Contemplating Open Educational Resources

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The cost of higher education and the impact of student loans on access, persistence, and graduation are of major concern across post-secondary education. In 2018 student debt at graduation stood nationally at \$1.5 trillion across 44 million borrowers. In addition to tuition, fees, and room and board, students face the purchase of textbooks and other educational resources ranging from less than \$100 to several hundreds of dollars per course depending on the program of study. The U.S Government Accountability Office (2013) calculates that textbook costs increased by 82% from 2002 to 2102, triple the rate of inflation. Students from low income families suffer the most from these variable costs.

In the early 2000s several foundations, including Hewlett and Gates to name only two, joined forces to support the development of open educational resources (OER). The Hewlett Foundation defines open educational resources as “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” (<https://hewlett.org/strategy/open-educational-resources/>). These resources may be used in a variety of formal and informal settings including online, blended, face-to-face, and individualized settings, with or without academic credit.

Educause’s 2019 survey of trends and technologies effecting colleges and universities documented the importance of OER in higher education (Brooks & McCormack, 2019). Respondents ranked open educational resources as 5th on a list of 77 strategic technologies. OER technologies are expected to be deployed institution-wide in 21–40% of institutions by 2020–21 and in 61–80% of institutions by 2022–24.

If you are new to OER, below are some sites worth browsing. In 2007, the Institute for the Study of Knowledge Management in Education (ISKEM) launched the OER Commons, a digital public library and collaboration platform. This site offers thousands of learning objects. However, the Commons emphasizes that this educational shift is not just about easy access and cost-saving for books; it provides an infrastructure for faculty and learners to collaborate in order to create, adapt, and evaluate resources for teaching and learning (<https://www.oercommons.org/about/>).

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OpenStax™, a nonprofit organization based at Rice University and supported by philanthropic organizations, is a leader in OER. Using a traditional peer review process for textbook development, the site features textbooks focused on the highest enrolled undergraduate courses. The site reports more than 2.2 million students using OpenStax textbooks worldwide at a savings of over \$176 million in the current year and more than \$576 million since 2012 (<https://openstax.org/impact>).

The MIT OpenCourseWare project is noted as a forerunner of the Open Education Resource movement. The site features materials from over 2,400 of MIT's undergraduate and graduate courses and notes millions of visits each month. Some courses are translated into Korean, Chinese, Spanish, and Turkish (<https://ocw.mit.edu/about/>). Clearly, the value of OER is in both reducing costs for students and expanding access.

The Open Culture website is subtitled *the best free cultural and educational media on the web*. According to Stenger (2018), Open Culture was voted the best OER in the Education Resource People's Choice Awards by Study.com. More than 1,300 online courses, 700 audio books, and 1,150 movies, all free, are listed, plus other open access materials (www.openculture.com/). To learn more about these and other leaders in OER, please see Stenger's (2018) blog post in informED.

To return to my corner of postsecondary education, I am pleased that the University System of Georgia (USG) and the University of Georgia (UGA) are active in the open educational resources space. USG coordinates 26 public higher education institutions and serves more than 325,000 students; thus, the creation and adoption of free and low cost resources can benefit thousands of students. In less than 5 years USG's Affordable Learning Georgia has saved students more than \$31 million on textbook costs (https://www.usg.edu/news/release/university_system_saves_students_more_than_18_million_a_year_in_free_textbo).

In spring 2019 UGA once again launched its version of the Affordable Grants Course Materials Program by funding 14 faculty members in 10 units (\$5,000 or less each) through a competitive application process to develop open educational resources. This single investment is expected to save 7,400 students a total of \$770,000 in textbook costs each upcoming year. The Center for Teaching and Learning and the UGA Libraries manage the grants program, and the most recent estimate shows that over 60,000 students have saved a total of \$5.8 million since 2013. (See earlier estimates at <https://ctl.uga.edu/special-initiatives/oer-resources/>).

In February 2019, Open Stax announced the top 10 schools that have adopted free college textbooks. UGA ranked 2nd (Roth, 2019). While the high ranking is affirming, the knowledge of OER's impact on students is even more rewarding. We know that students from low income families and those working and supporting families have to prioritize expenditures. Textbook costs may drive student decisions— to defer buying the educational resources, to drop a course, or to leave a program or institution. According to preliminary results from a small sample of UGA courses, OER not only lowers the cost for students, but also shows improved end-of-course grades, especially for Pell recipients, part-time students, and student populations historically underserved by higher education.

The foundations, systems, colleges, and faculty members who are working tirelessly to create, collaborate, and make a difference in open educational resources nationally and worldwide are to be commended. Educational materials that are free, high quality, and low cost may advance equity and success in education, although the confirming data are limited. Numerous sites tout the advantages of OER as expanded access; enhancement of ability to collaborate, create, and modify materials; and cost savings. Others recognize that the

disadvantages may include quality and reliability concerns, in addition to the loss of copyright protection. Additionally, technology issues may also affect usability.

The quantity of open materials is large and growing, and the widespread enthusiasm is evident. Next up is to build a more robust research agenda to better understand quality, creation and adoption processes, and outcomes. What are the effects of open educational resources on course development and implementation? On student learning? What are the characteristics of creators and earlier adopters? How do faculty members identify, select, and evaluate open resources for college-level courses? How do instructor-designed resources differ from adopted and adapted resources in course design and effect on learning? Will students' prior experience with OER affect motivation to independently locate and use other free materials for learning? How will this influence achievement and success?

Just as we have collaborated across colleges and universities to create educational resources, it will be important to conduct research at the course and class level to understand quality, usability, and learning outcomes. Easy access to educational materials should not be substituted for making challenging decisions about course objectives, resources, learning activities, and evaluation. What are the benefits beyond access? I look forward to reading about your experiences with open educational resources.

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