

Affordable Textbooks For Washington Students: An Updated Cost Analysis of the Open Course Library

In response to growing concerns about the high cost of textbooks, the Washington State Board of Community and Technical Colleges launched the Open Course Library (OCL), a project to outfit 81 of the state's largest-enrolled courses with high-quality, low-cost educational materials. Funded jointly by the Washington State Legislature and the Bill & Melinda Gates Foundation, the project sought to offer faculty and students a more affordable alternative to expensive textbooks.

Upon the release of the first phase of Open Course Library courses in October 2011, the Student PIRGs conducted an analysis of the student savings: *Affordable Textbooks for Washington's Students: A Cost Analysis of the Open Course Library*. The Student PIRGs updated this analysis in April 2013 when the State Board announced the completion of all 81 courses.

The major findings are that that the Open Course Library has saved students \$5.5 million since its inception, including \$2.8 million this academic year alone. Students who take OCL courses save \$96 on average per course over using an expensive, traditional textbook. The total student savings are more than triple the original \$1.8 million investment in the project. As more governments consider investing in open educational resources, this evidence will help demonstrate the potential impact on textbook costs.

Introduction

The cost of college textbooks has become a significant barrier to higher education. The Student PIRGs found that prices have risen more than four times the rate of inflation for the past two decades,¹ and according to the College Board, the average student should budget \$1,200 for course materials during the 2012-2013 school year.² The burden is especially severe at community colleges, where textbooks often rival the cost of tuition. A 2005 GAO study found that textbook costs on average were comparable to 72% of tuition at 2-year public colleges.³

Recent evidence has shown a link between growing college costs and course completion. A survey conducted by the Student PIRGs earlier this year found that 7 in 10 respondents said they had not purchased one or more required

text due to cost, even though 78% believed it could hurt their academic performance.⁴ A 2009 report by Public Agenda found that 60% of college dropouts said that textbook costs had affected them financially.⁵

If students can't afford to stay in college, they cannot attain the degrees and credentials they need to enter the workforce. At a time when many Americans are returning to college to increase their employment prospects, reducing barriers such as cost and improving quality of instruction should be a top priority at the local, state and federal levels.

Washington's Open Course Library

In response to growing concerns about the high cost of textbooks, the Washington State Board of Community and Technical Colleges launched the Open Course Library (OCL), a project to outfit 81 of the state's largest-enrolled courses with high-quality, low-cost educational materials. Funded jointly by the Washington State Legislature and the Bill & Melinda Gates Foundation, the project sought to offer faculty and students a more affordable alternative to expensive textbooks.

Each set of course materials would have a \$30 per student limit, and any new materials developed through the project would be licensed as Open Educational Resources (OER) to permit free and open use across the world.

- **81 Courses.** The Open Course Library is a collection of educational materials curated and developed by faculty for the state's 81 highest enrolled college courses. The first 42 courses were released in October 2011, and the remaining 39 were released in April 2013. The courses are available online at www.opencourselibrary.org.
- **\$30 Limit.** The materials are distributed digitally and can be used in place of expensive, traditional textbooks. Some

courses include commercially-published materials, but the total cost cannot exceed \$30 per student per term.

- **State Funding.** The total project budget was \$1.8 million, including \$750,000 from the Washington State Legislature and \$750,000 from the Bill & Melinda Gates Foundation.
- **Open License.** Materials created through the program must be released under a Creative Commons Attribution license,⁶ which enables free public use anywhere in the world.
- **Faculty Authors.** Courses are designed and peer reviewed by faculty members of the Washington community and technical college system. The authors were compensated through grants and were selected through a competitive process. All authors agree to adopt the materials they produce.
- **Adoption.** SBCTC is developing thorough plans to promote adoption of the OCL materials at the system's colleges. While use is optional, many faculty and departments have already moved to adopt them.

Investment in Open Educational Resources

The Open Course Library launched the first 42 courses in October 2011 and quickly garnered national recognition as an innovative and effective textbook cost-cutting measure. Since then, the project has gone on to inspire numerous other state-level programs, building toward a peak of nationwide momentum.

- **California:** In the fall of 2012, the California State Legislature passed a package of bills⁷ to create a library of 50 open textbooks. Like Washington, this program prioritizes high-enrollment courses where textbook costs tends to be highest, to maximize cost-savings to students. The bills took effect on

January 1st of this year, and the state is in the process of establishing a faculty council that will oversee the program.

- **British Columbia:** Shortly after California's legislation passed, the Canadian province of British Columbia announced that it would create 40 additional open textbooks. The project has already established a repository of texts online at <http://open.bccampus.ca>.
- **Other States:** The 2013 legislative season saw a flurry of bills introduced across the country. Illinois, Minnesota and Virginia introduced legislation similar to California's,

and North Dakota passed two resolutions calling on faculty and colleges to support open textbooks.

At the federal level, the U.S. Department of Labor recently announced the third round of funding for its \$2 billion Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants program.⁸ The

grants support community colleges and other 2-year degree-granting institutions to develop improved workforce training programs. Like OCL, the program requires that all materials produced using federal funds must be released to the public under an open license. Two TAACCCT-funded projects based in Washington State intend to contribute their resources to the Open Course Library when complete.

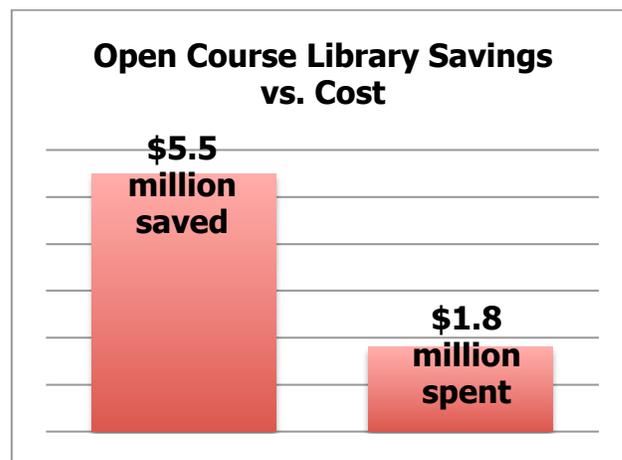
Textbook Savings Estimate

With the completion of the Open Course Library's 81 courses, the Student PIRGs updated our 2011 white paper to incorporate information from the 39 newly released courses and other adoptions of the materials across Washington and other states.^{ix}

Our 2011 analysis looked at the first 42 courses of OCL, which launched in October 2011. Our major findings were that during the 2011-2012 academic year, the 42 faculty who developed the courses would save students an estimated \$1.26 million, which alone recoups the entire cost of developing the materials. We also found that students using OCL materials saved an average of \$102 per course.

Combining our findings from 2011 with a new survey of OCL faculty course developers and an extensive search for other adoptions, we produced a series of statistics that show that the program has already produced a tremendous impact on students.

- **Lower Prices:** OCL materials cost 90% less than the materials that faculty members used prior to adopting OCL, saving students \$96 per class. The average OCL material costs \$12 while the average traditional textbook replaced was \$135.
- **Massive Savings:** The Open Course Library has saved students \$5.5 million in textbook costs to date, including \$2.9 million during the 2012-2013 academic year alone. The vast majority, \$5.1 million of these savings are within the Washington community and technical colleges.



- **Return on Investment:** The textbook savings have more than tripled the original investment of \$1.8 million.
- **Branching Out:** The mathematics departments at Green River Community College and Shoreline Community College have switched to using Open Course Library's Precalculus textbook, which was developed at Pierce College. During this academic year alone, these departments have saved students \$197,395 and \$162,848 respectively.
- **Projected Savings:** Our 2011 analysis found that savings could rise as high as \$41.6 million if the materials are adopted for all 410,000 annual enrollments at Washington's community and technical colleges. While 100% adoption is unlikely, usage at other colleges and universities across Washington and the nation will almost certainly produce even greater savings.

| Summary of Open Course Library Savings | | | |
|---|---------------------------------|------------------------------|------------------|
| | 2012-2013 | 2012-2011 | 2010-2011 |
| Phase I Faculty | \$1,256,641 | \$1,256,641 | \$663,227 |
| Phase II Faculty | \$658,914 | \$201,335 | \$49,526 |
| Green River Community College | \$197,395 | \$256,613 | |
| Shoreline Community College | \$162,848 | | |
| Other Adopters (WA) | \$264,071.59 | \$117,810.12 | |
| Other Adopters (Outside WA) | \$259,887.56 | \$135,263.47 | |
| WA Total | \$2,539,869 | \$1,832,399 | \$712,754 |
| Nationwide Total | \$2,799,757 | \$1,967,662 | \$712,754 |
| Overall Total | \$5,480,173 (Nationwide) | \$5,085,022 (WA only) | |

Conclusion

Overall, the results of this study clearly show that the Open Course Library will not only save students millions on textbooks, but also generate a considerable return on the state's investment. Even in the unlikely case that the faculty who created the courses are the only ones who use them, the program will essentially pay for itself in textbook savings within the first year. Fortunately, between the existing adoptions and SBCTC's efforts to promote adoption, we are confident that the savings will be far greater.

There is already evidence that the impact of these courses will extend beyond Washington. Most significantly, the Saylor Foundation, a non-profit dedicated to free education plans to create professionally edited, modular versions

of the courses. Project Kaleidoscope also intends to use OCL materials, making modifications to suit California's community college students. Furthermore, the department of education in Sao Paulo Brazil plans to do a Portuguese translation of the courses.

While this analysis is based on a very small sample size that is not necessarily representative of the larger faculty population, the findings do at least make a convincing case of the program's cost-saving potential. Once the courses have been on the market for a few terms and more data is available, we intend to conduct a follow-up study to evaluate our original assumptions and revise our projections on student savings.

Methodology

The results presented in this report are derived from two sources: faculty questionnaires in 2011 and 2013 and an Internet search and call for information.

Faculty Questionnaire

Both in 2011 and 2013, we requested that the faculty members participating as OCL course designers fill out a questionnaire about their course. As these faculty members all agreed to adopt the course as part of the project, they would be the most immediate source of student savings. In both cases, the questionnaires asked the following questions:

- Terms during which the OCL course was adopted
- Approximate student enrollment during those terms
- Name of the textbook or other material replaced by the OCL course
- Cost of the OCL material

Of the 42 faculty involved in Phase I, we received responses from 22 representing 28 courses (some faculty designed multiple courses). Our response rate in 2013 was lower; of the 46 faculty involved in Phase II, we received responses from 15 faculty representing 16 courses (3 of these responses were by proxy, as they were team members of someone who responded and therefore included in the numbers). In some cases, other instructors in the faculty members' departments adopted the materials as well, in which case the faculty was asked to respond on behalf of the whole department.

| Summary of Faculty Developers of OCL | | | |
|---|----------------|---------|----------|
| | Overall | Phase I | Phase II |
| Courses | 81 | 42 | 39 |
| Faculty | 88 | 42 | 46 |
| Adoptions | 140 | 72 | 68 |
| Faculty represented in survey | 37 | 22 | 15 |
| Courses represented in survey | 44 | 28 | 16 |

We then looked up the cost of the course materials for both the Open Course Library course and the materials previously used by the faculty. We also calculated the average number of students per course, and number of times the course is taught per term.

| Basic Survey Findings | | |
|--------------------------------------|----------|----------|
| | Phase I | Phase II |
| Enrollment Per Course Per Term | 54.1 | 48.0 |
| Average Terms Course Adopted '11-'12 | 3.2 | 0.7 |
| Average Terms Course Adopted '12-'13 | -- | 2.3 |
| Average Textbook Price | \$132.75 | \$137.13 |
| Average OCL Material Price | \$11.43 | \$12.99 |

Using this information, we then calculated a set of statistics to estimate the *actual* student savings generated by the Open Course Library, as many students do not pay the full sticker price of a textbook—and others skip buying the book altogether. We then used the average enrollment and terms taught per course to estimate the per-adoption savings.

| Student Savings Statistics | | | |
|-----------------------------------|-------------------|------------|------------|
| | Overall | Phase I | Phase II |
| Average Textbook Price | \$134.86 | \$132.75 | \$137.13 |
| Average OCL Material Price | \$12.18 | \$11.43 | \$12.99 |
| Actual Spent on Textbooks | \$105.78 | \$113.12 | \$97.87 |
| Actual Spent on OCL | \$9.83 | \$11.43 | \$8.11 |
| Savings Per Student Per Term | \$95.95 | \$101.69 | \$89.76 |
| Savings Per Adoption Per Term | \$4,924.90 | \$5,499.00 | \$4,306.63 |

We calculated the "Actual Spent on Textbooks" using numbers from Student Monitor¹⁰ and from our own report *A Cover to Cover Solution*.¹¹ First, we multiplied the "Average Textbook Cost" by 49% of students who pay full price (100%), 38% of students who by a used book at 75% of the price, 10% of students who rent the book at 40% of the price, and 2% of students who buy an e-book at 50% of the price. Then we multiplied the resulting number by 78%, to account for students who do not buy the book at all.

We calculated "Actual Spent on OCL" by taking the "Average OCL Material Price" by 78%, to account for the students who do not buy the material.

"Savings Per Student Per Term" is the "Actual Spent on Textbooks" minus "Actual spent on OCL".

"Savings Per Adoption Per Term" is the average student savings multiplied by the average enrollment for the respective phase.

We calculated the "Overall" statistics by combining Phase I and Phase II numbers. We multiplied Phase I by 42 and the value for Phase II by 39, then divided by 81 to represent the distribution of courses.

Other Adoptions

In addition to the faculty who designed the courses, we sought out other faculty members who had adopted OCL materials. Through extensive Internet searches, requests for information from OCL authors and others, we identified an additional 36 faculty members or departments who had adopted OCL materials in place of expensive textbooks. We identified these adoptions either through a syllabus, information on a bookstore website, or through communication with the adopter or a colleague. For each adoption, we collected the instructor name, institution, textbook adopted, and the first term the adoption began.

| Other Adoptions Identified | |
|--------------------------------------|-----------|
| | |
| Additional Adoptions At WA CTCs | 19 |
| Additional Adoptions Outside WA CTCs | 17 |
| Total Additional Adoptions | 36 |

We split these adoptions into two groups. First, we set aside two particularly large adoptions to calculate by hand, as our methodology is based on averages that would not account for their size. The two department-wide adoptions are for *Precalculus I and II* at Shoreline Community College and Green River College. Another reason to treat this course separately is that it is a two-semester sequence that uses the same book, so most of the students in Precalculus II will not need to purchase it again. Using course records available through the college website, we determined the exact enrollment for each course and the terms during which the course was taught. We also determined which textbook the department used previously and looked up the price. Then, we used the same methodology we used for the questionnaire to calculate the estimated actual student spending for the textbook. For Precalculus II, we assumed that only 25% of the class would need to purchase the textbook again (to account for students who transfer in, rented the book originally, or did not buy it the first time around).

For the remaining 34 adoptions, we calculated the estimated savings for each adoption using the same methodology as the questionnaire. We took the first term of the adoption, determined the maximum possible terms it could have been used, then followed the methodology we used for the questionnaire estimate the number of terms, enrollment and savings. For these adoptions, we used the Phase I average figures, and the Phase II numbers are slightly skewed toward fewer terms per year due to the development schedule.

It may seem like 36 adoptions is relatively small, but we suspect we were only able to scratch the surface of OCL usage for several reasons.

- Adoptions are very difficult to identify. Course syllabi are frequently hidden behind course management software firewalls, and faculty members are not accustomed to alerting the author of their course material when beginning to use it. Therefore, we suspect that there are many more adoptions that we did not identify. As it is, this estimate only includes adoptions that we were able to confirm through a syllabus, information available on a college bookstore website, or through another faculty member.
- We are only counting adoptions of OCL materials in place of an expensive textbook. Information from the State Board suggests that many OCL materials are being utilized beside other course materials, perhaps in place of smaller items. While this may not impact textbook savings, it still counts as a tangible benefit from the project.

Projected Savings

In our 2011 report, we used our calculations to estimate the potential statewide savings if adopted at all of Washington's 34 community and technical colleges. We knew that all 81 courses slated for development amounted to 410,000 enrollments per year, so multiplying the average "Savings Per Student" of \$101.69 by the projected enrollments would yield \$41.6 million per year in savings.

While it is unlikely that the system will reach 100% adoption of the OCL materials, the savings will likely amplify even greater through use at other colleges and universities across the nation and world.

About The Student PIRGs

The Student Public Interest Research Groups (Student PIRGs) is a national network of state-based advocacy organizations that are funded and directed by students. With chapters on 100 campuses across the country, the Student PIRGs work on issues pertaining to the environment, consumer protection and government reform.

More information including previous research can be found at <http://www.studentpirgs.org/textbooks>.

Download a copy of this report at <http://studentpirgs.org/resources/updated-cost-analysis-open-course-library>

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Endnotes

¹ The Student PIRGs. 2010. *A Cover To Cover Solution: How Open Textbooks Are The Path To Textbook Affordability*. <http://www.studentpirgs.org/textbooks-reports>.

² The College Board. 2011. *Trends in College Pricing*. <http://www.collegeboard.org/trends>.

³ Government Accountability Office (GAO). 2005. *College Textbooks Enhanced Offerings Appear to Drive Recent Price Increases*. GAO-05-806. <http://www.gao.gov/new.items/d05806.pdf>.

⁴ The Student PIRGs. 2011. *High Prices Prevent College Students from Buying Assigned Textbooks*. <http://www.studentpirgs.org/release/news-releases/textbooks>.

⁵ Public Agenda. 2009. *With Their Whole Lives Ahead of Them*. <http://www.publicagenda.org/theirWholelivesAheadofthem>.

⁶ For more information about this license, see <http://creativecommons.org/licenses/by/3.0>.

⁷ See SB 1052 and SB 1053 from the 2012 session.

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120SB1052

⁸ For the Program Summary, see <http://www.doleta.gov/TAACCCT>.

^{ix} See <http://studentpirgs.org/sites/student/files/resources/Affordable-Textbooks-For-Washingtons-Students.pdf>.

¹⁰ See the article "Should textbooks really cost \$200?" in MSN Money, 26 October 2011. <http://money.msn.com/college-savings/should-textbooks-really-cost-200-dollars-weston.aspx>

¹¹ The Student PIRGs. 2010.