
EFFECTIVE STRATEGIES FOR INCORPORATING OPEN EDUCATIONAL RESOURCES INTO THE CLASSROOM

Les Pang, Rana Khan, University of Maryland University College, United States of America

Abstract

The purpose of this research is to identify strategies that would ensure the successful implementation of open educational resources (OERs) in the classroom. OERs are freely available content and media that can be used for teaching purposes. This reflects a transition from the classic textbook to a new educational paradigm. Often touted as a means to significantly reduce student expenses and expand the scope of knowledge beyond textbooks, anecdotal evidence indicate that the approach has had mixed results in the classroom. Based on student feedback and a faculty survey, University of Maryland University College (UMUC) graduate school students and faculty members shared their perspectives of the benefits and challenges associated with OERs. Based on these findings, a number of best practices were identified to address the major concerns related to the approach.

Introduction

According to the William and Flora Hewlett Foundation (n.d.), OERs are:

“... 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 or limited restrictions.”

An OER could include textbooks, readings, simulations/games, syllabi, assessment tools such as quizzes; and anything that can be used for educational purposes.

Typically, OERs are present online via various sources. Examples of sources identified by Educause (n.d.) include:

- OER Commons;
- MIT OpenCourseWare;
- MERLOT;
- The Open Course Library;
- The Open Education Resource (OER);
- WikiEducator;
- The World Digital Library (WDL).

The Instructional Technology Council (ITC) has tracked the impact of OERs and report a 20% growth in the adoption of the concept (Lokken, 2016). Clearly, there is momentum towards the greater adoption of OERs in the classroom. Some of the primary reasons for this are as follows:

- saves cost for students;
- grants access to more quality choices;
- improves a school's reputation;
- enhances social responsibility – free education resources for all;
- ability to preview the course material before and after the course.

However, there are challenges associated with OERs. Here are a few reported by Open Washington (2017), an open educational resources network:

- Quality Assurance – lack of evidence that the amount learned from OERs are comparable to textbooks;
- Sustainability – OERs may become obsolete over time;
- Resistance to change – the transition requires a major paradigm shift and attitude change.

UMUC Graduate School and Its OER Experience

The University of Maryland University College (UMUC) specializes in educating busy professionals and offers career-relevant, affordable education that fits student life styles. It is a state university that primarily provides online classes but also onsite classes around the country and the world. A member of the University System of Maryland, UMUC is regionally accredited by the Middle States Commission on Higher Education, providing credibility and recognition to students' degrees.

The Graduate School at UMUC offers more than 55 graduate programs and specializations. These include master's degrees and specializations, doctoral degrees, and graduate certificates to help students develop professional value and open the door to career opportunities.

UMUC recognized the need to address to the increasing cost of textbooks to the students and the advantages offered by open resources by expanding the scope of knowledge beyond textbooks. As a result, an initiative was established to make the conversion from textbooks to electronic resources that are at no cost to the student. The graduate courses moved to OER by Fall 2016.

According to Hawthorne (2015), the average cost of a textbook in a UMUC study was \$93.30. For the 16,771 students in the study sample, the total cost savings was \$1.6 million. U.S. Government Accountability Office reported that in one academic year an average full time student spends about \$900 on textbooks.

There are many anecdotes from UMUC Provost Office about the cost savings that were realized:

“Using MITOpenCourseware for one Psychology course, for example, saved every student in the course \$39.”

“In one upper-level course, an e-book from Saylor.org, combined with our own tutorial on APA citation style, saved each student \$64.”

“Government documents in the public domain filled the need; one political science course was already using an e-book, but found a comparable (and free) government document, saving the student \$54.”

However, the office reported some challenges including:

- Several resources needed “re-evaluation, replacement or adaptation”.
- It was difficult to find appropriate resources for certain subject areas.
- Sources sometimes changed when using it.

It is very clear that OERs offer significant economic benefits to the student, however, the cost and burden for maintaining the resources now switches from the publisher to the educational institution. Therefore, the university must somehow provide support for these new costs.

Context and Relevance of this Study

The economic benefits of OERs are very clear but missing is a deep understanding of the pedagogical impact of this approach. This study examines how faculty and students see OERs towards facilitating learning. Their reflections should serve to identify issues relating to its implementation and use. Based on these issues, we can formulate potential solutions and strategies that reflect best practices to help mitigate these concerns.

Methods

This study will commence with a two-pronged approach towards identifying student and faculty perceptions on the replacement of textbooks by OERs.

First, a thorough review and analysis were made of comments from past student end-of-course surveys that are related to the use of OERs.

The end-of-course surveys from the Fall 2017 semester were reviewed. (Additional reviews of the surveys from other semesters are planned and its findings will be incorporated in the conference presentation and in the final version of the paper.) The Fall 2017 sample was from 92 courses which included 176 course sections all of which were under the auspices of the Information and Technology Systems Department in UMUC’s Graduate School. The surveys covered courses on biotechnology, cloud computing, data analytics, database systems, emergency management, environmental management, homeland security management, informatics, information systems and services, information technology, software engineering, systems engineering, and telecommunications management.

Second, a survey will be conducted involving faculty members during the Spring 2018 semester to gauge their reactions on the use of OERs in lieu of textbooks. Findings will be reported during the conference presentation and in the final version of this paper.

The next step will be a review and analysis of the student and faculty perceptions gathered from the surveys. Major concerns associated with the use of OERs will be distinguished along with its benefits.

Finally, best practices and potential solutions that address the major concerns will be identified. All relevant information including the findings, best practices, potential solutions and conclusions will be documented in the final paper.

Preliminary Findings

Results from the review of the Fall 2017 end-of-course surveys are as follows:

- There was a mixed reaction to the use of OERs – for some students, the readings were lauded as being instrumental towards learning while others called for a return to textbooks.
- Among those unhappy with OERs, the most common complaints were as follows (frequency in parenthesis):
 - Readings lack structure, consistency and flow. (8 comments)
 - Readings were not necessary, irrelevant, inaccurate or redundant. (8 comments)
 - Readings had broken/dead links. (6 comments)
 - Readings failed to cover the course objectives. (5 comments)
 - Readings were outdated. (4 comments)
 - Could use a supplemental recommended text. (4 comments)
 - Readings contained spelling and/or grammatical errors. (3 comments)
 - Lack of an index to reference material among the OERs. (2 comments)
 - Readings were confusing or difficult to read. (2 comments)

Preliminary recommendations derived from this study include the following:

- Provide *lecture notes* or supplemental material developed by the educational institute in order to provide a consistent thread through out a learning session, tie all of the OERs together and/or address any voids among the resources.
- Establish a continuous improvement process each semester to ensure that OER sources remain relevant, up to date, grammatically correct and all links are active.
- OER selections should closely align with meeting the course learning objectives and at the right level for the class.
- Supply a list of recommended texts in case the student is willing to pay for additional resources.
- Include an index so that students can locate pertinent topics among the OERs.

Preliminary Conclusions

OERs offer strong economic benefits for the student but the educational institution now bears the responsibility for ensuring that quality resources are provided and maintained. Leadership of institutions adopting OERs needs to recognize this and provide the necessary financial support, policies and processes to ensure success in this endeavour.

Further research is needed to gauge student experience and reactions to OERs. A student survey is proposed as a future study.

References

1. Educause (n.d.). *Open Educational Resource*. Retrieved from <https://library.educause.edu/topics/teaching-and-learning/open-educational-resources-oer>
2. Hawthorne, K. (2015, July). *Impact of Open Educational Resources (OERs) on Student Success*. Retrieved from <https://engage.umuc.edu/docs/DOC-43019>
3. Lokken, F. (2016). *ITC National eLearning Survey*. Retrieved from <https://www.cccoer.org/2017/05/09/itc-survey-reports-20-oer-impact-growth-in-5-years/>
4. Open Washington (2017). *Module 10: Why OER Matters*. Retrieved from <http://www.openwa.org/module-10/>
5. William and Flora Hewlett Foundation (n.d.). *Open Educational Resources*. Retrieved from <https://www.hewlett.org/strategy/open-educational-resources/>
6. UMUC Provost Office (2015). *Compass Point: Open Educational Resources*. Retrieved from <https://engage.umuc.edu/community/office-of-the-provost/blog/2015/07/30/compass-point-open-educational-resources>
7. United States Government Accountability Office (2005, July). *College Textbooks – Enhanced Offerings Appear to Drive Recent Price Increases*. Retrieved from <https://www.gao.gov/products/GAO-05-806>