

COLORADO'S OER INITIATIVE



Meg Brown-Sica, Spencer Ellis, Tina Parscal, & Jonathan Poritz

January 30, 2019

AGENDA

- Welcome & Introductions
- What is OER and Why is it important?
- Colorado's OER initiative
- Getting started with OER
- OER in action (Institutional Examples)
- How to get involved?
- Questions & Answers

INTRODUCTIONS

- Meg Brown-Sica, *Assistant Dean for Collections and Scholarly Communication, CSU-Fort Collins*
- Spencer Ellis, *Director of Educational Innovation, Colorado Department of Higher Education*
- Dr. Tina Parscal, *Executive Director, Colorado Community Colleges Online*
- Dr. Jonathan Poritz, *Associate Professor, Math and Director of Center for Teaching and Learning, CSU-Pueblo / OER Council Chair*

What Are Open Educational Resources [OER]?

HB18-1331, Higher Education Open Educational Resources, passed by the Colorado General Assembly and signed by Governor Hickenlooper on 30 April 2018, defined OER here:

(6) "OPEN EDUCATIONAL RESOURCES" MEANS HIGH-QUALITY TEACHING, LEARNING, AND RESEARCH RESOURCES THAT RESIDE IN THE PUBLIC DOMAIN OR HAVE BEEN RELEASED UNDER AN INTELLECTUAL PROPERTY LICENSE THAT PERMITS FREE USE OR REPURPOSING BY OTHERS AND MAY INCLUDE OTHER RESOURCES THAT ARE LEGALLY AVAILABLE AND AVAILABLE TO STUDENTS FOR FREE OR VERY LOW COST. OPEN EDUCATIONAL RESOURCES MAY INCLUDE FULL COURSES, COURSE MATERIALS, MODULES, TEXTBOOKS, FACULTY-CREATED CONTENT, STREAMING VIDEOS, EXAMS, SOFTWARE, AND OTHER TOOLS, MATERIALS, OR TECHNIQUES USED TO SUPPORT ACCESS TO KNOWLEDGE.¹

¹ Closed based on the [William and Flora Hewlett Foundation](#)'s definition: "OER are 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 re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge."

First Answer: Free Textbooks

A basic place to start with this is

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So the term "**OER**" includes **free textbooks**.

Students tend to like this *a lot*, and it changes their behavior in many ways.

Second Answer: “Repurposing by Others”

But notice this also includes

(6) ”OPEN EDUCATIONAL RESOURCES” MEANS HIGH-QUALITY TEACHING, LEARNING, AND RESEARCH **RESOURCES THAT** RESIDE IN THE PUBLIC DOMAIN OR **HAVE BEEN RELEASED UNDER AN INTELLECTUAL PROPERTY LICENSE THAT PERMITS** FREE USE OR **REPURPOSING BY OTHERS** AND MAY INCLUDE OTHER RESOURCES THAT ARE LEGALLY AVAILABLE AND AVAILABLE TO STUDENTS FOR FREE OR VERY LOW COST. OPEN EDUCATIONAL RESOURCES MAY INCLUDE FULL COURSES, COURSE MATERIALS, MODULES, TEXTBOOKS, FACULTY-CREATED CONTENT, STREAMING VIDEOS, EXAMS, SOFTWARE, AND OTHER TOOLS, MATERIALS, OR TECHNIQUES USED TO SUPPORT ACCESS TO KNOWLEDGE.

So “**OER**” also includes resources which can be adapted, mixed with other OER, and then shared back to the global scholarly community.

Faculty tend to like this *a lot*, and it changes their behaviors in many ways.

“Open” vs “Free”

A better word than “open” in **OER** might therefore have been “**free**,” in both of the two common senses of that word in English:

“**free** as in **free beer**” and also “**free** as in **free speech**”

This linguistic issue has been around for a while. You might be familiar with “open-source software,” like **Android**, **Linux**, **Firefox**, **MediaWiki** [the engine that runs **Wikipedia**], **Apache** [the most widely used web server software in the world], *etc.* Such software was originally called “free software,” and even though it is free [as in free beer] it has enormous economic consequences and has made a lot of money for many businesses.

E.g., when I worked for IBM Research in the early 00s, my youthful radical background in FLOSS² was a business benefit, not problem.

²FLOSS = “Free/Libre/Open-Source Software” is the best term.

[Micro]Economic Issues for Students

The #RealCollege Survey found³ in 2017 that for university students

- 36% were food insecure in the 30 days before taking the survey,
- 36% were housing insecure in the last year, and
- 9% were homeless at some point in that year.

Students face these economic burdens at the same time that tuition is going up faster than inflation [as the cost of “public” higher ed is more and more born by the individual students].

Then a class a student needs or wants requires an expensive textbook – \$100, \$200, \$300, or even \$400 is not unknown today.

Now ask yourself: if you were a student in debt, [sometimes or often] hungry, and concerned about keeping a roof over your head ... where would your economic priorities be?

³ *Still Hungry and Homeless in College*, Goldrick-Rab, Richardson, Schneider, Hernandez, and Cady, 2018, on the web [here](#).

[Macro]Economic Issues for Students

These individual decisions students make are happening in the context of other financial burdens increasing steeply on students. The result is well known:

total student debt in the U.S. is around \$1.45 trillion.

Some examples in Colorado:

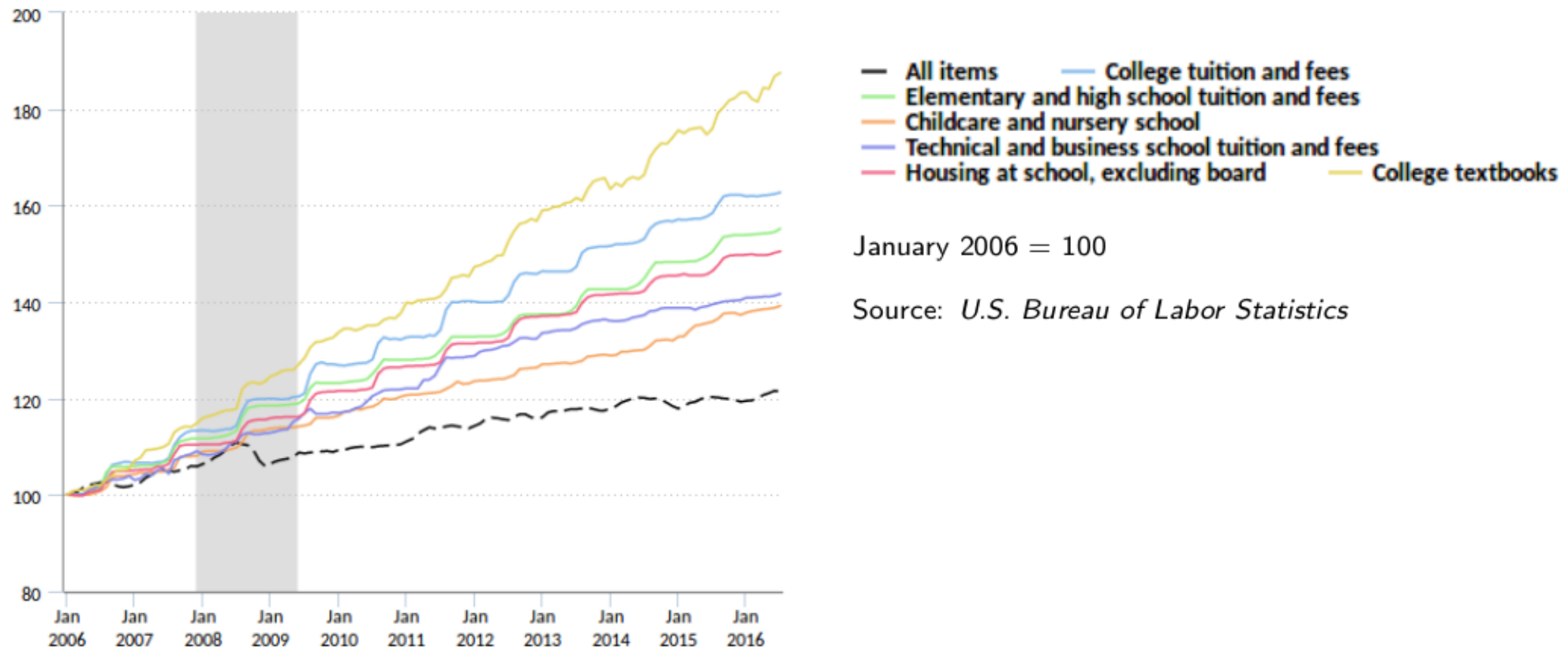
Institution	Avg Debt, 2014 Grads
CSU-Pueblo	\$29,914
MSU, Denver	\$28,468
Colorado College	\$19,756
University of Denver	\$29,050
All private[non-profit] and public 4-years in CO	\$25,064

2014 is most recent complete data available

Source: <https://ticas.org/posd/state-state-data-2015#>

Students Pay Many Different Costs...

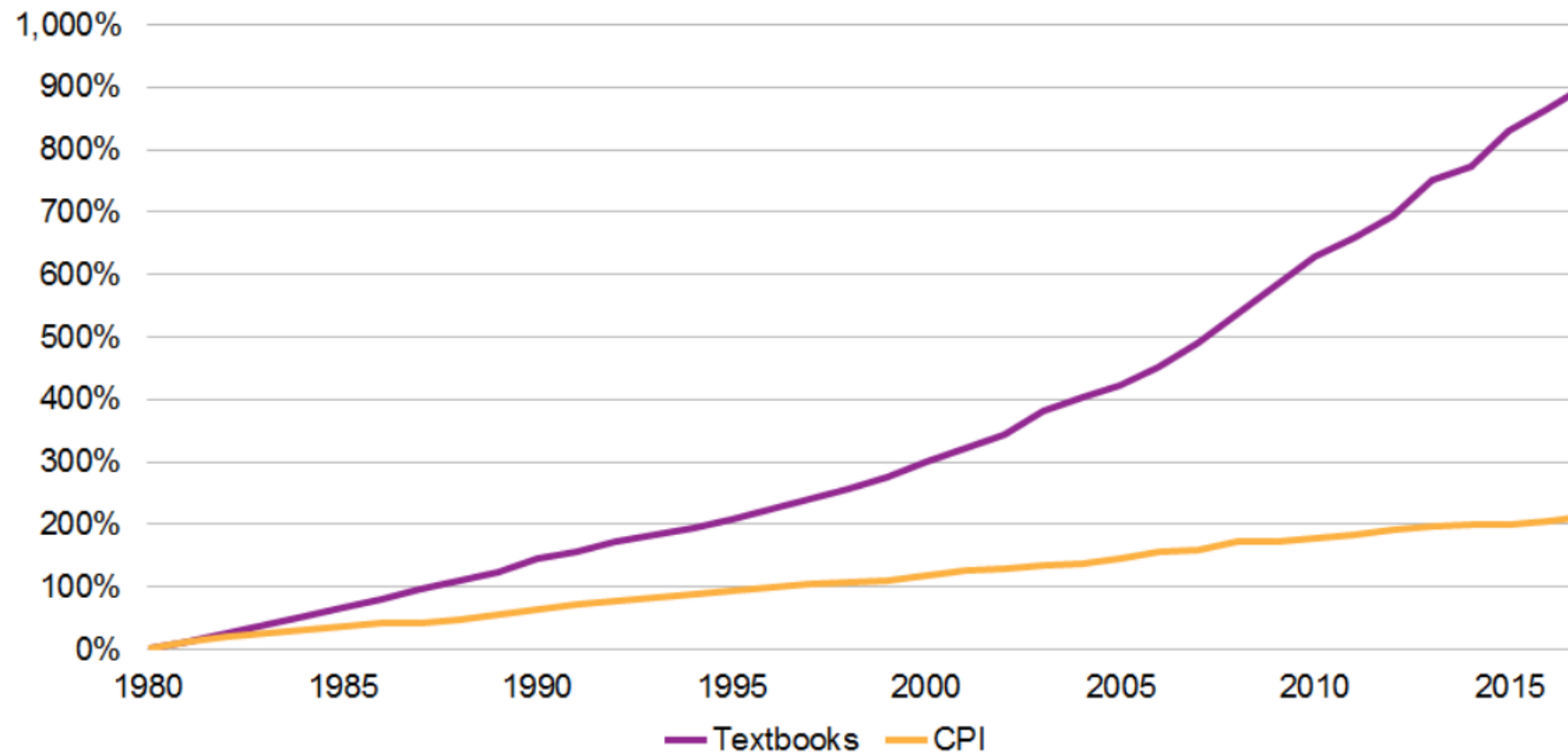
Consumer price indices for tuition and school-related items, not seasonally adjusted, January 2006-July 2016



<https://www.bls.gov/opub/ted/2016/college-tuition-and-fees-increase-63-percent-since-january-2006.htm>

...But the Winner⁴ Is: Textbook Cost

Increase in textbook costs since 1980

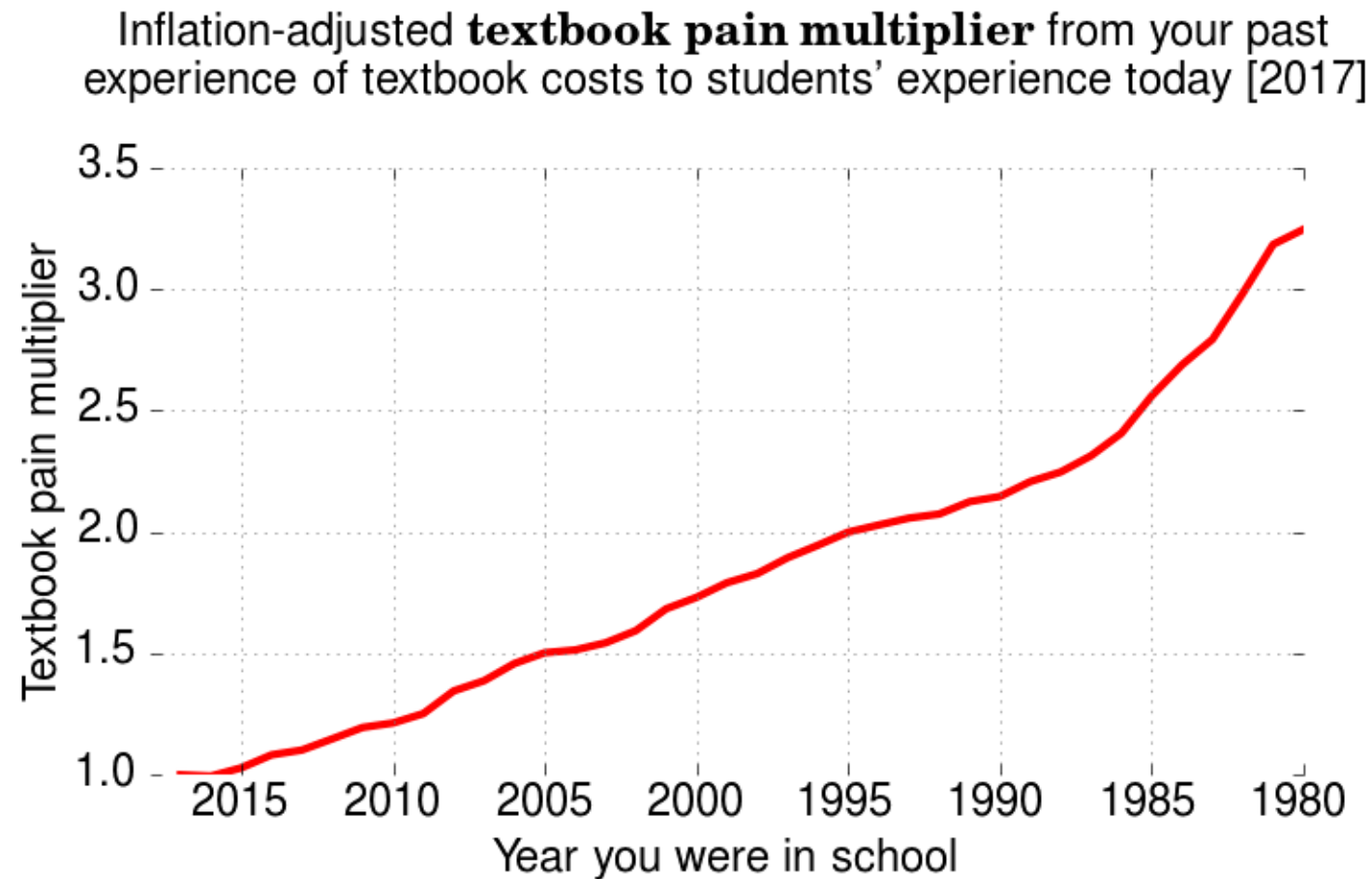


Source: *U.S. Bureau of Labor Statistics*

⁴in terms of rate of growth, not absolute size

Your Intuition for Textbook Costs is Wrong

One attempt to correct our intuition for these different rates of inflation:



Source: <https://mathematikoi.net/>

But **Why** Do Textbooks Cost So Much?

A broken market mechanism: faculty choose, students pay. Publishers understand this.



Consequences for Students

Studies⁵ have shown that, as a result of these economic realities, students

- make decisions about which courses to take based on the costs of the textbooks;
- take fewer courses because of expensive textbooks;
- do not buy even required textbooks, because of cost, and therefore learn less, do more poorly, and drop out more frequently; and
- take longer to complete degrees because of the obstacle of textbook cost.

A particularly exciting recent study⁶ found that **DFW rates went down by one-third among minority and Pell-eligible students in gateway courses which switched from commercial textbooks to OER.**

⁵ See references in *Report to the Joint Budget Committee and The Education Committees of the General Assembly – Open Educational Resources in Colorado*, Brown-Sica et al., 2017, on the web [here](#).

⁶ *The Impact of Open Educational Resources on Various Student Success Metrics*, Colvard, Watson, and Park, **International Journal of Teaching and Learning in Higher Education** (2018), on the web [here](#).

Scholarly Production Wants to Be Free

Faculty are not used to thinking of the economic consequences of their choices, nor of their work as being in a marketplace⁷.

We are used to signing over our copyrights on research papers to the journal publishers, who in turn make large profits on subscriptions which they in no way pass on to the article authors.

Scholars do tend to keep the copyrights on their monographs and textbooks, although usually tied up in restrictive contracts.

It is as rare as winning the lottery (or getting struck by lightning) that a book will sell enough to make some serious money for the author.

Scholars mostly seek **impact**, which comes when others use a work in new ways – clearly without first asking permission. We **hope** someone else will take our ideas, with attribution!, and do something amazing.

In this sense, scholarly production wants to be **free, as in speech**.

⁷ other than “the marketplace of ideas”

Freedom Includes the Right to Seek a Profit, or Not

If a professor wants to assign an expensive textbook in a class (and has a good reason to do so) or wants to publish a textbook commercially with the hope of writing the runaway bestseller on economic history, then by academic freedom and scholarly tradition, we should not stand in the way.

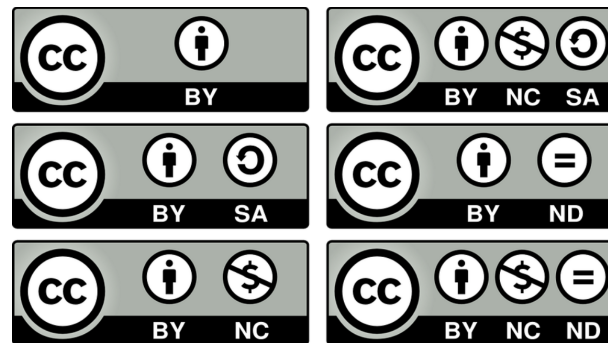
But usually, many faculty will be happy to contribute their textbooks, problem banks, software, and other writings to a global intellectual commons, a *Creative Commons*.

If there were a way to dedicate a creative work to this commons, rather than having it automatically fall into the domain of *all rights reserved* copyrights – as any work of original expression does as soon as it is fixed in a tangible medium⁸ – many scholars would likely do so.

⁸ this is the trigger which causes a copyright to spring into existence: no registration or formalities is actually required.

Creative Commons Licenses

The way to bend copyright law to the purposes of the scholarly life is to release works with a **Creative Commons Licenses**:⁹



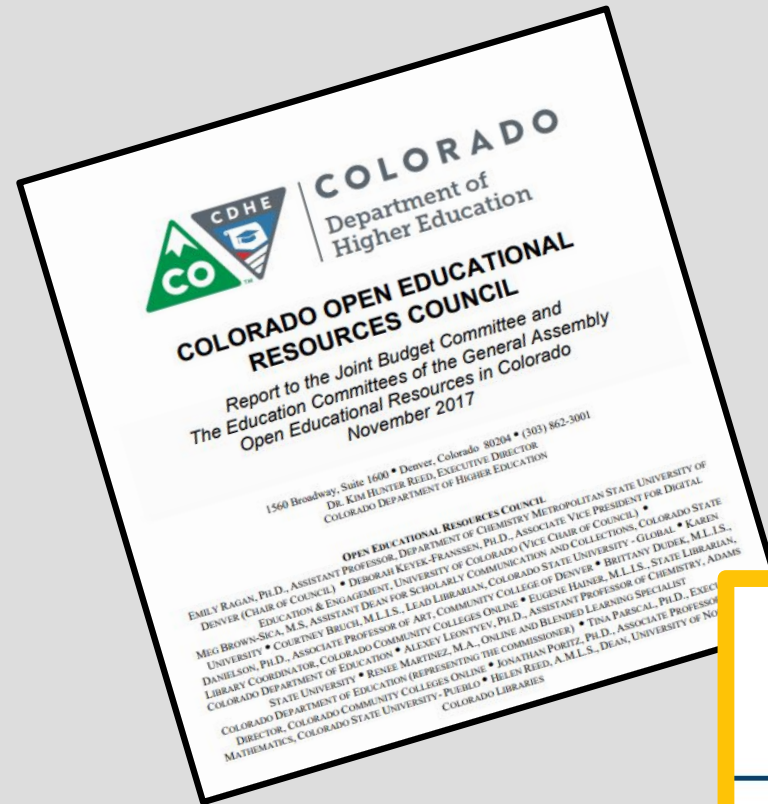
Educational resources release with a CC license – well, **not** those two licenses with “ND” – are open to REPURPOSING BY OTHERS, in the words of [HB18-1331](#), and therefore are **Open Educational Resources [OER]**.

OER can be customized, localized, adapted to a faculty member’s own way of teaching, unlike [commercial] textbooks under traditional copyright.

Only OER truly respect an instructor’s academic freedom!

⁹ see <https://creativecommons.org>

COLORADO'S OER INITIATIVE





Second Regular Session | 71st General Assembly

Colorado General Assembly

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Highlights from 2017 Statewide Survey

- *Nearly 90 percent of respondents who took the Solicitation of Individual Input Survey reported that they agreed with the statement “Textbook costs have become a serious affordability barrier to students attending Colorado’s colleges and universities.”*
- *Of the 27 public institutions that returned surveys, 26 indicated that reducing the cost students pay for higher education is a “major” or “moderate” concern to the institution’s board, president and senior administrators.*
- *Comments from participants agree that lowering the cost of education is beneficial to both individual students and Colorado society as a whole.*

90%

“...agree textbook costs have become a serious affordability barrier to students...”

2018 LEGISLATION: HB 18-1331

Second Regular Session | 71st General Assembly

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HB18-1331

Higher Education Open Educational Resources

Concerning expanding the use of open educational resources at public institutions of higher education, and, in connection therewith, creating the Colorado open educational resources council, creating a grant program to support the creation and use of open educational resources, and making an appropriation.

SESSION: 2018 Regular Session

SUBJECT: Higher Education

BILL SUMMARY

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PRIME SPONSORS

Representative
Dave Young

Representative
Bob Rankin

Senator
Kevin Lundberg

MEET THE 2018 OER COUNCIL

Working Groups

1. State Grant Administration & Sustainability
2. Policy & Reporting
3. Campus Outreach & Implementation
4. Communication & Website Curation



Not in photo: Dr. Ye Li (CSM), Dr. Mark Manzanares (ASU), Ragan Harper (CDE), Spencer Ellis (CDHE), Alana Mitchell (student rep)

COLORADO OER GRANT PROGRAM

Two types of proposals are solicited for an initial round of funding:

Those from public institutions of higher education to support and expand creation, adoption, adaptation and promotion of the use of OER across the institution and among multiple institutions

Institutional Grants ranging from \$10,000-\$99,999

Those from faculty and/or staff of public institutions of higher education, individually or in small groups, to support the creation, adoption, adaptation and promotion of OER for specific courses, disciplines or programs.

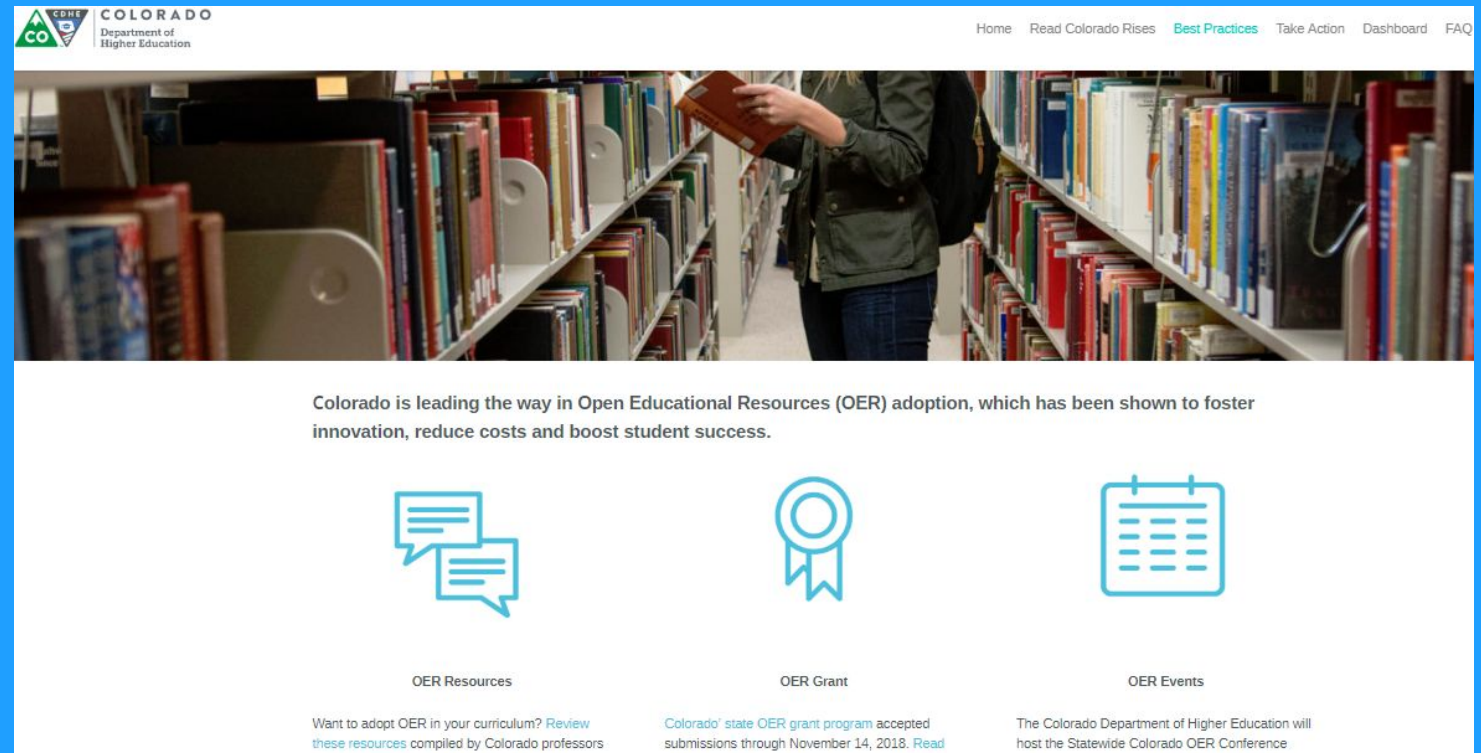
Individual or Small Group Grants ranging from \$250-\$4,999

- Minimization of indirect costs encouraged
- Partial funding and revisions to scope of work or project modification allowable
- Vary slightly for individual and institutional grants; refer to RFP
- Rubric directly reflects selection criteria & sections of proposal
- Emphasis on accessibility and Creative Commons license



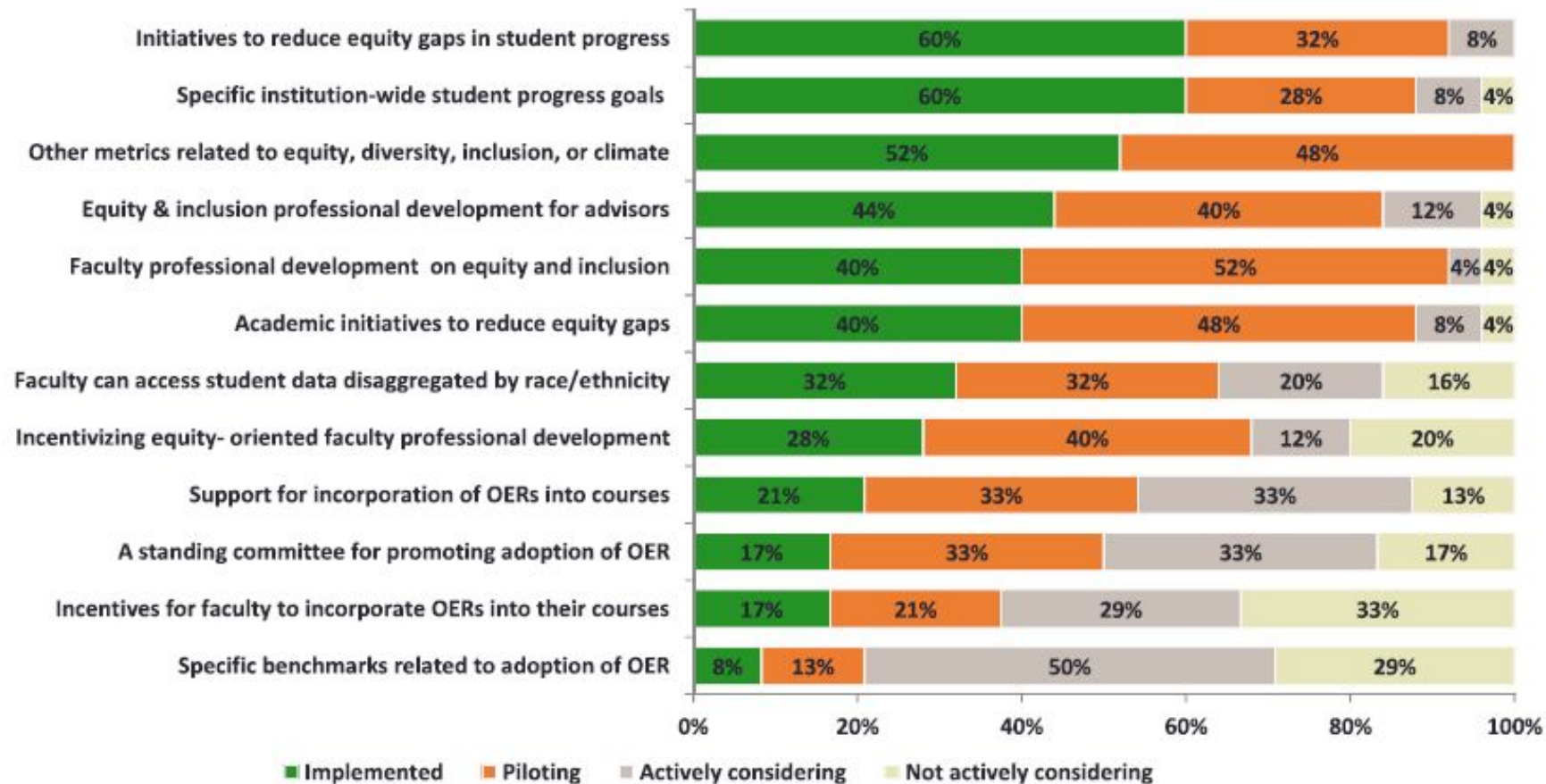
COLORADO OER WEBSITE

- Currently updated with information on Council, OER in Colorado and resources
- Resources include:
 - *Training and 'How To' Materials*
 - *Licensing and accessibility guidelines*
 - *References to existing repositories*
 - *Guides for Creating Content*



Where are we now?

Inclusion & OER

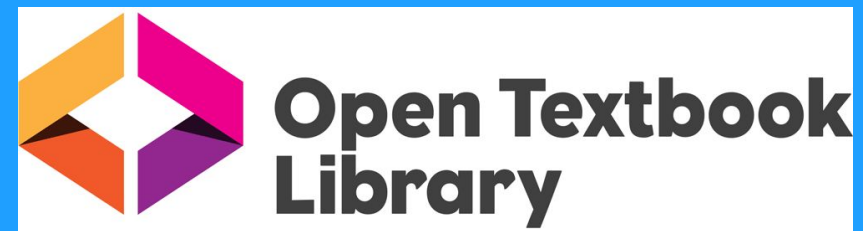


Richard N. Katz & Associates

Where are we going?



OER is just getting starting here in Colorado!



GETTING STARTED WITH OER



https://mountainscholar.org/bitstream/handle/10217/23929/UHPC_901.jpg?sequence=1&isAllowed=y

Getting Started for Faculty

- Find available materials in your subject area.
- Talk to anyone who works with OER on your campus, librarians, instructional designers, other faculty.
- Identify the courses in your department that have the highest enrollment, highest cost of course materials, and highest DFW rates.
- Discuss the issue at a departmental meeting.
- Invite a faculty member from your campus or another nearby campus who uses OER to discuss it with your department.
- Join the SPARC mailing list/forum to connect with others who use OER in your discipline.

Getting Started for Administrators

- Articulate that implementing OER where appropriate is a goal for the campus through strategic planning, student success initiatives, professional development for faculty, etc.
- Make OER support part of the responsibilities of several key positions in the library, faculty support, and student success.
- Make sure students can easily identify courses which utilize OER when registering.
- Prioritize long term benefits vs. quick fixes.
- Identify resources to support initiatives.

WHERE CAN WE FIND OER?

To reap the benefits of OER, institutions and faculty need either to create their own (under a CC license) or adapt or adopt an existing OER. They can be found on a lot of random individuals' web pages, e.g.,

<http://www.introtoie.com/>

or (thousands? of) others, in small disciplinary collections, e.g.,

<https://aimath.org/textbooks/>

in a few well-known OER **repositories** like

<https://openstax.org/> and

<https://open.umn.edu/opentextbooks/>

or in a few well-known indices/search tools, e.g.,

<https://www.oercommons.org/> or

<https://www.merlot.org/merlot/index.htm>

In short, OER are not hard to find [particularly if you ask for help from a librarian].

OER Organizations

- **SPARC: A global coalition committed to making Open the default for research and education.**
 - Focus/Benefits: Lists/Forums, Open Education, Open Access Publishing, Open Data, government policy/lobbying, leadership program.
 - Membership: Institutions can become members to support their work but information is freely available.
- **OTN/Open Textbook Network/Center for Open Education: Support initiatives that advance open education.**
 - Focus/Benefits: List/Forum, hosts and maintains the Open Textbook Library, provides training, publishing support, a yearly summit and active community for member institutions.
 - Membership: Institutions or groups of institutions can become members to support their work and benefit from community.



Others

- Community College Consortium for Open Educational Resources
- Rebus Community
- Creative Commons
- United Nations Educational, Scientific, and Cultural Organization (UNESCO)
- ACRL/CJCLS OER Task Force

OER IN ACTION



Colorado State University



OER IN ACTION

CSU has a long history of developing and using freely available resources and OER.

- Early use of free and open materials:
 - Writing@CSU website (<https://writing.colostate.edu>)/WAC Clearinghouse (1996).
 - GIS materials developed in collaboration with NASA and NSF by Dr. Melinda Laituri in the early 2000s
 - The VCHILL system, developed by Dr. V. Chandrasekar in the late 1990s and early 2000s, which has been widely used at all levels of education to support understanding of radar systems and signal detection
 - Web-based textbooks, developed by Dr. Richard Bowen, used in courses across the biomedical sciences in high school and college
 - Early tutorials developed by Dr. David Fahrney and Dr. Jeffrey Hansen used at and beyond CSU in structural biochemistry courses
- Current Use:
 - CSU has had several key courses that have adopted existing Open Educational Resources for course materials:
 - LIFE 205 (Fall 2017/Spring 2018 enrollment: 135 students)
 - CHEM 111 (1,831 students)
 - CHEM 113 (1,359 students)
 - ECON 202 and 203 (Pilot this semester with potential to move to all sections with a total enrollment of 3,000 students per year.
- Work on campus:
 - Most recently, CSU has worked to increase awareness of OER among faculty, staff, and students by partnering with leading OER organizations, such as the Open Textbook Network and OpenStax, and offering workshops that support the adoption of OER. The OER working group and task force emerged from these efforts.

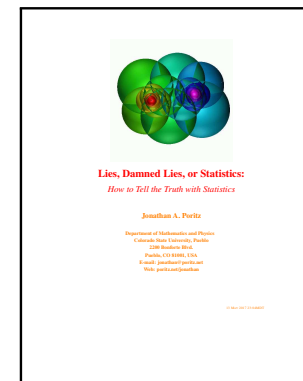
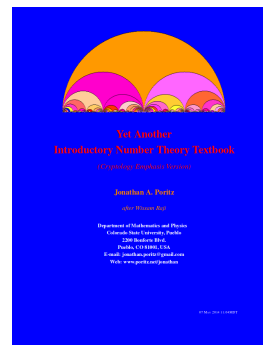
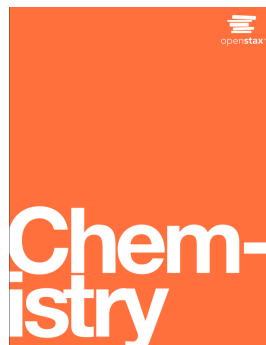


Colorado State University

OER at CSU-Pueblo: Premodern History

Some faculty at CSU-Pueblo have been creating, adopting, and adapting OER – often without knowing the terminology or about Creative Commons licenses – for a while. For example

- the Chemistry department has used an OpenStax book;
- Dr. Jane Fraser, chair of Engineering, wrote a book **Introduction to Industrial Engineering** and freely shared it on a website she bought <http://www.introtoie.com/>;
- I wrote and freely share on my website <http://poritz.net> the two books **Yet Another Introductory Number Theory Textbook** and **Lies, Damned Lies, or Statistics**.



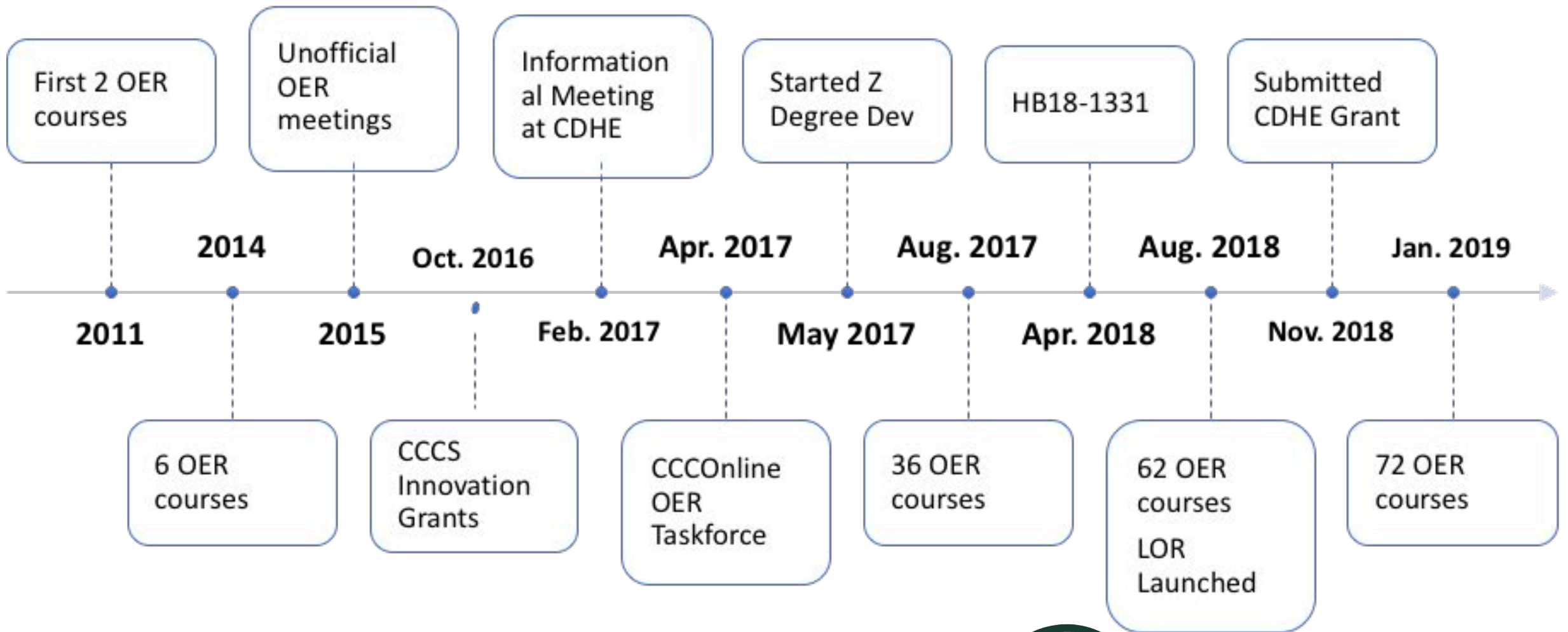
OER at CSU-Pueblo: Modern History & Present

In 2017, the Provost's office gave \$10,000 to support OER-promotion min-grants. An ad-hoc committee out of the Center for Teaching and Learning and the Library administered this program, disbursing the funds to around ten individuals or small groups of individuals. Almost all of these achieved their goals – and also helped position us to apply for the 2018 state grant program.

With campus and state support, the Pueblo OER committee will support several major projects as well as running a new, campus-specific mini-grant program to support faculty who are excited but not yet involved in OER.

One project with which we are working supports the creation of an OER for the roughly 1,400 students per year who take courses in our writing program. The commercial textbooks which will be replaced cost \$110. That is a total of \$154,000 of savings, for which we will spend \$15,000 from our state grant funds (plus time of CTL staff): an ROI of 10.3.

OER IN ACTION



OER IN ACTION

Results

AY18 (FA17, SP18, SU18) OER Enrollment: 14,740 students
(30% of total enrollments)

AY18 (FA17, SP18, SU18) Student Savings: \$777,203

Fall 18 OER Enrollments: 7,160
(37% of enrollments)

Fall 18 Student Savings: \$372,315

Upcoming

Summer 2019: Launch Associates of Arts - History Zero-Textbook Cost Degree

Fall 2019: Launch Associates of Arts - Early Childhood Education Zero-Textbook Cost Degree



HOW TO GET INVOLVED!

OER: 2019 & BEYOND

- Statewide conference on OER
- Statewide trainings and outreach to faculty and staff
- Grants

Questions?

THANK YOU

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