



Teaching for the 21st Century: How OER course redesigns impact affordability and deeper learning at UGA

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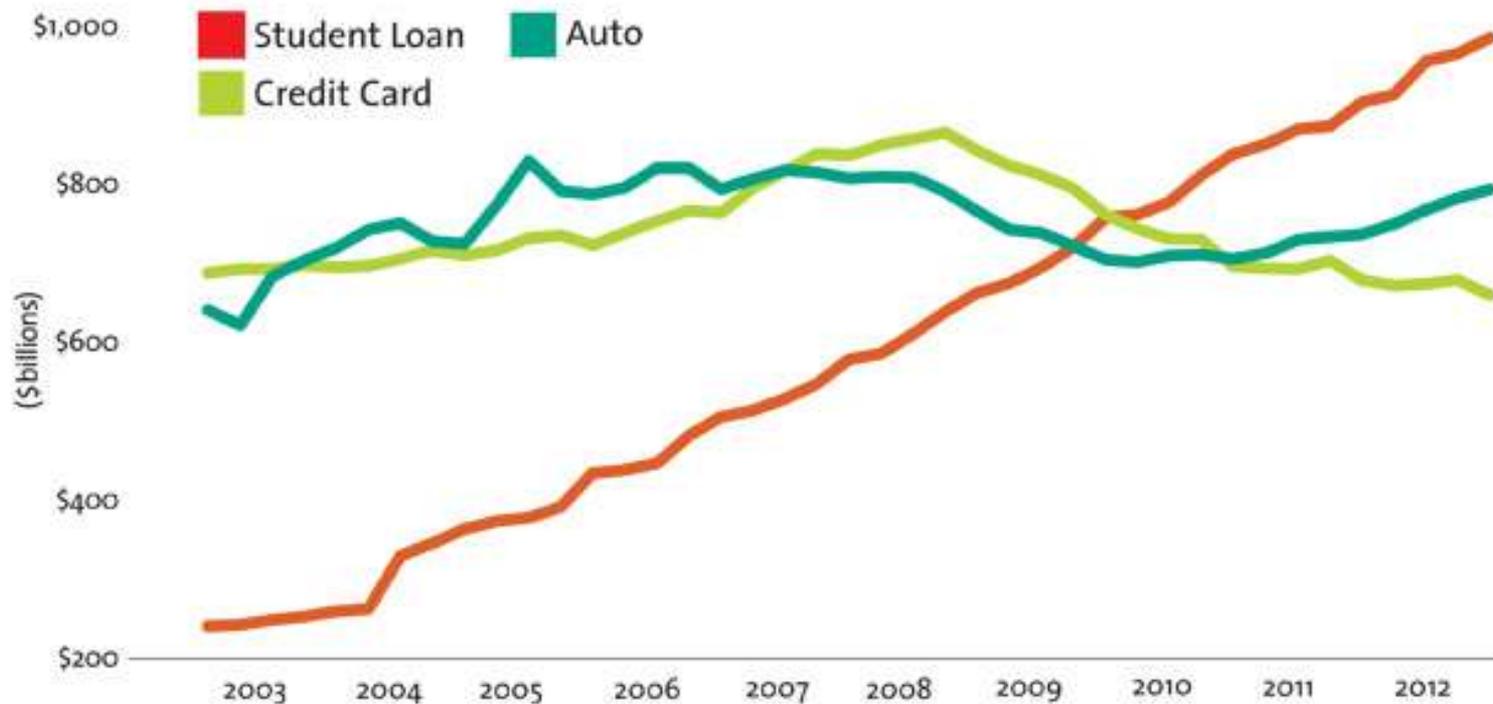
Objectives

- Provide a case for the use of Open Education Resources (OERs) in higher education
- Describe our implementation of OERs and course redesigns along with our rationale and course selection processes
- Share results of our project's evaluation data
- Provide direction and resources for those wishing to pursue an OER strategy in their class or on their campus

Student Debt Trends

Maxed Out

Total debt held by borrowers

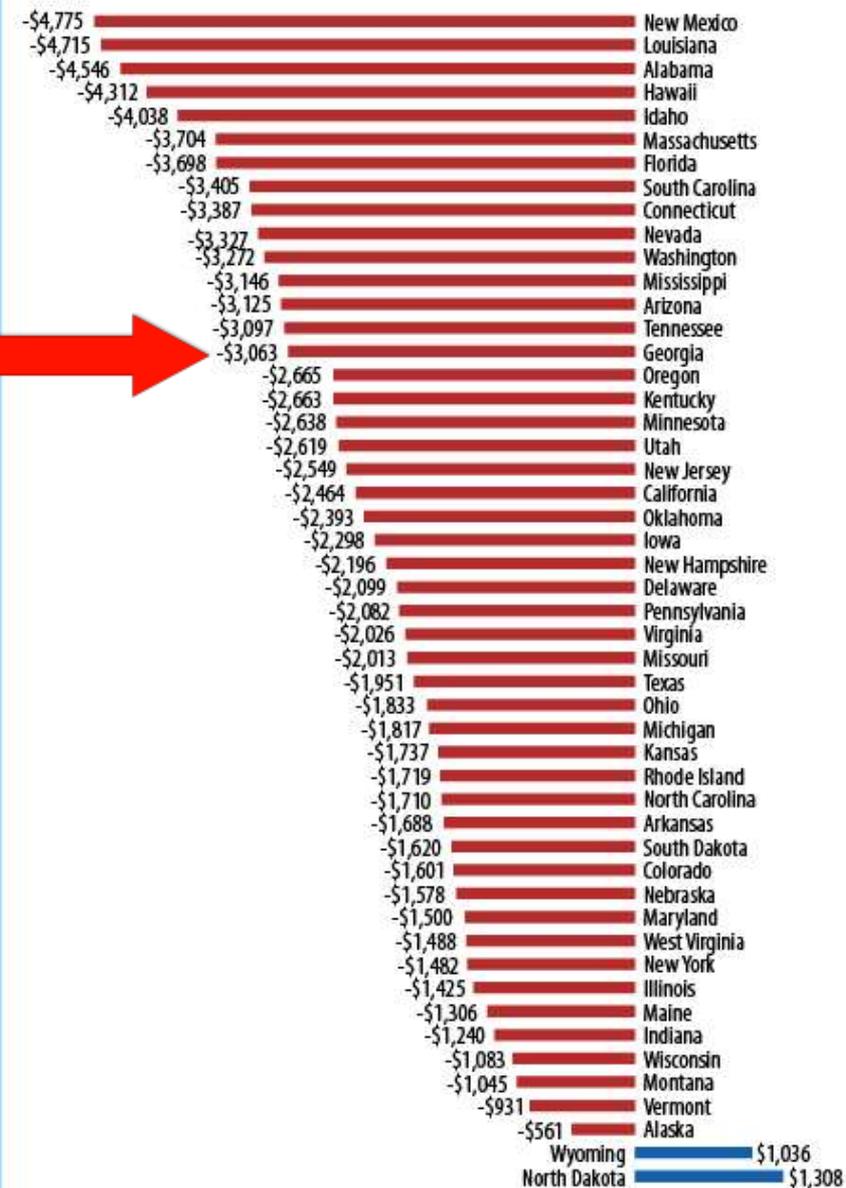


Source: Federal Reserve Bank of New York

Mother Jones

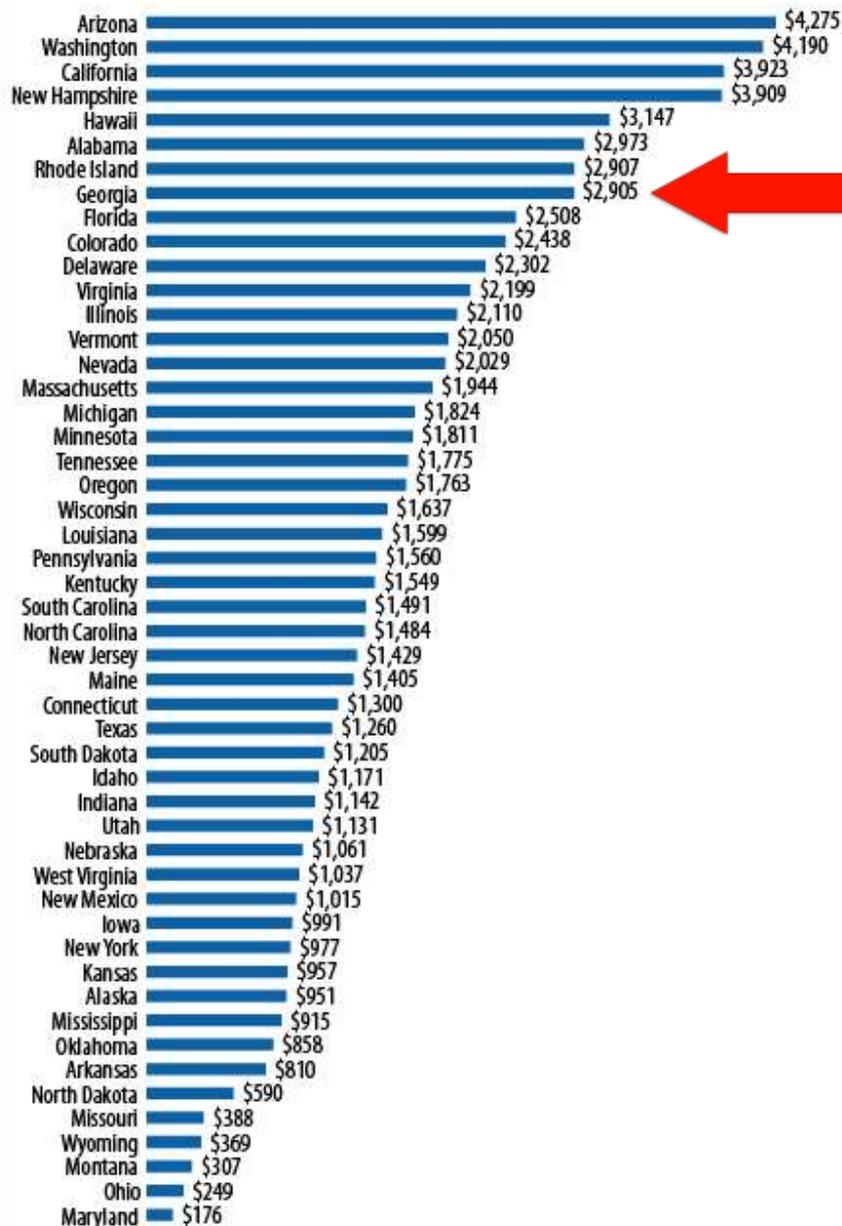
States Have Cut Higher Education Funding Deeply in Recent Years

Change in state spending per student, inflation adjusted, FY08 - FY13



Tuition Has Increased Sharply at Public Colleges and Universities

Change in average tuition at public, four-year colleges, inflation adjusted, FY08 - FY13



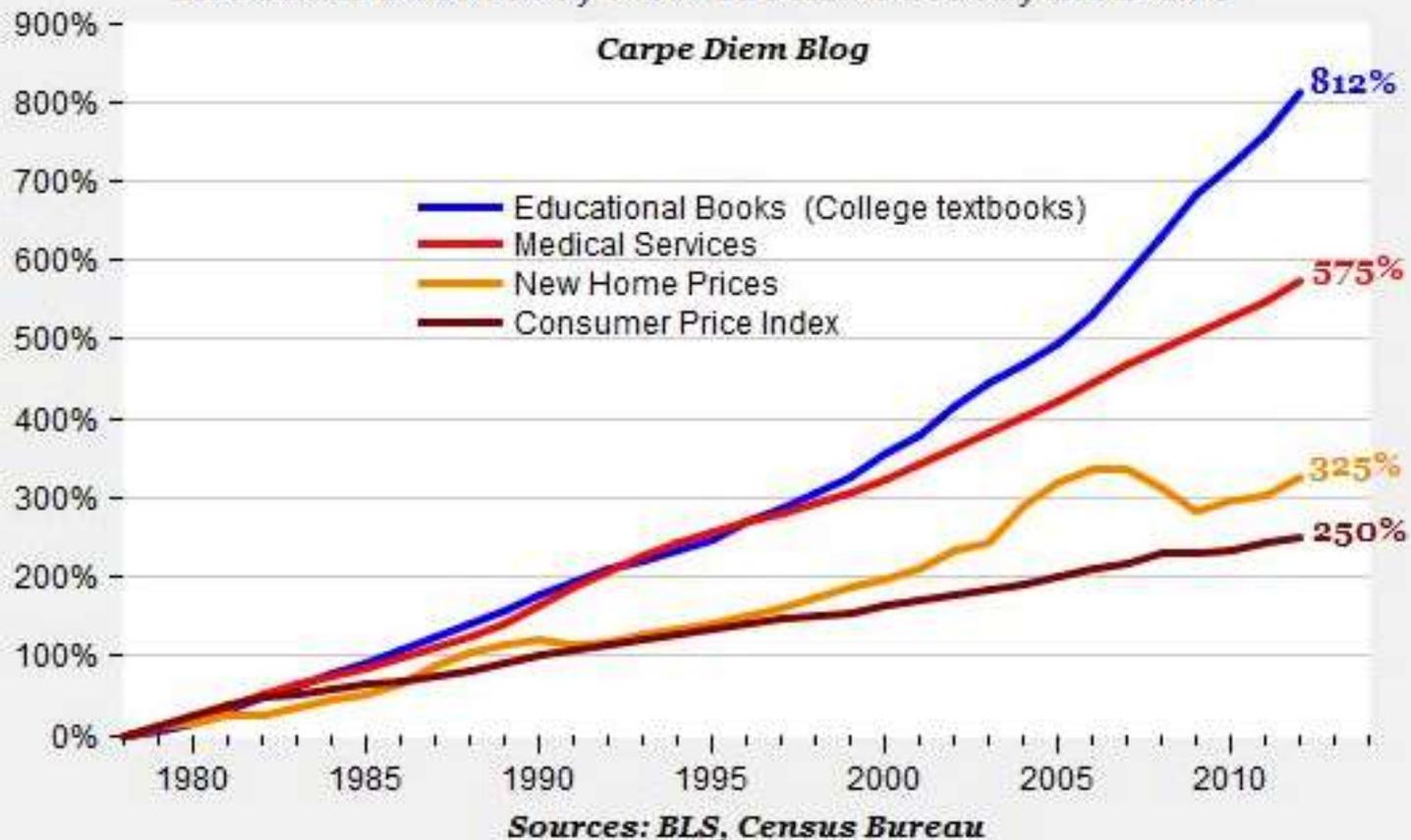
Source: CBPP calculations using data from Illinois State University's annual Grapevine Report. Illinois data is provided by the Fiscal Policy Center at Voices for Illinois Children. Because enrollment data is only available through 2012, the enrollment data for 2013 used in these calculations is estimated based on enrollment trends from past years.

Source: College Board



National Economic Trends

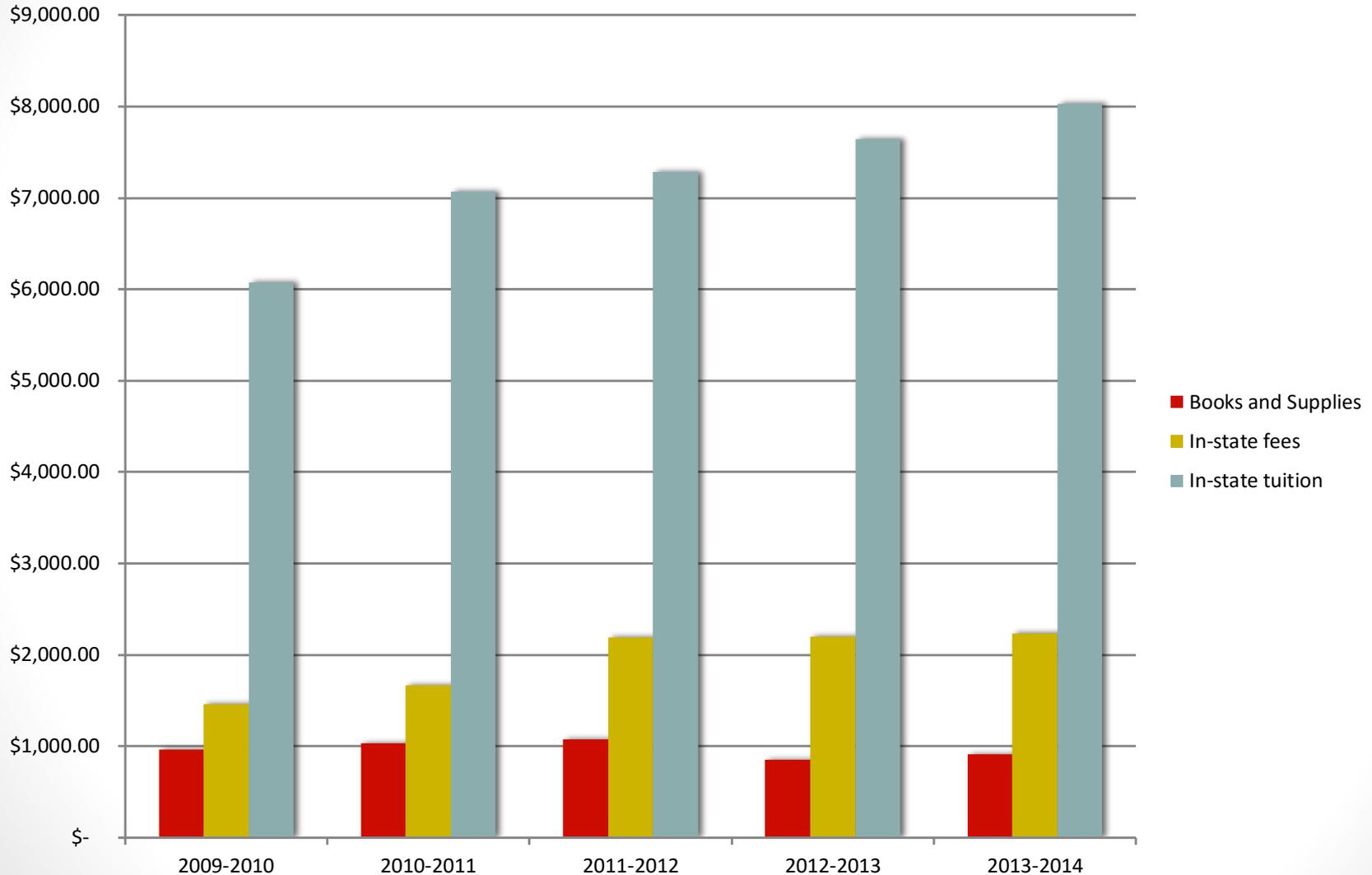
Percent Change Since 1978 for Educational Books, Medical Services, New Home Prices, and CPI



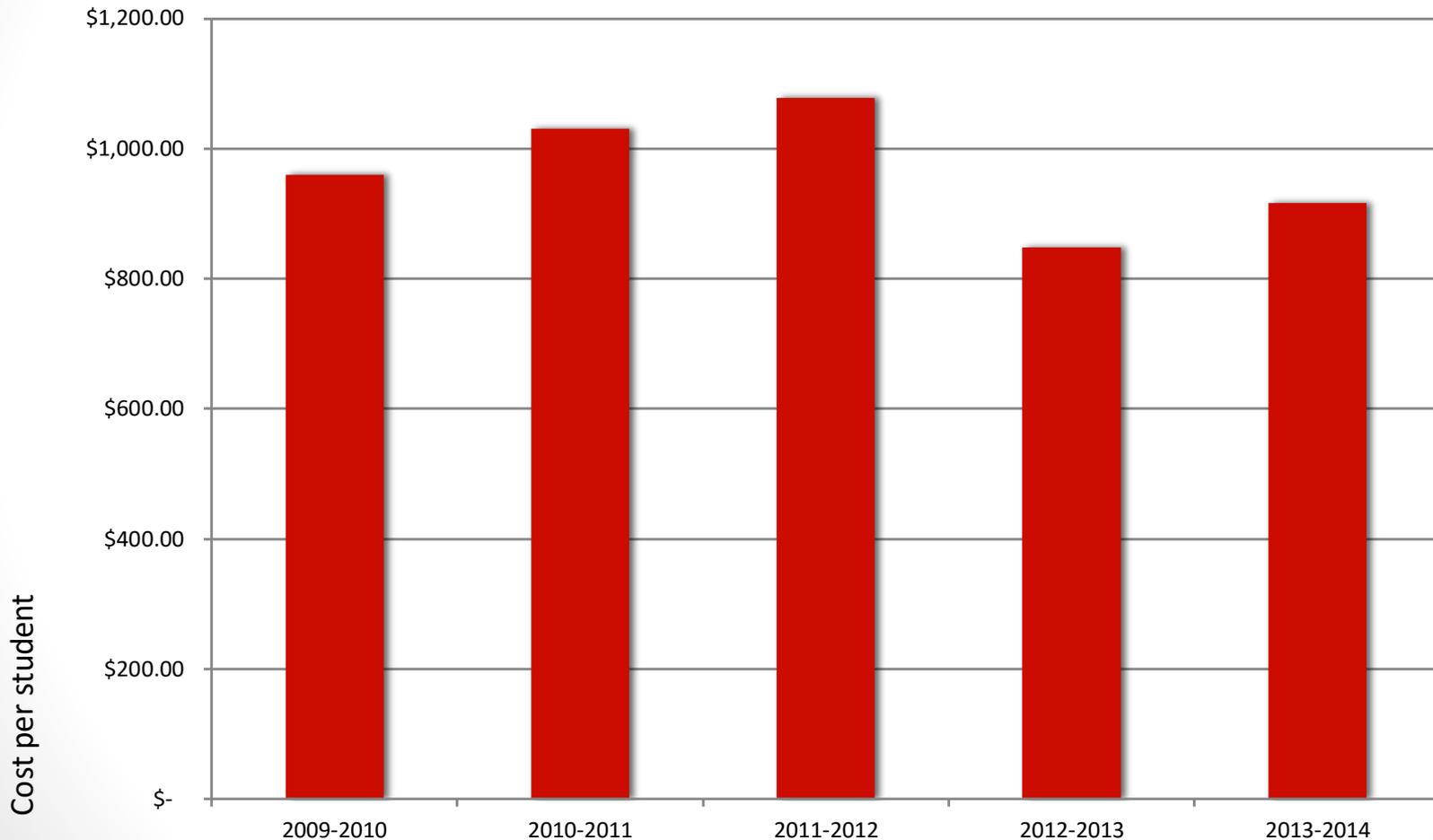
The UGA Context

- National Survey of Student Engagement (NSSE – 2011) – one-third of UGA students had unmet financial needs
- Financial needs contribute to attrition and extended time-to-degree
- According to the CollegeBoard, the yearly books-and-supplies estimate for the average student at a four-year public college is roughly \$1,200.
- Complete College Georgia Initiative seeks to address work force needs and college matriculation and completion rates
 - Launched “Incubator Grant” RFP in Spring 2013 and “Innovative Grant” RFP Spring 2014
 - Funding up to \$25,000

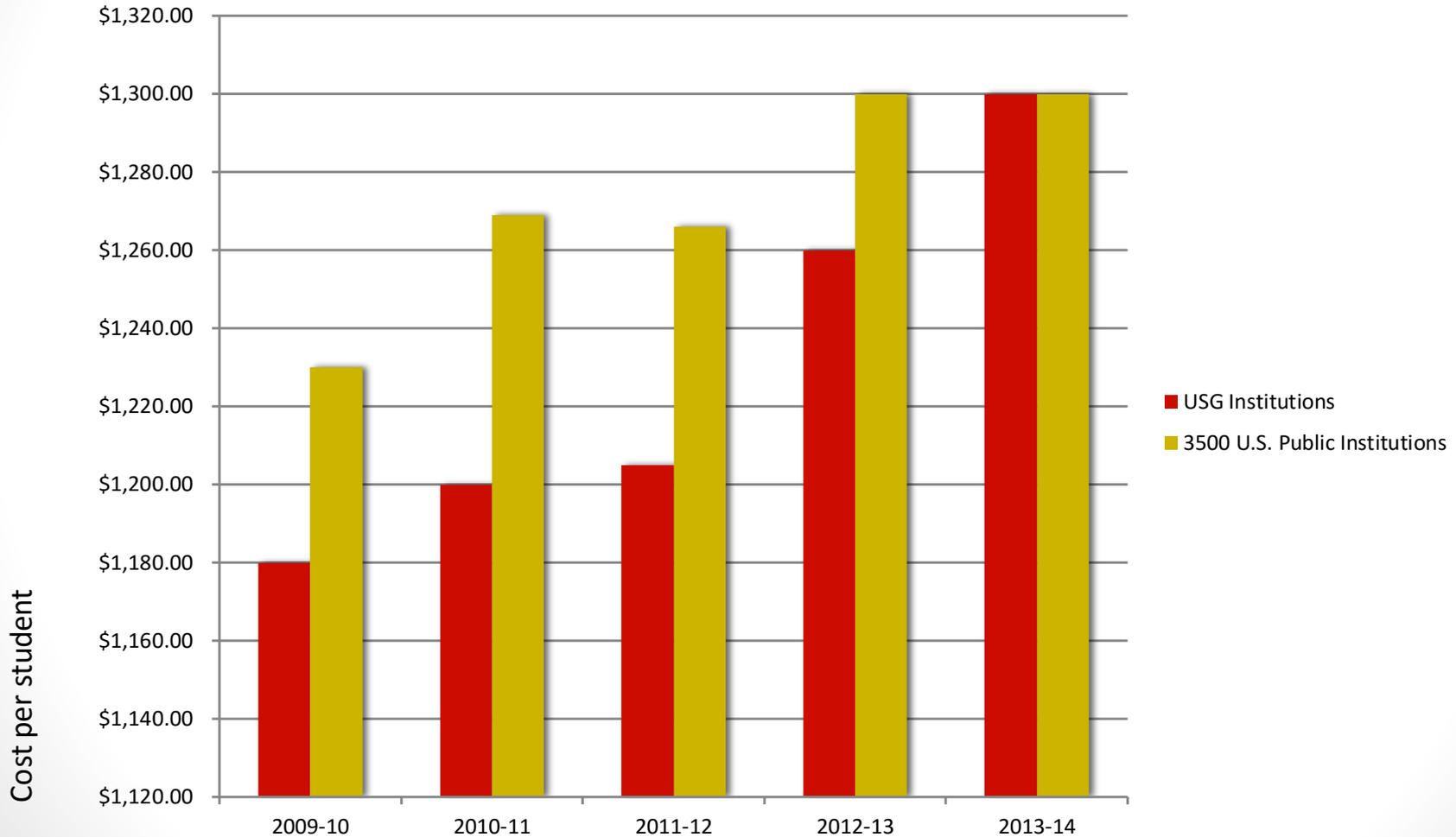
Per Student Costs at UGA



Cost of Books & Supplies at UGA



Cost of Books & Supplies: USG vs. U.S. Public 4-Year Institutions



Our Idea Was Simple

- Decrease the cost of higher education by fostering faculty adoption of free, online textbooks
- Maximize cost savings by working with faculty who
 - **Teach large enrollment courses**
 - **Currently use an expensive textbook**
- Economies of scale emerge with such targeting

Grant Funding

- Received \$25,000
 - Funded graduate assistant; doctoral candidate in instructional design
 - Small summer stipend for faculty member
- Selected faculty member
 - Based on class size
 - Expensive textbook
 - Opinion leadership of faculty member
- Selected course for 2013-2014 was Biology 1103
- Selected course for 2014-2015 was History 2111



University System of Georgia
Creating A More Educated Georgia

2013-2014 Incubator Grant:
**Reducing Costs for Students
through Open Education Resources**

Courses Impacted

- Biology 1103 – Concepts of Biology
 - 320 students per section
 - 4 sections in 2013-2014 AY
 - 1,280 students total
- Biology 1104 – Organismal Biology
 - 250 students per section
 - 3 sections in 2013-2014 AY
 - 750 students total
- Both sections impacting 2,030 students
- Replaced textbook - *Discover Biology* (Norton Press - \$97)



Process

Instructional designer (GA) worked with faculty throughout current AY to

- Adopt OER – OpenStax
 - *University of Georgia Concepts of Biology*
 - bit.ly/uga-conceptsofbiology
- Redesign course
 - Website modules to organize/deliver content in LMS

Course Redesign

- Unanticipated benefit of grant
- Launched faculty into a process of rethinking the entirety of the course, given the amount of reorganization to accommodate the new textbook
 - Content ordering
 - Pedagogy
 - Assessments
- Instructional design expertise essential
 - Articulation of learning objectives
 - Course design alignment throughout



Project Evaluation

Focus group with faculty

Student survey results

Overall Quality (faculty)

- *[The OER] wasn't perfect, but no textbook is perfect, so an imperfect free textbook is better than an imperfect expensive textbook.*
- *more barebones...not as much end of chapter questions.*
- *no test bank*
- *if you want anything else you're just gonna have to put it in yourself.*
- *[Publisher supplied] ancillary instructor materials like... PowerPoint presentations...are usually really terrible anyway.*

Student survey

Total N=1300

- BIOL 1103 (n=904)
- BIOL 1104 (n=396)
- Female = 867
- Male = 384
- Response rate = 79.5%

49% received loans to fund some or all of their education.



To what extent do you agree with this statement:

I have difficulty coming up with the money to pay for my textbooks.

Answer	n	M
Strongly Disagree	99	8%
Disagree	284	23%
Neutral	339	27%
Agree	330	26%
Strongly Agree	194	16%
Total	1246	100%



42% have trouble paying for textbooks

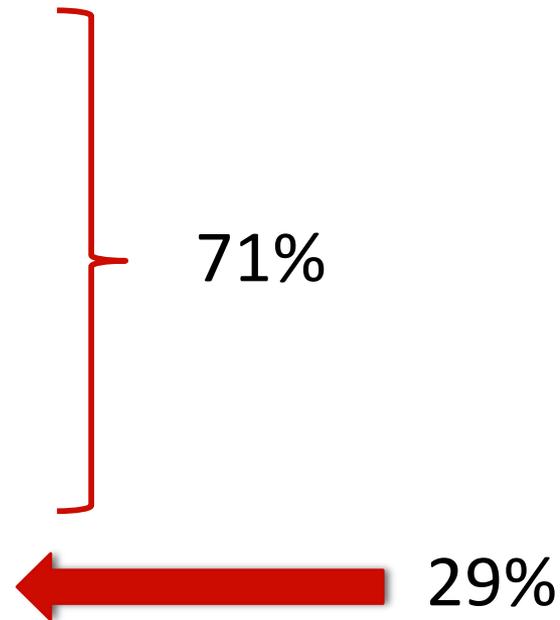
How much do you typically spend on textbooks each semester?

Answer	<i>n</i>	M
Less than \$100	27	2%
\$101 1- \$200	209	17%
\$201 - \$300	398	32%
\$301 - \$400	358	29%
\$401 - \$500	187	15%
More than \$500	64	5%
Total	1243	100%

} 49% pay over \$300 per semester for books

In general, how often do you purchase the required textbooks for the courses you take?

Answer	N	M
Never	6	0%
Rarely	61	5%
Sometimes	239	19%
Most of the time	578	47%
Always	356	29%
Total	674	100%



If you have ever made the decision not to buy the required textbook, what has influenced that decision?

Answer	<i>n</i>	M
Too expensive	656	57%
I rarely use them	675	59%
They are unnecessary to successfully pass the class	656	57%
I borrowed or shared the textbook	499	44%
Other _____	67	6%

How would you rate the quality of the BIOL OpenStax textbook as compared to other textbooks you have used?

Answer	<i>n</i>	M
Much lower	30	2%
Slightly lower	141	11%
About the same	796	64%
Higher	243	20%
Much higher	28	2%
Total	1238	100%

} 86%

60% (n=751) told someone they were using a free textbook.

Answer	<i>n</i>	M
Parent(s) or guardian(s)	531	71%
Sibling(s)	148	20%
Roommate(s)	459	61%
Friend(s)	530	71%
Classmate(s) in other classes	346	46%
Instructors of other course(s)	44	6%
Other	12	2%

Outcomes

- Approximately 2,030 students impacted during the 2013-2014 academic year
- Estimated that \$198,850 will be collectively saved by the students in these courses this academic year
- Over three years, with no new investment, just under \$600,000 will collectively be saved by students
- Each year, the savings multiply

OnlineAthens

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Press

DIGITAL TEXTBOOKS ARE A HIT WITH BIOLOGY STUDENTS SO FAR

UGA classes trying out free digital textbooks

By Lee Shearer
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University of Georgia students, and some of their professors, have been trying for years to beat the high cost of textbooks, but now they're getting institutional backing.

Students in a couple of UGA introductory biology courses are getting free digital textbooks this semester thanks to a \$25,000 University System of Georgia grant.

Students actually broke into applause when they heard on the first day of class they wouldn't have to plop down about \$100 each for a biology textbook, said Eddie Watson, director of UGA's Center for Teaching and Learning.

"I find it more effective. It saves me money and weight in my backpack," said Shandon Williams, a senior English major from Rowell taking one of the biology classes.

Biology professor Peggy Brickman, team-teaching the courses with colleagues Erin Dolan and Tessa Andrews, is happy to save students some money. Students don't have to



Top: Students can follow along with lectures using the course at the University of Georgia. Above: Student's live lecture at the University of Georgia, on Wednesday.

pay for a book that's outdated almost as soon as it's published, and which few ever look at after they've taken the course.

And a paper textbook is in a way simply old-fashioned to many students who are accustomed to getting information on computer and smart phone screens, she said.

"I think it's more in tune with what their accustomed to in their own lives," said Brickman

wonders if another step toward more digitally-minded teaching at UGA, one that combines face-to-face instruction with digital learning.

"I can't see students in 10 years wanting to sit in a room with 300 people," she said.

More than 300 students are enrolled in each section of the introductory biology class.

Watson and the biology professors expect a growing number

of in to low-cost and free texts.

The university system has launched an initiative to increase the number of Georgia college graduates called "Complete College Georgia," and one of the issues is simply the high cost of college. A third of UGA students said they had unmet financial needs in a 2011 survey

See DIGITAL on A3

The University of
GEORGIA
December 2013 • Vol. 93, No. 1
Magazine

The
Red & Black

CNN



University System of Georgia
Creating A More Educated Georgia

2014-2015 Innovation Grant:

Flipping with OERs:

Increasing Learning and Engagement
While Decreasing Costs

Courses Impacted

- History 2111– U.S. History to 1865 (Fall 2014)
 - 230 students in one class; 100 students in the second
 - 330 students total
- History 2112 – U.S. History since 1865 (Spring 2015)
 - 300 students in two sections; 100 in the third
 - 700 students total
- Combined, 1030 students impacted
- Replaced textbook–*Give Me Liberty!* (Norton Press - \$99/\$50) with OER text from UNG Press:



Process

Instructional designer (GA) worked with faculty throughout current AY to

- Adopt OER – from UNG Press
 - *U.S. History: History in the Making*
- Redesign course with Flipped pedagogy
 - Website modules to organize/deliver content in LMS
 - Use of WordPress to host group projects and TopHat response software to assist in flipping the class and embedding active learning strategies

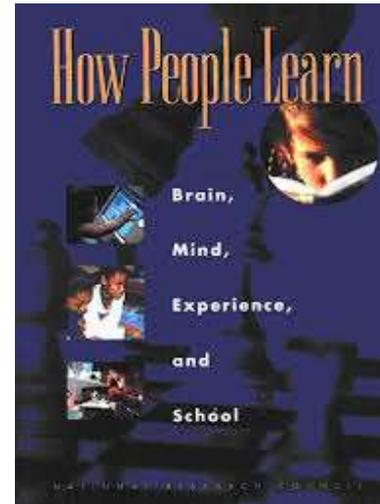
Course Redesign

- Launched faculty into a process of rethinking the entirety of the course with use of the new textbook and a flipped instructional model
 - Content ordering and placement
 - Discovery of new and exciting, online content
 - Student-centered pedagogy
 - Examining new assessments techniques
- Instructional design expertise essential
 - Articulation of learning objectives
 - Course design alignment throughout
 - Completely redesigned course that lays groundwork for History 2112 and potential of add-on faculty



What do we know about
the **FLIPPED** classroom?

*“To develop competence in an area of inquiry, students must: **a)** have a deep foundation of factual knowledge, **b)** understand facts and ideas in the context of a conceptual framework, and **c)** organize knowledge in ways that facilitate retrieval and application” (p. 16).*



Flipping the classroom can



1. provide an opportunity for students to gain first exposure prior to class.
2. provide an incentive for students to prepare for class.
3. provide a mechanism to assess student understanding.
4. provide in-class activities that focus on higher level cognitive activities.

Brame, C., (2013). Flipping the classroom. cft.vanderbilt.edu/guides-sub-pages/flipping-the-classroom



Project Evaluation

Focus group with students

Student pre- and post- survey

Interview with faculty member

Mid-Semester Formative Evaluation

To what extent do you agree with this statement:

I have difficulty coming up with the money to pay for my textbooks.

Answer	n	M
Strongly Disagree	39	13%
Disagree	74	24%
Neutral	78	26%
Agree	72	24%
Strongly Agree	40	13%
Total	303	100%



37% have trouble paying for textbooks

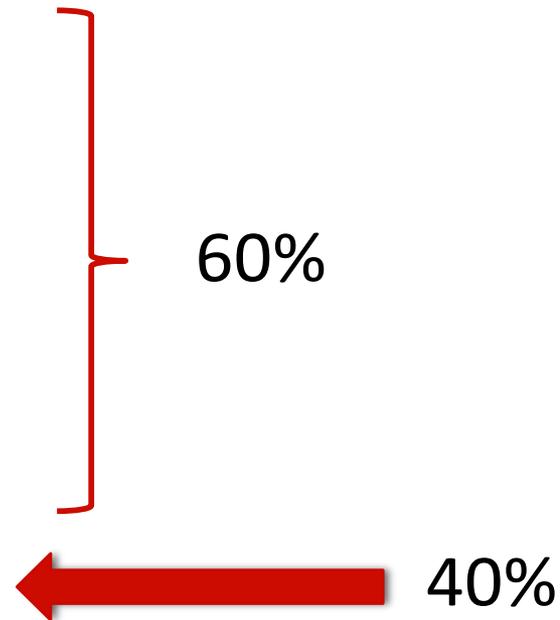
How much do you typically spend on textbooks each semester?

Answer	<i>n</i>	M
Less than \$100	11	4%
\$101 - \$200	58	19%
\$201 - \$300	115	37%
\$301 - \$400	71	23%
\$401 - \$500	42	14%
More than \$500	13	4%
Total	310	100%

} 41% pay over \$300 per semester for books

In general, how often do you purchase the required textbooks for the courses you take?

Answer	N	M
Never	1	0%
Rarely	11	4%
Sometimes	52	17%
Most of the time	122	39%
Always	123	40%
Total	309	100%



If you have ever made the decision not to buy the required textbook, what has influenced that decision?

Answer	<i>n</i>	M
Too expensive	99	31%
I rarely use them	77	24%
They are unnecessary to successfully pass the class	81	25%
I borrowed or shared the textbook	62	19%
Other _____	4	1%
Total	323	100%

Why do you think your instructor has decided to organize the class in this way?

Free Response (open-ended)

For the students' benefit.

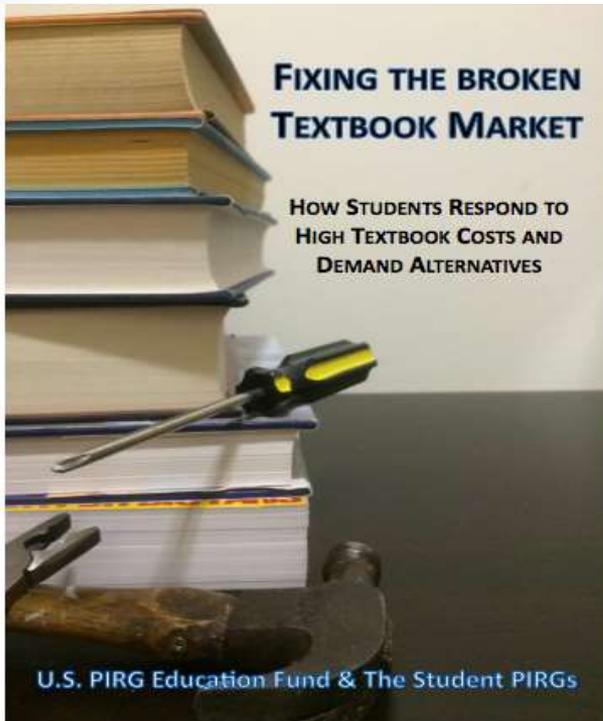
Using in class time for activities ensures that the material is well understood.

The instructor realizes that not everybody can afford a textbook, so she is giving everybody an equal opportunity to succeed.

So we can learn like Historians at home and not just in class!

$n = 280$

U.S. PIRG Study (2014):



1. High textbook costs continue to deter students from purchasing their assigned materials despite concern for their grades. 65% of students said that they had decided against buying a textbook because it was too expensive.

2. High textbook costs can have a ripple effect on students' other academic decisions—decisions that can have impact on retention, progression, and graduation.

3. Students want alternatives, expressing support for textbooks that are available free online and buying a hard copy is optional.

82% of students felt they would do significantly better in a course if the textbook was available free online and buying a hard copy was optional.

For more information:



openstaxcollege.org



openaccess textbooks.org



affordablelearninggeorgia.org



studentpirgs.org/topics/textbooks



ctl.uga.edu/oer





Questions?

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