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Prototyping The Open Textbook Toolkit: Digital Infrastructure that Connects Libraries, Disciplinary Faculty, and University Presses to Support Open Education

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Prototyping The Open Textbook Toolkit: Digital Infrastructure that Connects Libraries, Disciplinary Faculty, and University Presses to Support Open Education

Presenter 1 Title
Director, Copyright & Digital Scholarship Center

Presenter 2 Title
Associate Head, Collections & Research Strategy

Session Type
45-minute concurrent session

Abstract
If you care about access to information, student success, or transformative education you’re probably thinking about the potential of open educational resources (OERs). As a profession, librarians have embraced open education but so far, we have not given faculty instructors the tools or infrastructure needed to drive wide engagement. Faculty are interested in creating customized resources that empower their instruction but barriers around creation, hosting, and remix of OERs are too high.

This session introduces the Open Textbook Toolkit, a project designed to reduce those barriers and grounded in deep research about the unmet needs of instructors and students. Currently in development, the Toolkit will leverage a partnership between libraries and university presses to offer concrete supports that empower faculty to develop open educational resources at all levels.

Join Will Cross and Mira Waller, co-PI’s on an IMLS grant currently in the second stage of review for a discussion about the Toolkit as a case study in developing infrastructure that supports OERs. Participants will leave the session with an understanding of the project as well as preliminary data and actionable recommendations on the development of support for OERs. Whether designing your own platforms and tools, looking to leverage the Toolkit on your own campus, or just seeking an understanding of the state of the art in OER development, you will leave this session better-prepared to develop a library ecosystem that supports OERs.

Location
KIPJ Room EF

Keywords
OER, Scholarly Communication, Instruction, Platforms, Library-Press Partnerships

This 45-minute concurrent session is available at Digital USD: https://digital.sandiego.edu/symposium/2017/2017/12
Prototyping the Open Textbook Toolkit

Will Cross and Mira Waller

NCSU Libraries
WINE.

IT'S WIN WITH E ON THE END.
Check out my $1,000 tv stand

$1,200
Per student each year

65%
Of students don’t buy the book

>10%
Of students failed a class
There's no way to avoid it. As the cost of college grows, research shows that so does the number of hungry and homeless students at colleges and universities across the country.
"I KIND OF RUINED MY LIFE BY GOING TO COLLEGE."

JACKIE KROWN, 32, PORTLAND, OREGON
$152,000 IN STUDENT DEBT

42 million people owe $1.3 trillion in student debt.
How we made this mess, who's to blame, and what you can do about it.
Open Education
EXECUTIVE SUMMARY:

According to the College Board, the average undergraduate student should budget between $1,200 and $1,300 for textbooks and supplies each year. That’s as much as 40% of tuition at a four-year community college and 13% at a four-year public institution.

For many students and families already struggling to afford a college degree, that is simply too much – meaning more debt, working longer hours, or making choices that undermine academic success.

Unfortunately, even the proliferation of cost-saving options like used books, textbook rental programs, and e-textbooks is not enough to solve the problem. Publishers undermine these markets by releasing new editions, bundling in single-use pass codes, or including use restrictions. Even more problematic, the price of these textbook options is still determined by the ever-increasing price of a new, printed textbook.

One thing is clear - the current textbook market does not deliver the educational opportunity it can and should.

In order to reduce costs for students now, and in the future, we must break free from the traditional textbook market and deliver educational materials through an alternative model.

This report analyzes the potential of open textbooks and open licensing to become that alternative.

In brief, open textbooks are faculty-written, peer-reviewed textbooks that are published under an open license – meaning that they are available free online, they are free to download, and print copies are available at $10-40, or approximately the cost of printing.

This report reviews data collected from five different campus-based pilot programs that encouraged faculty to replace the traditional textbook for their courses with openly licensed educational resources (OER) and open textbooks.

**Findings:**

Analysis of these pilots determines that a student saves $125 per course, when their traditionally published textbook is replaced with an open textbook.

By extrapolating average student savings and applying it to larger segments of the student population, we can predict that open textbooks have the potential to save more than a billion dollars each year.

| Full-Time Undergraduates (1.4 million) | $1.42 billion |
| Students taking Intro. Psychology (1.6 million) | $191 million |

Additionally, by comparing total investment and money spent during these pilots with the total savings by students as a result of the project, we can conclude that investing in open textbooks has an exponential return on investment in student savings.

**Recommendations:**

Institutions and all stakeholders in higher education should take greater ownership over solving the problem of high textbook prices, and can do so effectively by providing the training and resources faculty need to convert their classroom to an open textbook.
The Impact of Open Textbooks on Secondary Science Learning Outcomes
T. Jared Robinson¹, Lane Fischer¹, David Wiley¹, and John Hilton III¹

Keywords: open educational resources; open textbooks; science education; secondary education; propensity score matching

Introduction
For better or for worse, the textbook is the single most predominant curriculum delivery vehicle in schools in the United States (Jehnck, 2011). The textbook’s role, however, extends beyond serving as a vehicle to deliver content. The design and structure of the textbook influences how students learn. The William and Flora Hewlett Foundation, an early leader of the OER movement, defines open educational resources as “teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and reuse.”

The increasing costs associated with commercial textbooks and decreasing financial support of public schools, it is important to better understand the impacts of open educational resources on student outcomes. The purpose of this quantitative study is to analyze whether the adoption of open science textbooks significantly affects science learning outcomes for secondary students in earth systems, chemistry, and physics.

This study uses a quantitative quasi-experimental design with propensity score matched groups and multiple regression to examine whether student learning was influenced by the adoption of open textbooks instead of traditional publisher-produced textbooks. Students who used open textbooks scored .65 points higher on end-of-year state standardized science tests than students using traditional textbooks when controlling for the effects of 10 student and teacher covariates.

Further analysis revealed statistically significant positive gains for students using the open chemistry textbooks, with no gains for earth systems or physics courses. Although the effect size of the gains were small, the finding that open textbooks can be as effective or even slightly more effective has important considerations in terms of school district policy in a climate of finite educational funding.
S.M.A.R.T. Lab Videos

Instrumentation

How to Use the Balances...

How to Use a Centrifuge

Gas Chromatography

Infrared Spectroscopy
WILL YOU USE OPEN EDUCATIONAL RESOURCES IN THE NEXT THREE YEARS?

- Yes: 31.3%
- Will consider: 31.5%
- Might Consider: 24.9%
- Not interested: 6.9%
- No Opinion / Don't Know: 5.4%
THE PENCIL METAPHOR

THE LEADERS
First to adopt technologies, document and share practice—warts and all.

HANGERS-ON
Know all the lingo, attend the seminars but don’t do anything.

THE FERRULES
Hold tightly onto what they know. Tech has no place in their classroom.

THE SHARP ONES
They watch the leaders, grab the best bits, learn from mistakes and do great stuff.

THE WOOD
Would use tech if someone else sets it up and shows them how-to and keeps it running.

THE ERASERS
Endeavor to undo much or all the work of the leaders.

Based on an idea from Lindy Orwin lindyorwin.com
Bridging the Gap for Instructors Using OER
Bridging the Gap for Instructors Using OER
What We’re Doing Now
(The Really Good Ones)
What We’re Doing Now (The Rest of Us)
How Can We Do Better?
Bringing Together Tools and Expertise
North Carolina State University

Fiscal Year: 2017
Award: $49,958.00

City: Raleigh  State: NC  Recipient Type: Library

Program: National Leadership Grants for Libraries
Program Categories:

North Carolina State University Libraries in collaboration with the American Psychological Association, the University of North Carolina Press, the Student Public Interest Research Groups, the Open Textbook Network, and the new preprint service PsyArxiv, will explore the development of a strategy to use open educational resources (OERs) in psychology classrooms. Specifically, the project will gather information about the practices and needs of psychology instructors who may consider adopting or creating OERs. Project findings, recommendations, and a scalable “toolkit” will assist a broad range of scholars, instructors, librarians, and publishers to better understand how to support subject matter experts in the creation and adoption of OERs.
Phase 1: Planning & Preparation
Barriers to Adopting Open Educational Resources

- Not enough resources for my subject: 49%
- Too hard to find what I need: 48%
- No comprehensive catalog of resources: 45%
- Not used by other faculty I know: 30%
- Not high-quality: 28%
- Not knowing if I have permission to use or change: 21%
- Not current, up-to-date: 17%
- Too difficult to integrate into technology I use: 14%
- Lack of support from my institution: 12%
- Too difficult to change or edit: 11%
Concurrent 6E: Reclaiming STEM Spaces...

Concurrent 6E: Reclaiming STEM Spaces: Why Haven’t Libraries and University Presses Worked Together to Form Viable Alternatives to Commercial Publishing?

Despite shared values, the UNC Press and NCSU Libraries have struggled to take advantage of each other's expertise. One reason is a perceived mismatch between the humanities focus of the Press and the STEM orientation of the Libraries. This disconnect, which many institutions face, creates missed opportunities to pool resources and leverage the skills of both entities. In order to enable a partnership between our institutions, we are exploring collaborative projects that leverage the combined strengths of a Press and the Libraries around STEM areas. Examples of these efforts include publishing technical reports and exhibit materials, working with NCSU's agricultural cooperative extension, and developing a grant-funded pilot for a subject-specific OER platform. Join us for a town hall discussion, where we will examine the challenges facing libraries and UPS's collaborative STEM publishing initiatives.

Moderators: Mira Waller, NCSU Libraries

Speakers

John McLeod, University of North Carolina Press

Lillian Riggling, North Carolina State University Libraries

Mira Waller, North Carolina State University Libraries

The Office of Scholarly Publishing Services (OSPS)

Mission
The mission of The Office of Scholarly Publishing Services (OSPS) is to serve the University of North Carolina System by providing access to a range of sustainable, mission-driven publishing models and solutions. Leveraging the expertise of UNC Press and its nonprofit subsidiary, LongleafSerivces, we collaborate with libraries, research centers and institutes, departments, and individual faculty and staff to lower the cost of producing and disseminating quality educational and scholarly publications. We also work with other public institutions seeking to publish scholarly material or general interest works that will benefit the people of North Carolina.

Examples of Projects
- Open access digital works
- Print and digital journals
- Print and digital books and textbooks
- Open access reference works (OER)
- Audio books and educational materials
- Conference and symposia proceedings
- Transforming rare manuscripts and out-of-print / out-of-copyright works into accessible books and e-books

Contact
If you would like to discuss a book or journal proposal please complete an evaluation form and submit it to John McLeod, Director of Scholarly Publishing Services, at john.mcleod@uncpress.org.

Funding
Limited grant funding is available. Learn more about the Thomas W. Ross Fund Publishing Grant.
Open Textbook Workshop

**WHEN**
March 27, 2017
2:00pm - 4:00pm

**WHERE**
• Creativity Studio at the James B. Hunt Jr. Library

**EVENT DESCRIPTION**
Are you an instructor who is concerned about the impact of high textbook costs on your students? Explore possible open textbook solutions by attending a two hour workshop and writing a short textbook review. NC State Libraries is sponsoring an Open Textbook workshop, led by speakers from the Open Textbook Network. Receive a $200 stipend for your efforts!
Why Psychology?
Phase 2: Survey and Focus Groups
Phase 3:
Evaluation, Reporting, and Dissemination
Final Report

- Quantified measures of **use** and **comfort** with OER
- Existing **challenges**, **needs**, and potential **opportunities** for OER
- Transferrable information about **instructor use** and **comfort** with OER
- Transferrable information about **student use** and **comfort** with OER
A Plan to Build the Toolkit
Will Cross
wmcross@ncsu.edu
@tceles_B_hsup