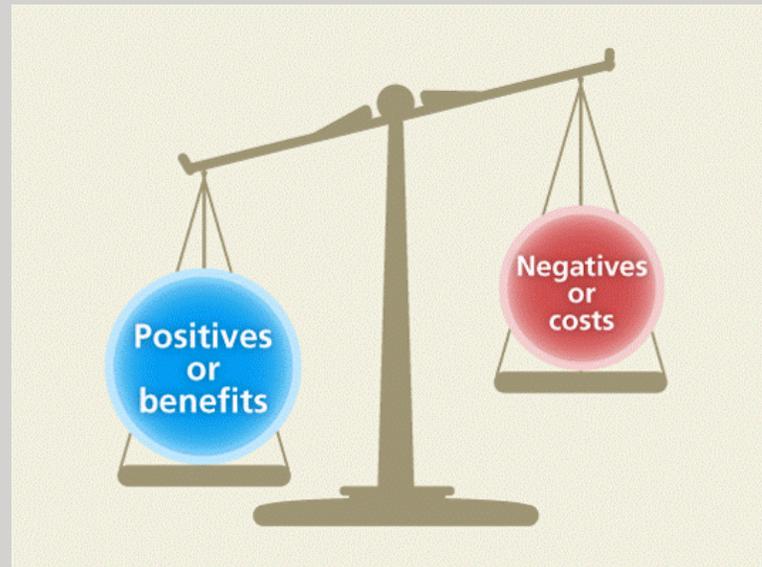
What Technology Considerations Should be Analyzed?

Criteria for Analysis:

- Integrates with Current Technology Systems (LMS, SIS, HR, etc.)
- Stable Platform Supporting the Resource
- Technical Support Available
- Set Up Costs
- Works with Mobile Technologies
- Branding - College Logo
- Information Security Issues
- Ongoing Technical Support Required
- Collects and Shares Student Data (e.g. usage and assessment data)

How Does Using OER's Affect the Student Experience?

Criteria for Analysis:

- Look and Feel of Resource (readability, graphics, polished versus flat, etc.)

- Ease of Access and Use

- Single Sign On

- Access on Mobile Devices

- Student Cost

What Criteria Should be Used to Evaluate Academic Implications of OER's?

Criteria for Analysis:

- Alignment with Learning Outcomes

- Content Currency and Accuracy

- Content at Appropriate Level (undergraduate versus graduate)

- Flexibility to Adopt Entire Resource or Specific Sections

- Instructor Resources Available

- Upfront Evaluation Costs (finding and curating the resource)

- Reputation of Supporting Institution/Organization

What Criteria Should be Used to Evaluate Administrative Concerns for Using OER's?

Criteria for Analysis:

- Legal Concerns – ADA Compliant & Copyright

- Coordinator for Managing Resource

- Legal Relationship with Resource Provider

- Implications of a Relationship with Provider

- Ease of Administering the Resource

- Overall Costs of Adoption

- Overall Costs of Implementation

- Ongoing Administrative Costs

Example – Open Textbook
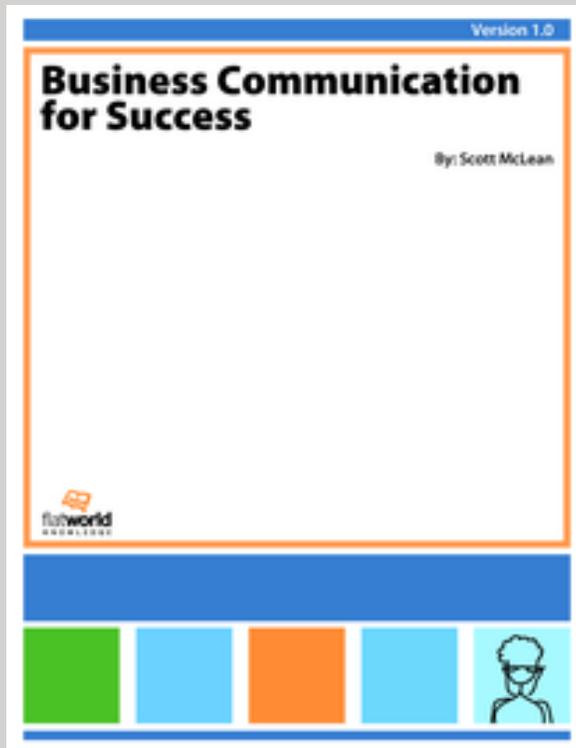
FLATWORLD KNOWLEDGE TEXT
Business Communication for Success, v. 1.0

Cost: $34.95 for an All Access Pass
          $149.95 for color print textbook

          (Note: College will pay a price per student for use)

By: Scott McLean
     Version: 1.0
     Shared Versions: 3
     Pub Date: March 2010
     eISBN: 978-1-4533-2742-5
     Pages: 419

Analysis of FWK Book – Technology

Criteria	Evaluation
Integrates with Current Technology Systems (LMS, SIS, HR, etc.)	Textbook can be integrated into the Learning Platform with a significant investment of time from the technology team
Stable Platform Supporting the Resource	Textbook can be integrated into the College's LMS so students do not have to access via the FWK platform
Technical Support Available	Technical support available from FWK
Set Up Costs	Significant faculty investment for textbook alignment
Works with Mobile Technologies	Some students report challenges accessing course and book via mobile technologies
Branding - College Logo	Textbook can be integrated into the course so students see the college logo and branding

Analysis of FWK Book – Technology

Criteria	Evaluation
Information Security Issues	Since the students access the text through the school platform, there are no security issues that we can note.
Ongoing Technical Support Required	In our experiences, the tech team at the respective colleges provided ongoing technical support with issues, like adoption of new textbooks and solving technical issues, once the book was integrated into the platform.
Collects and Shares Student Data (e.g. usage data, assessment data)	Data can continue to be collected by the college's learning management system.

Analysis of FWK Book – Student Experience

Criteria	Evaluation
Look and Feel of Resource (readability, graphics, polished versus flat, etc.)	Text is very readable and engaging with graphics and video. The one issue to note – broken links.
Ease of Access and Use	In some instances, reading the text in the course required students to continue paging down. Moving from one section of the text to the next was reported as clunky with no real shortcuts.
Single Sign On	Yes
Access on Mobile Devices	Yes, via ePub file using iTunes (iPhone, iPad) or Aldiko reader (Android)
Student Cost	No additional costs to access ebook via the course, but additional costs to print.

Analysis of FWK Book – Academic

Criteria	Evaluation
Alignment with Learning Outcomes	Textbook aligned with the course outcomes
Content Currency and Accuracy	Textbook current and the information accurate
Content at Appropriate Level	Content appropriate for an undergraduate course
Flexibility to Adopt Entire Resource or Specific Sections	Flexibility to adopt only the sections of the text needed
Instructor Resources Available	Instructor resources – quiz and test item bank available
Reputation of Supporting Institution/Organization	In this case, we felt Flatworld Knowledge had a reputation for being an innovative provider of free textbooks

SPARC – How Open Is It? (http://www.sparc.arl.org/resource/howopenisi)

Analysis of FWK Book – Administrative

Criteria	Evaluation
Legal Concerns – ADA Compliant and Copyright	FWK does provide options to facilitate ADA compliance Copyright may be included in the legal agreement
Coordinator for Managing Resource	Academics, tech team, or both
Legal Relationship with Resource Provider	A legal contract spelling out the agreement needs to be developed
Implications of a Relationship with Provider	No negative implications of the relationship
Ease of Administering the Resource	Administration routine once integrated into the platform
Overall Costs of Adoption and Implementation	Fees vary Significant investment of hours for implementation process
Ongoing Administrative Costs	Updating content Technical support for students

Conclusion

- In order to ensure sustainability, OER initiatives need to become seamlessly integrated into institutional policies, structures and procedures

- Further exploration of the cost-saving potential and impact of OER is needed

- For long term sustainability, OER's will need to shift from being a peripheral practice to a mainstream practice which aligns with the institutions pedagogy

EDUTOPIA – Open Education Resources (OER): Resources Roundup (http://www.edutopia.org/open-educational-resources-guide)

Questions?

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References

Giza, B. (2009). The use of free, open-source, and web-based tools in education. In I. Gibson et al. (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2009 (pp. 1838-1842). Chesapeake, VA: AACE.

Jamrisko, M, & Kolet, I. (2012, Aug 15). Cost of college degree in U.S. oars 12 fold: Chart of the day. Retrieved from http://www.bloomberg.com

Kauppinen, I. (2013). Different meanings of 'knowledge as commodity' in the context of higher education. Critical Sociology. doi:10.1177/0896920512471218.

Kavoussi, B. (2012 Mar 22). Student loan debt hits $1 trillion, deemed 'too big to fail' by one Federal agency. Retrieved from http:/www.huffingtonpost.com

Lederer, K. (2012, Jan 19). Pros and cons of social media in the classroom. Campus Technology

Sassone, P.G. & Schaffer, W.A. (1978). Cost-benefit analysis - A handbook. San Diego, CA: Academic Press, Inc.