



**Portland  
Community  
College**

# Open Education

## low cost and inclusive by design

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# Main Ideas

1. Open ed is about more than lowering book costs.
2. Open materials can be adapted and shared.
3. Open ed can disrupt structural barriers, challenge dominant perspectives, and interrupt bias.

# How we'll spend our time together

- Open Ed Movement
- The [intersection of OER with Accessibility](#)
- Perspectives: faculty, mentor, and advocate
- Top tips for getting involved & tour of selected

resources

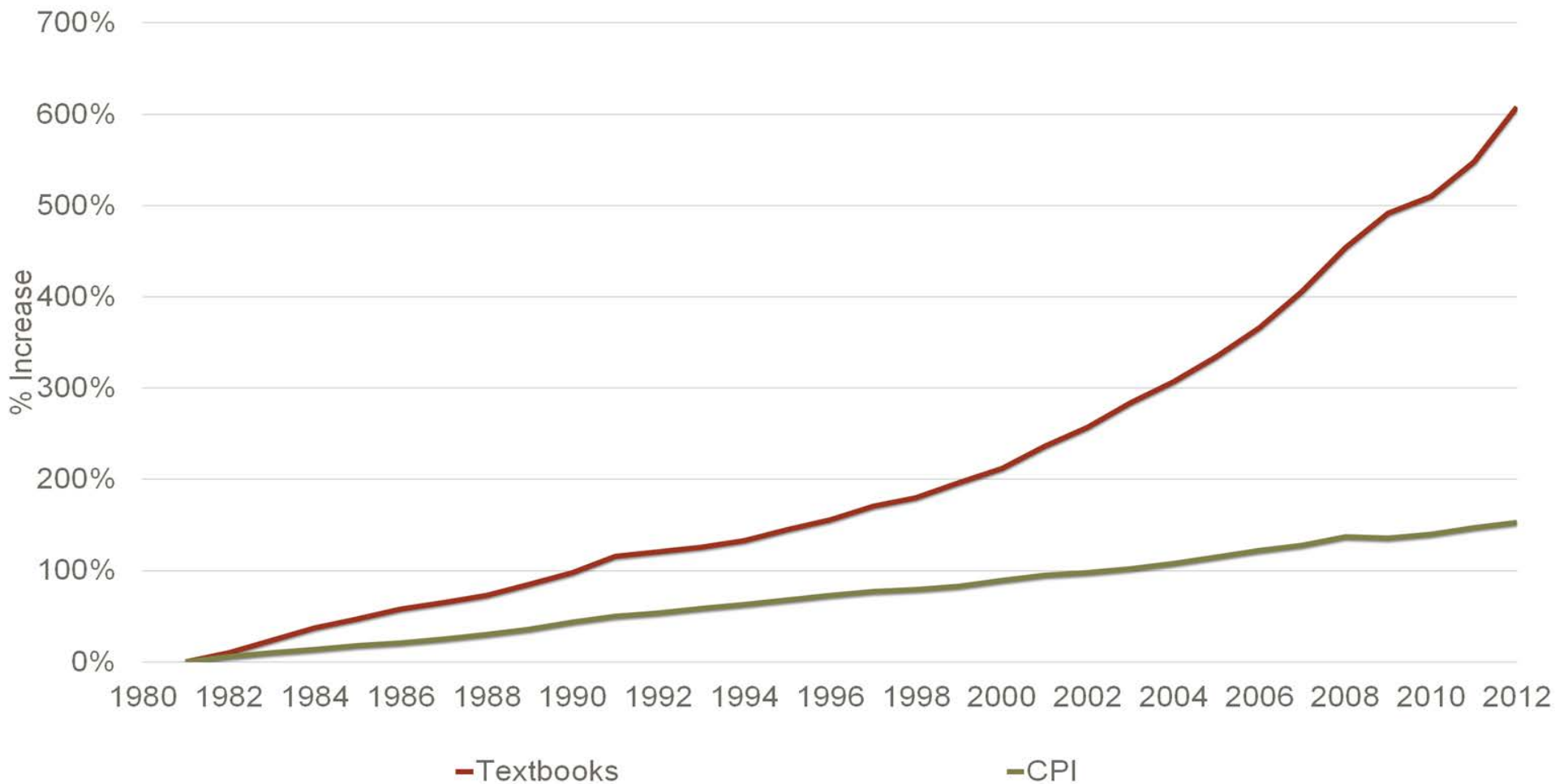
# The Problem:



Created by Nicolas Vicent  
from the Noun Project

Created by [icons8.com](https://icons8.com/)  
from the Noun Project

## Increase in Textbook Prices



# In your academic career, has the cost of required textbooks caused you to:

63.6%	Not purchase the required textbook
49.2%	Take fewer courses
45.1%	Not register for a specific course
33.9%	Earn a poor grade
26.7%	Drop a course
17.0%	Fail a course

# What Students Have to Say







# CC Licenses



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# Ability to Make Improvements



Created by Edward Boatman  
from Noun Project



Created by Gregor Črešnar  
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# **Why OER has particular importance for accessibility...**

Hint: There are multiple arguments

# Alt Format Pain Points...



["Shared path closed sign"](#) by Orderinchaos  
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**How and Why OER can Help - Access**

**BORN DIGITAL**

**Born Accessible**

# Case Study - Accessible Math

## WeBWork and PreTeXT

- Subject Area Study tipped balance and established WeBWork server
- Integration of WeBWork with PreTeXT - no direct savings but increased capacity to produce accessible OER at scale

# Producing OER: PCC math projects

Home-grown math OER, freely available online and printable :)

- [Open Resources for Community College Algebra \(ORCCA\)](#)
  - PCC Strategic Planning funding
- [Calculus lab manual](#)
  - Grant funding from both PCC and Oregon



# Accessibility Note: To All

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**Accessibility.** The HTML version is intended to meet or exceed all web accessibility standards. If you encounter an accessibility issue, please report it to the editor.

- All graphs and images should have meaningful alt text that communicates what a sighted person would see, without necessarily giving away anything that is intended to be deduced from the image.
- All math content is rendered using MathJax. MathJax has a contextual menu that can be accessed in several ways, depending on what operating system and browser you are using. The most common way is to right-click or control-click on some piece of math content.
- In the MathJax contextual menu, you may set options for triggering a zoom effect on math content, and also by what factor the zoom will be.
- If you change the MathJax renderer to MathML, then a screen reader will generally have success verbalizing the math content.

**Tablets and Smartphones.** MathBook XML documents like this lab manual are “mobile friendly”. The display adapts to whatever screen size or window size

# WeBWorK + PreTeXt + WIRIS

## CollegeAlgebra: Problem 12

[Previous Problem](#)[Problem List](#)[Next Problem](#)

(1 point)

The expression  $\frac{6}{35} \div \frac{3}{7}$  is a fraction  $\frac{a}{b}$  where  $b$  is positive.

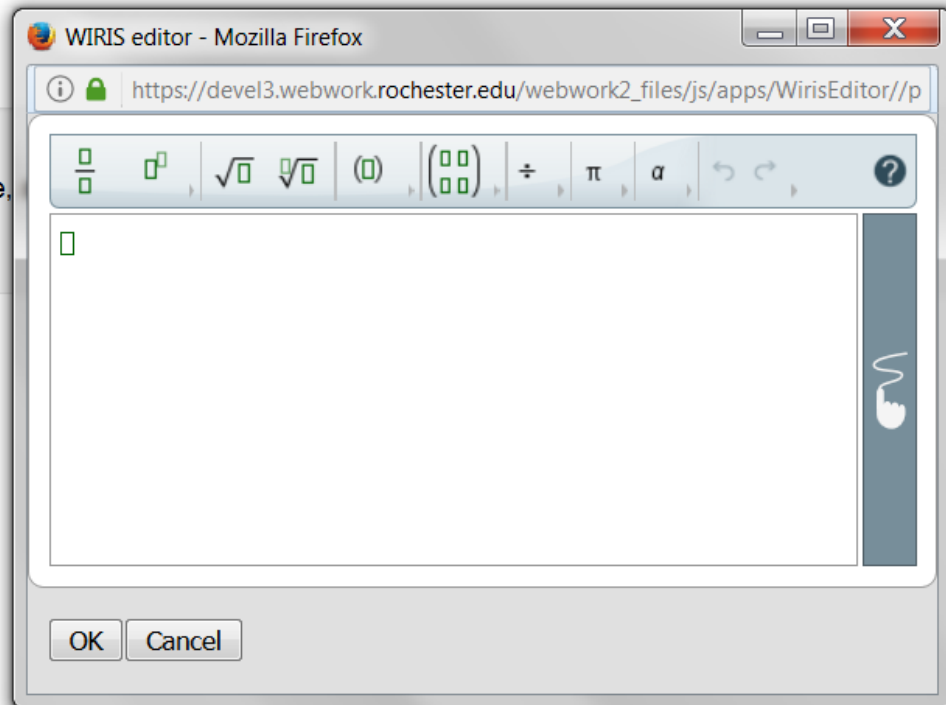
Enter a= and b=

**Note:** *You can earn partial credit on this problem.*

[Preview My Answers](#)[Check Answers](#)

You have attempted this problem 0 times.

You have unlimited attempts remaining.



# Math 20 - BRF, DOCX, PDF, SVG, STL



## MATH 20 - CHAPTER 2

Section Navigation:

Select One

Available Format:

Select One

Select One

Adobe PDF

Microsoft Word (DOCX)

Braille Ready File (BRF)

PREVIOUS

### ADDING INTEGERS WITH CONTEXT

For many students it is easier to remember sign rules when they put the problems into context. The two most useful contexts for adding integers, or signed whole numbers, are money and the number line. Try both and see which one you prefer.

#### MONEY

1.  $\$6 + \$7$

(you have \$6, then get \$7 more)

#### MAIN NAVIGATION

Home

Chapter 1

Chapter 2

Chapter 3

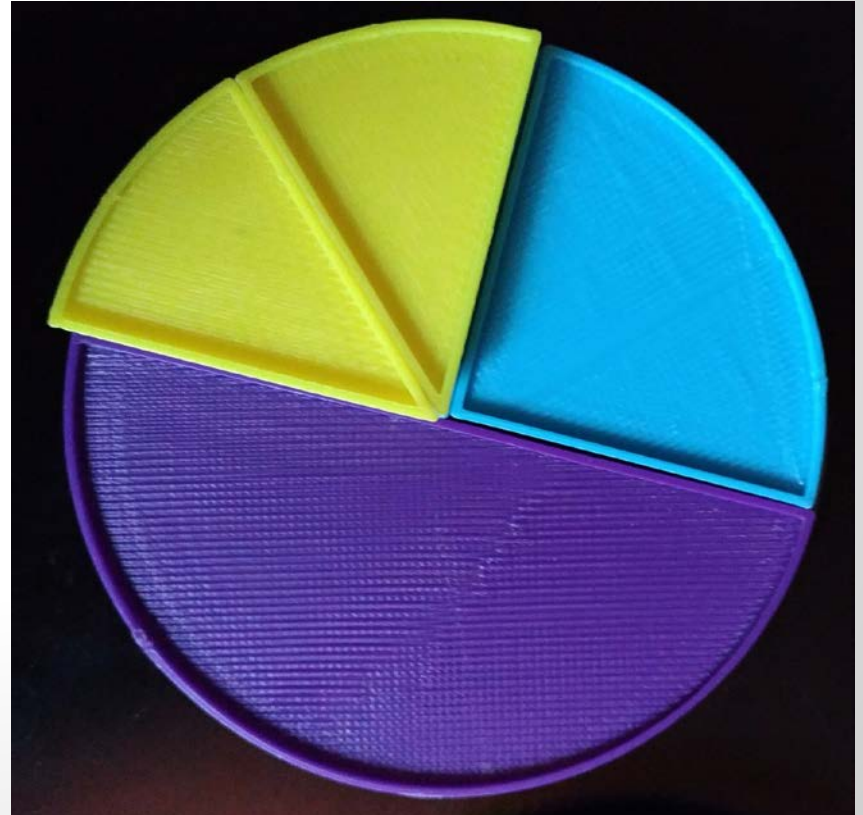
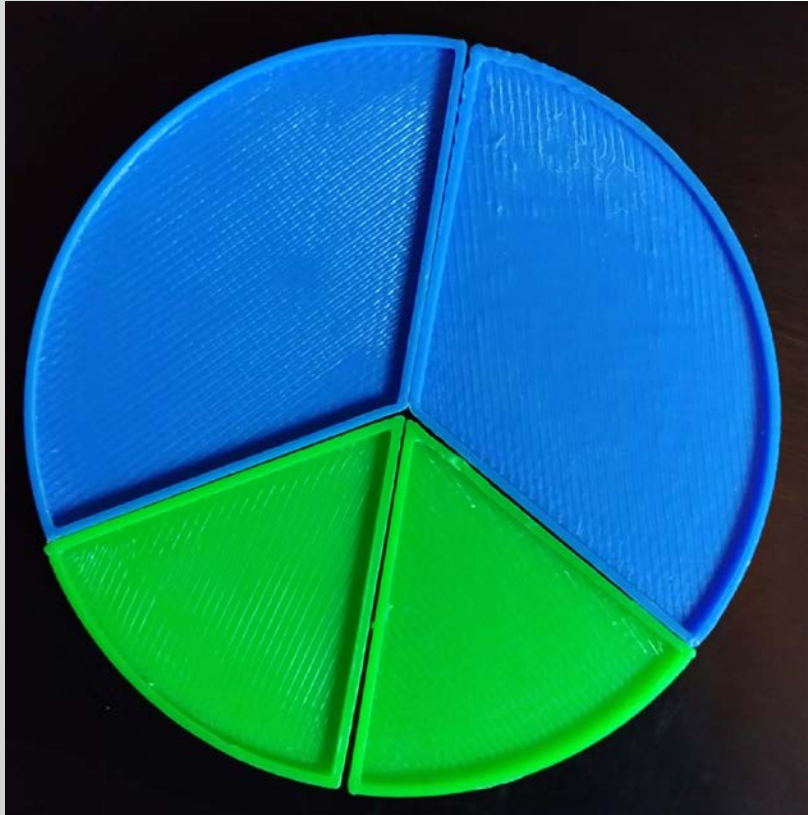
Chapter 4

Chapter 5

Chapter 6

Chapter 7 and 9

# 3D printed fraction kits



# How and Why OER can Help - Relevance

Crafted Locally

Crafted Relevant

# Case Study - ESOL News

## [ESOL News with H5P examples](#)

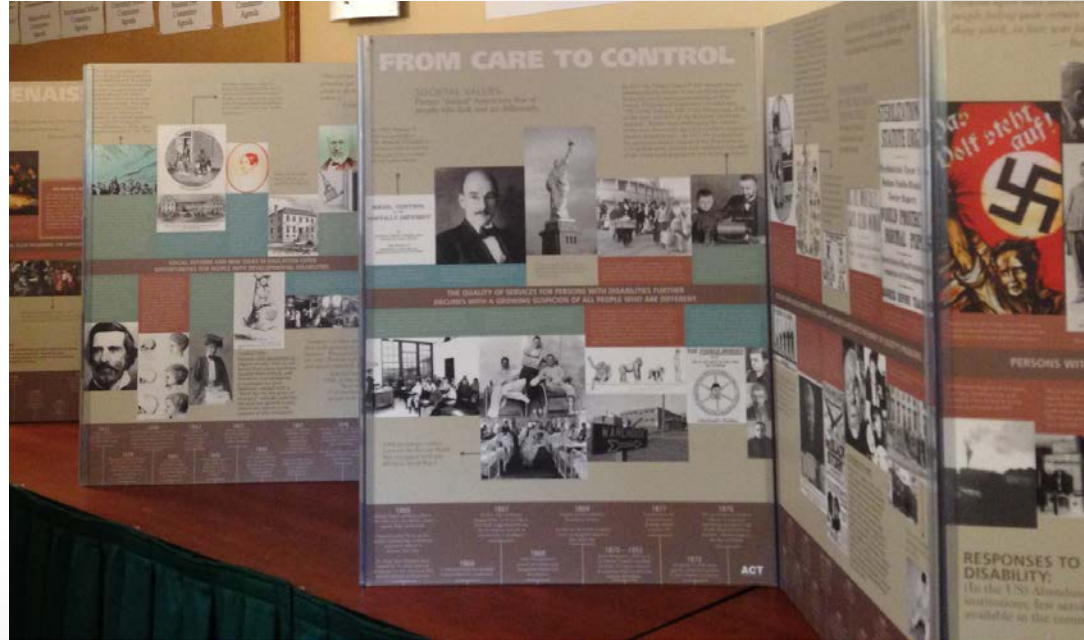
Instructor wrote [blog post](#) - taking steps to change curriculum and ensure students can learn and enhance communication skills by engaging with relevant real-life content in the form of news stories.

Collected and tagged by level.

# Case Study- Disability History Exhibit

Accessible html and multimedia versions of museum quality print display - many connections to academic disciplines!

[see disability history exhibit](#)





# OER and Universal Design

Accessible open materials/activities provide:

- Equitable use
- Flexibility in use
- Perceptible information
- Community of learners

[See blog posts for context and supporting information](#)



# Open Ed and Agency in Learning

Open Education > Open Resources

- Faculty who cultivate
- Students who co-create
- Institutions that serve the community

# The Journey from Publisher to OER



Photo by [Kristis Luhaers](#)



Photo by [Kobu Agency](#)

# Mentoring Faculty

# Advocating for Accessibility



# Where are the opportunities?

Collaboration across units/institutions – where is the expertise and how can it be shared?

OER Funding - is accessibility being advanced in efforts to promote lower costs?



# OER Infrastructure

Is there a steering committee? If so, who is at the table?

Are there funding opportunities – if so, is accessibility one of the requirements?

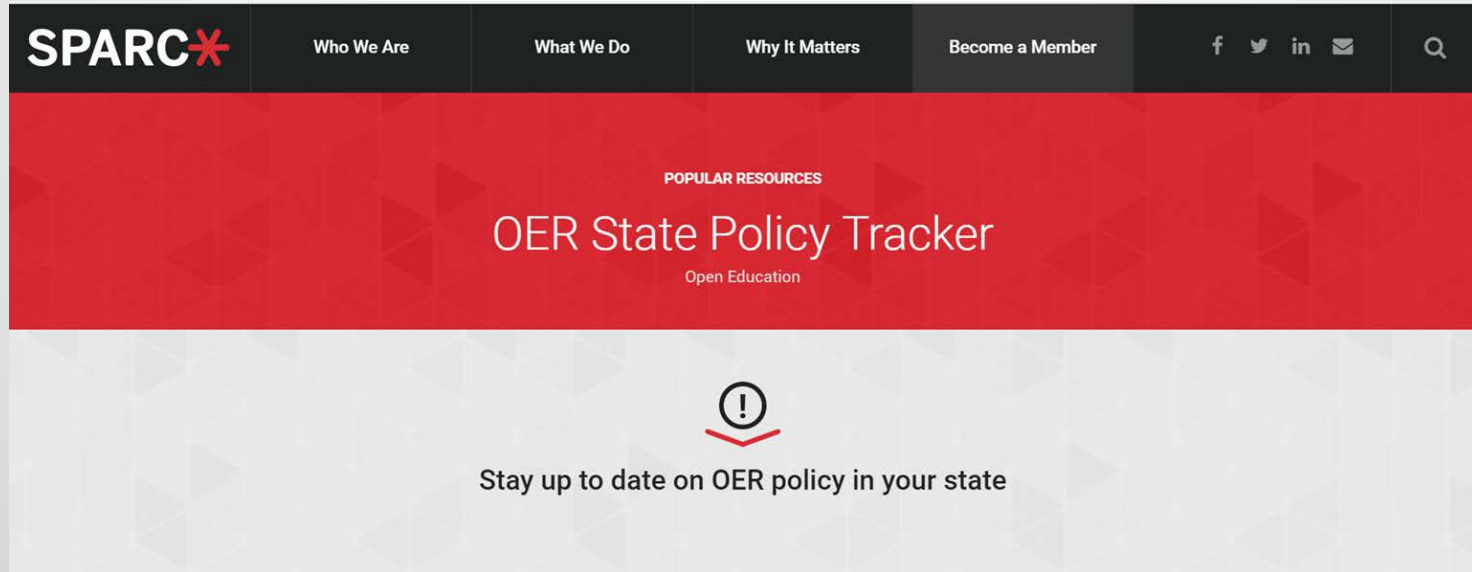
If accessibility is a requirement - how is it verified or enforced?

Are accessibility features recorded in metadata?



# OER legislation

Does your state have legislation planned in this area? If so - is your AHEAD affiliate aware?



# Questions?

[handout with additional resources](#)