Helping Keep the Costs of Textbooks for Students Down: Two Approaches

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Abstract:

Librarians at East Carolina University and the University of North Carolina at Greensboro received a 2-year grant to support a combined alternative textbook project. This project engages in a two-pronged approach to reduce students' textbook costs and increase their academic engagement. One strategy is to award departmental faculty mini-grants to use materials that would have no cost to their students, including OER or library resources. The second strategy is to identify required texts that the library already owns or can purchase as unlimited-user e-books. Benefits to students include reduced costs and an increased opportunity for engagement and academic success.

Keywords: Open Educational Resources (OER) | alternative textbooks | course materials

Article:

Many college students can no longer afford to purchase all their textbooks. According to the Bureau of Labor Statistics, textbook prices have risen 1,000% since 1978, and almost 600% since 2000 (Popken, 2015). New home prices, in contrast, have risen only 325% since 1978 (Perry, 2012). A study completed for the U.S. Department of Education states that 2.4 million students did not finish college because of cost in the first decade of this century (Advisory Committee on Student Financial Assistance, 2006). According to the 2016 Florida Student Textbook Survey, "66.6% of the 22,000 students surveyed did not purchase the required textbook, and of those, 37.6% earned a poor grade and 19.8% failed the course" (Florida Virtual Campus Office of Distance Learning & Student Services, 2016, p. 5). Textbook costs at East Carolina are estimated at $1,306 for undergraduates, and at UNC Greensboro these costs are estimated at $956 per year ("ECU's Estimated Cost of Attendance," 2017; "Cost to Attend University of North Carolina at Greensboro," 2017). To help with the rising cost of textbooks and to help students succeed, East Carolina and UNC Greensboro applied for and received a grant from the North Carolina State Library, Library Services and Technology Act (LSTA). This grant provided funding for each institution to share best practices, procedures, and promotional materials combining two different strategies. One strategy is to award departmental faculty mini-grants to select materials that carry no costs to students. Faculty members may adopt, adapt, or create Open Educational Resources (OER) as the bases for their syllabi, or they may use library resources such as online articles, e-books, or streaming videos. The second strategy is to work

with the university bookstore to identify required texts that the library already owns or can purchase as e-books for unlimited simultaneous users. Benefits to students include a reduction in the cost of attending college and an increased opportunity for engagement and academic success in their classes.

Literature Review

The involvement of academic libraries in affordable course materials programs and OER creation and adoption is recent but has grown rapidly. Walz, Jensen, and Salem (2016) surveyed the members of the Association for Research Libraries and found that 46 of the 124 members (37%) provided some sort of OER program and another 12 were exploring them, including incentive programs, awareness-raising events, help creating and/or hosting content, even hiring staff dedicated to OER and alternative texts. Some of those members are nearby, including Duke University and North Carolina State University (Walz et al., 2016); see also Water on a Hot Skillet: Textbooks, Open Educational Resources, and the Role of the Library regarding NC State's decisions to create an affordable textbook program (Raschke & Shanks, 2011).

Another article providing an overview of academic library initiatives is Okamoto's (2013) Making Higher Education More Affordable, One Course Reading at a Time: Academic Libraries as Key Advocates for Open Access Textbooks and Educational Resources. Okamoto describes libraries as "a natural partner in OER initiatives" because of their advocacy for access to information and role in student learning, and groups library efforts surrounding OER as "advocacy, promotion, and discovery; evaluation, collection, preservation, and access; curation and facilitation; and funding" (Okamoto, 2013, pp. 270–271). We would suggest that these largely could fall under umbrellas of advocacy and facilitation of content.

Although library literature largely provides descriptions of what library programs are doing, there is an intriguing suggestion to make "Open and Alternative Educational Resource" (OAER) programs more sustainable by providing not only a direct incentive to faculty, but also an incentive to departments—thus helping develop ongoing institutional support (Lashley, Cummings-Sauls, Bennett, & Lindshield, 2017). The departmental incentive is created by assessing a low fee, $10 per student per OAER course section, which returns the majority of funds to the department.

There are some institution-specific studies on the effects of adopting OER, including the following three examinations of adoption in large survey courses. Hendricks, Reinsberg, and Rieger (2017) adapted the Cost, Outcomes, Use, and Perceptions (COUP) framework (Bliss, Robinson, Hilton, & Wiley, 2013) to analyze the effects on students whose physics class used an OpenStax Physics textbook. Watson, Domizi, and Clouser (2017) adopted a mixed methods approach to study the effects on 1,299 students in non-major biology classes at the University of Georgia. Resonating somewhat with the COUP framework, student costs, use, and impressions were reported, and faculty impressions of quality, student use, and, notably, opportunities provided by the open licensing for rethinking how they organize and teach the content. Martin, Belikov, Hilton, Wiley, D., and Fischer (2017) surveyed nearly 700 students and more than 550 faculty at a large private university (Brigham Young) to discover how both groups have responded to high textbook costs and their willingness to use OER. They found that two-thirds of BYU students reported not having purchased at least one textbook because of cost concerns, and that many of these students thought this choice negatively impacted their grades (Martin et al., 2017). These figures are largely similar to those found in a statewide survey in Florida (Florida

Virtual Campus Office of Distance Learning & Student Services, 2016). One eye-opening finding that Martin et al. (2017) report is what students would do with monies saved if they didn't have to purchase textbooks: housing and food were the top two choices. Martin et al. (2017) also report that 90% of faculty members are willing to consider using OER provided these texts are relatively equal in quality to their existing textbooks, although a high number of faculty report not being aware of OER alternatives. This lack of awareness indicates a vacuum that librarians could play a role in filling.

There are two large-scale studies of the effects of OER on student learning outcomes. In the first, Fischer, Hilton, Robinson, and Wiley (2015) examined student learning outcomes and engagement across some 16,000 students from 10 different colleges. Specifically, they found that, in "three key measures of student success—course completion, final grade of C- or higher, course grade— students whose faculty chose OER generally performed as well or better than students whose faculty assigned commercial textbooks" (Fischer et al., 2015, p. 168). There was a more significant effect on students' enrollment—students from OER sections enrolled in a higher number of classes the following semester, a finding which should interest college administrators interested in shortening time to degree and completion rates. More recently, Croteau (2017) examined student final grades, exam grades, D/fail/withdraw rates, and other learning outcomes for more than 3,800 students from 27 courses across 14 institutions participating in the state-wide initiative, Affordable Learning Georgia. The data match findings from other studies: there is no loss of learning when professors adopt OER.

A variety of other studies have been conducted on faculty perceptions of OER, including Allen and Seaman (2014) and Belikov and Bodily (2016). Allen and Seaman reported that faculty are largely unaware of OER and that the most significant barrier to adoption remains their "perception of the time and effort required to find and evaluate it" (Allen & Seaman, 2014, p. 2). Belikov and Bodily (2016) analyzed the free-text responses of 218 faculty members and coded them into 10 groups. These groups included one neutral response "Need more information" (by far the most common category), five barriers, and four incentives. The five barriers were lack of discoverability, confusing OER with digital resources, not applicable for faculty, lack of time to evaluate resources, and a perception of lack of OER quality. The benefits were general positive perceptions, cost benefit for students, equal to traditional resources, and pedagogical benefits. These barriers and benefits match what the evaluator has heard and read in other contexts. By far the biggest barrier to adoption remains lack of "awareness and understanding of OER" thus spurring a significant "need for institutional support for OER evaluation and adoption" (Belikov & Bodily, 2016, p. 243).

Lastly, a review of research on OER has been conducted (Hilton, 2016). Hilton identified 16 total studies that reported on the effects of adopting OER on student learning and/or student and faculty members' perceptions of OER. In his review, Hilton describes the strengths and limitations of each study and reports general findings. Those findings include parity of perception between OER and traditional commercial textbooks, and approximately equivalent student learning outcomes. However, as he notes, the research designs of these studies were "insufficient to claim causality" (Hilton, 2016, p. 587) for a variety of reasons, including controls for student populations and sometimes for changes in instructional methodology. Regardless of causality, Hilton raises a very important question: If the student learning is roughly equivalent, what is the purpose of spending $1,000 on textbooks?

The literature provides a portrait of alternative textbook programs at universities and in some cases entire states. Multiple studies have shown there is no decrease in student learning

outcomes, and some studies have suggested that use of alternative materials might increase student course loads with the potential to shorten time to degree. One of the biggest challenges facing alternative textbook programs is lack of faculty awareness, although awareness does seem to be increasing. Even for those faculty who are aware of OER and alternative texts, overcoming their lack of time; potential difficulty locating, adopting and adapting; or creating their own materials; remains difficult. In an attempt to address some of these issues and learn from each other as we go, librarians at East Carolina and the University of North Carolina at Greensboro decided to join together their pilot open and alternative textbook projects.

Pilot projects

Course-adopted etextbooks (CATs)

For the spring semester of 2015, East Carolina's Assistant Director for Acquisitions and Collection Management spearheaded a pilot program to acquire CATs to provide an electronic copy of required materials at no direct cost to the students (Carr, Cardin, & Shouse, 2016). This pilot began after the authors recognized how libraries have "traditionally done little or nothing" to provide students with materials that are required for courses, so they decided to focus on selecting, acquiring, and promoting 73 multiuser e-book versions of scholarly monographs that had been assigned as required course readings (Carr et al., 2016, p. 1).

The librarians had communicated with the university bookstore to obtain the list, searched for holdings and titles available to purchase, and then contacted professors to assure their interest and willingness to notify students. The bookstore did continue to stock print copies for the students who prefer that format. Upon hearing back from the faculty members that they were interested in participating, library staff acquired the e-books from our primary vendor (YBP), cataloged them, and made them accessible not only via our normal discovery and e-book portals, but also listed them on a LibGuide set up to showcase all the available CATs.

A follow-up survey of students indicated satisfaction with the online access and encouragement for the library to continue providing CATs. The high potential for student cost savings and relatively high online usage of the materials also convinced librarians to continue this project. The success of this initial semester led to the decision to continue the program for the 2015–2016 academic year.

Mini-grants for alternative textbooks

Also beginning in the spring semester of 2015, UNCG conducted a pilot project on OER with its faculty, awarding 10 mini-grants of $1,000 each to faculty members with funding from the Office of the Provost and from the library. Two workshops were held to inform faculty about the high cost of textbooks, the availability and descriptions of OERs and library resources, as well as other resources on campus, such as technology support, available to them. Faculty who attended the workshops were invited to apply for a mini-grant. After a competitive application process (22 applications), 10 faculty received the awards in recognition of the time it takes to convert their syllabi so that they could adopt, adapt, or create OERs. The use of library-subscribed resources was also permitted as a substitute for students purchasing a textbook. Faculty received their mini-grants in May, 2015, and used the summer to change their courses. UNCG library staff met with each recipient before classes in the fall started to get faculty

feedback and provide support when needed. Faculty expressed their enthusiasm for the project and its benefits for their students, and for the students' increased potential for engagement in the classroom. Dr. Heather Helms, Associate Professor in the department of Human Development and Family Studies at UNC Greensboro said, "When I told my class there would be no required textbook they all clapped and cheered." The pilot saw the total potential savings for all students enrolled in these classes of $150,120 which represents a return on investment of more than $140,000.00 for fall, 2015, alone. Most faculty who received the mini-grants continue to use alternative textbooks in their courses for the ongoing semesters. As of the fall semester of 2017, the faculty who continued teaching their courses without a textbook have potentially saved students around $655,000. At the end of the first semester, a survey was conducted with the students in the courses affected. Survey comments were mostly positive, for example, "I believe that this method of teaching is great, and I have learned just as much as I would using a textbook."

After discussing the programs each campus offered, the authors became interested in a joint project. Why not run both programs on both campuses? We could learn from each other, sharing the best practices, processes, and promotional materials.

Learning from each other: the combined alternative textbook programs

After agreeing to conduct a joint project, the authors considered potential funding sources and decided to apply for a 2-year grant from the North Carolina State Library's LSTA Literacy and Lifelong Learning project program. The grant was awarded from July, 2016, through June, 2018. The total amount of the project, including the award and matching funds, was $184,332.

With funding in place, both schools started with the first steps of identifying CATs for fall of 2016. ECU shared with UNCG templates for tracking the etextbooks from the original bookstore list through the data cleaning and searching stages to the final list of owned and purchased books, along with information about the professors, course sections, number of enrolled students, and cost of new books at the bookstore. ECU also shared practices for constructing a libguide so students could see what was available.

In this program, the librarians received a list of required textbooks from the university bookstore, removed all non-book items and all duplicates, searched our e-book portal to determine whether we already owned them, and we searched our preferred vendor portal (GOBI) to determine whether we could buy an e-book with unlimited simultaneous users. We tried to confirm which courses are online-only and which ones offer general education credit by checking the course prefixes. We then ordered as many e-books as possible within the total amount allotted while providing support to diverse subject areas and preferring online and gen-ed classes. Professors of all supported classes are notified about both the already owned e-books and the newly purchased e-books, so they can let students know these texts can be accessed through the library's website.

This way, each library acquired e-books for use by its students so that they can use the library's copy rather than buy the book. (The student is always free to choose to buy a print copy of the book, however.) The library already partners with the university bookstore to receive lists of required textbooks; we shared with the bookstore which e-books we already own and which ones we intend to purchase. The bookstore does stock print copies of required texts, but carries a reduced inventory for CAT books. The process of identifying and purchasing etextbooks has

continued for the spring 2017 and fall 2017 semesters. Table 1, Activities for the course-adopted etextbooks (CATs), summarizes the steps related to the CAT program.

In the spring of 2017 both schools started their mini-grant programs. UNCG provided ECU with powerpoint files, workshop structure, and an application template. Each school conducted two 1-hour workshops that provided faculty with information about textbook costs, student debt, and how they could help lower the cost for their students. Included in the workshop were testimonials from faculty who had won mini-grant awards in the past. After the workshops, a call for proposals was sent out through email and campus newsletters.

Faculty interested in the mini-grants filled out an application answering the following questions: number of students in the course, current textbook titles and costs, how many sections they taught and average number of students per section, how often the course is taught, goals and outcomes, what library support the faculty might need, any challenges, plan to change the course, and a plan for assessment. Applications for the mini-grants were judged by committees at each school. The committees consisted of librarians and departmental faculty. Award winners were notified that they had received the mini-grant by the end of the spring 2017 semester. Liaison librarians were paired with award winners, and they corresponded and met over the summer as the professors reviewed materials and changed their courses. Table 2, Activities for the mini-grants, summarizes the steps each school followed with this portion of the program.

Table 1. Activities for the course-adopted etextbooks (CATs).

- Contact bookstore to receive the required textbook list
- Remove non-book items and clean up list
- Identify unlimited-user e-books the library already owns
- Order e-books that are available without restrictions
- Email faculty the URL of the e-books either identified or purchased
- Add to catalog, discovery system, and designated LibGuide/webpage prior to the semester starting

Table 2. Activities for the mini-grants.

- Advertise workshops for faculty early in the spring semester
- Hold workshops in mid-spring semester
- Applications due by mid-March
- Awards granted by mid-April
- Faculty work over the summer on their courses
- Faculty implement their courses in the fall
- Conduct survey early November

Impacts

Impacts of the Combined Alternative Textbook program can be somewhat difficult to measure. There are, however, solid quantitative and qualitative data supporting these initiatives. These include cost savings, student achievement, survey results, and direct feedback from students and faculty.

Among the most compelling are the cost savings. For the CAT program, the totals are significant. Together, the two libraries spent $23,842 on e-book purchases during the 2016–2017 fiscal year. If all enrolled students had purchased the books new from their respective bookstores, they would have expended $924,769. The real cost savings cannot be known, because not all students purchase the textbook, and students could purchase them used or from other sources. However, an ROI of approximately $38.79 for each $1 spent is important for libraries to recognize.

The cost savings from the mini-grant program cannot be totaled yet because not all classes for the award winners have met. However, we can provide some indication of total savings based on the textbook costs at time of application and the average number of students reported by the faculty member in the application. The 16 award winners at East Carolina had textbooks totaling more than $292,000, with an estimated total enrollment to be greater than 1,800 students. UNC Greensboro's 22 award winners had a maximum potential savings of more than $255,000 for an estimated total enrollment of roughly 1,500 students.

Student achievement is another important measure of success for alternative textbooks and OER. Class averages for eight of the mini-grant winners of ECU's pilot program were compared from the last year that a professor taught that course to the fall 2016 semester, for which the professor taught it using alternative texts. Class averages were taken across all sections to compare before-and after grades, and the averages ended up being very close. Grades were higher overall for three courses, roughly equivalent for two of them, and lower for three of them. For the classes with higher average grades, one of them increased from 2.18 to 2.29, another from 3.45 to 3.64, but the highest increase was a class that went from 2.46 to 2.83. Declines, for the classes which saw them, were .13, .24, and .34. The overall class averages across the "before" sections were 2.94, and the overall class average across all of the "after" sections was 2.99. We believe it is fair to say that for this small sample size, the net results are roughly equivalent between commercial textbooks and alternative materials.

Students were surveyed about their experiences with the CAT books near the end of the spring 2017 semester. Two-thirds of them reported knowing that the library offered an e-book version they could use, which begs the question for us about how we can get the word out more effectively. Only one-fourth of the students reported buying a print copy when using a library e-book, and there were some who used both print and online, although a significant minority of students preferred to use print rather than online (30%). More than 71% reported that they were satisfied or extremely satisfied with online access as an alternative to obtaining the text in print. Overall, 94% of respondents agreed or strongly agreed that the library should continue this program.

Future directions

The CAT program is in place for the fall 2017 and will be implemented again for the spring 2018 semester. Fall 2017 titles included 60 purchases and 151 already owned titles for Jackson Library at UNCG. ROI continues to be impressive: with a maximum potential savings of $215,835.53 and a cost of $6,880, the ROI is greater than $31 to $1. Altogether, we served more than 6,000 students in 187 course sections taught by 135 professors. At Joyner Library, ECU, we purchased 79 books and listed 119 more books that we already owned, in support of 169 fall 2017 semester class sections taught by a total of 150 professors. Our ROI was roughly $28, to the benefit of the more than 4,000 students who were enrolled in these classes.

UNCG's LibGuide at http://uncg.libguides.com/coursetexts is up to date. Librarians at ECU have changed the presentation of our CATs from a LibGuide to a database: https://lib.ecu.edu/alt-texts/. This format is more visually appealing, includes cover images when possible, and links directly into the e-book. Users may browse the list, sorting by or searching for title, author, course, or instructor.

Planning for the spring semester alternative textbook mini-grants will begin soon. Librarians hope that mini-grant winners from spring 2017 who teach their converted classes in

fall 2017 or spring 2018 will be willing to speak at outreach events in the spring of 2018 and encourage their colleagues to consider revising their courses, regardless of whether they apply for the next round of mini-grants or not. We expect to close out the LSTA grant with these awards in May 2018 and continue to work with faculty awardees during the summer of 2018 and the following academic year as they teach the converted courses.

Should the libraries continue the Combined Alternative Textbook program, even after this funding period ends? Yes! There are several opportunities for further development on both campuses, and both libraries are committed to serving students with open and alternative texts.

One of the most intriguing opportunities for future collaboration is that several texts are used on both campuses. Librarians discovered this during the 2016–2017 year, and this fall, a few titles were in use at both institutions. Specifically, this semester there were five titles in common: *A Physicist's Guide to Mathematica, Explicit Instruction: Effective and Efficient Teaching, Introduction to Probability Models, The Little SAS Book, and North Carolina Experience: An Interpretive & Documentary History.* Being able to identify titles used at multiple institutions might provide future opportunities for state-level shared purchase and access models.

Another opportunity is the potential to make a big difference to a large number of students as librarians pursue "horizontal OER" (Reed, 2017). Focusing on high-enrollment classes, especially those which meet general education/foundations requirements, and working with professors who volunteer to work with us, will have a significant impact on both campuses. Workshops designed to educate the faculty on both campuses on lowering the cost of textbooks have increased since the beginning of our programs, and are beginning to increase faculty awareness. Librarians at both universities are receiving more questions from faculty about finding etextbooks and additional alternative materials for their courses. These are exciting times, and we look forward to continuing this work.

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