

# OER & Student Success: Data & Storytelling

LINDSEY GUMB  
FELLOW, OPEN EDUCATION

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NEW ENGLAND BOARD  
of HIGHER EDUCATION 



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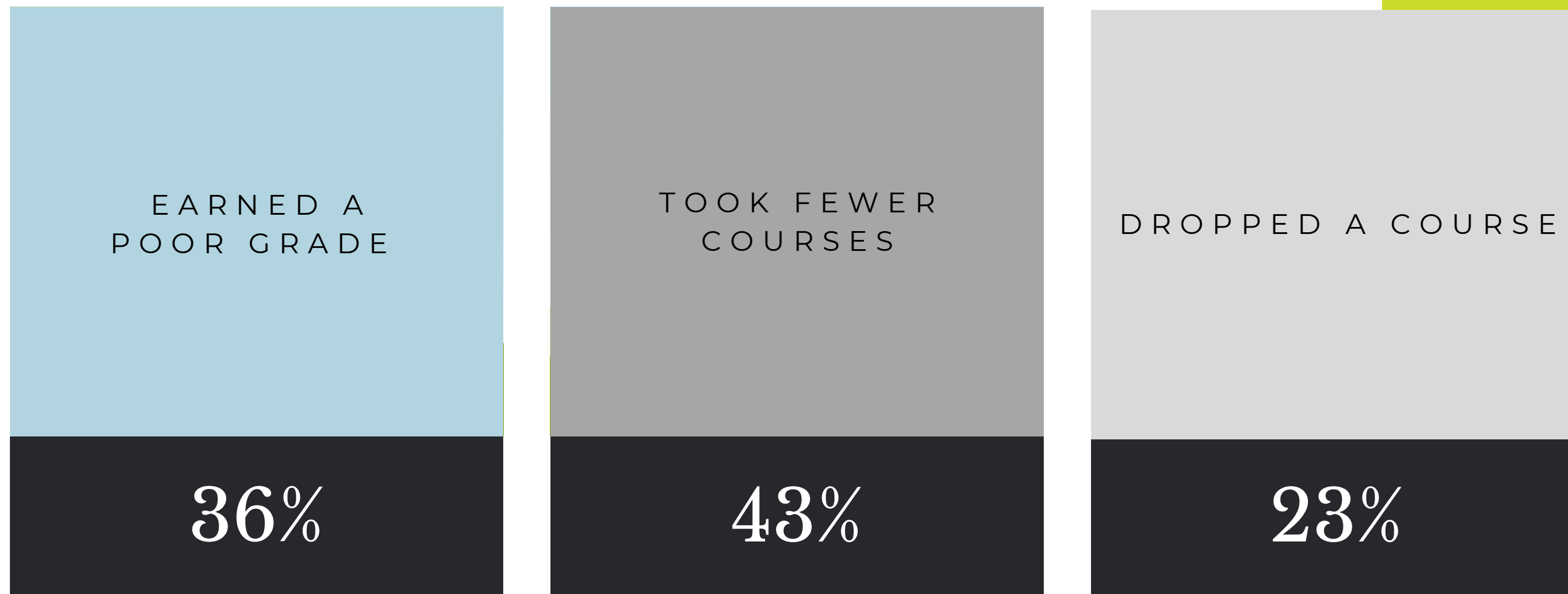
"Every new semester of college came with a dreaded activity: I had to find and rent the textbooks I needed for my classes ... During this time I would see the strain on my mother's face. I already owed loans to a school that no longer exists [Mount Ida College], I couldn't put any more stress on my family's finances..."

"... But what is my struggle compared to a student receiving C's when they should get A's, all because they don't have the required book?"

-Alyssa Buffington, Umass Dartmouth, 2021

# Textbook cost negatively impacts student behavior and academic progress

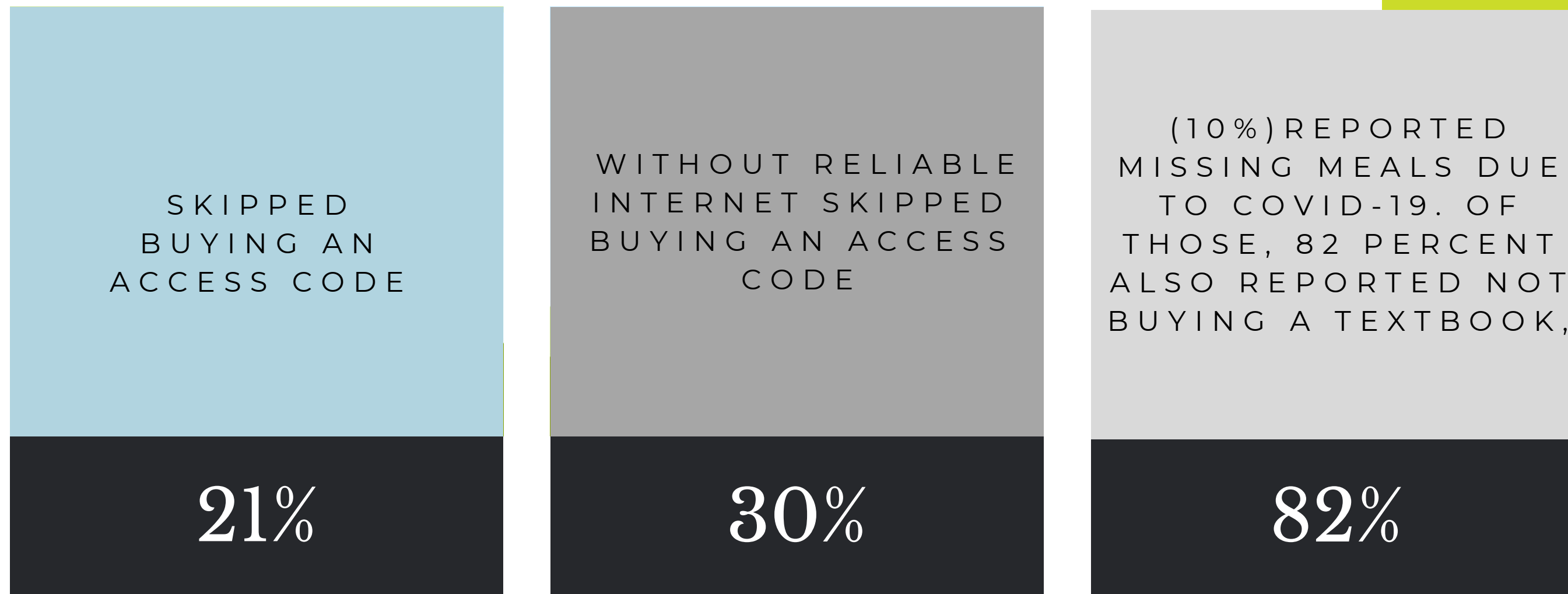
n = 24,189





# Textbook cost negatively impacts student behavior and academic progress

n = 5,823





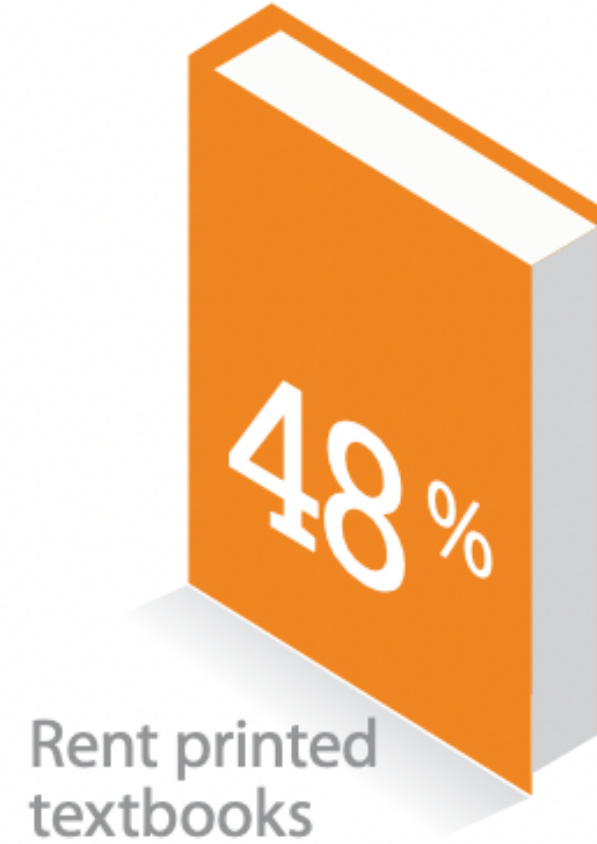
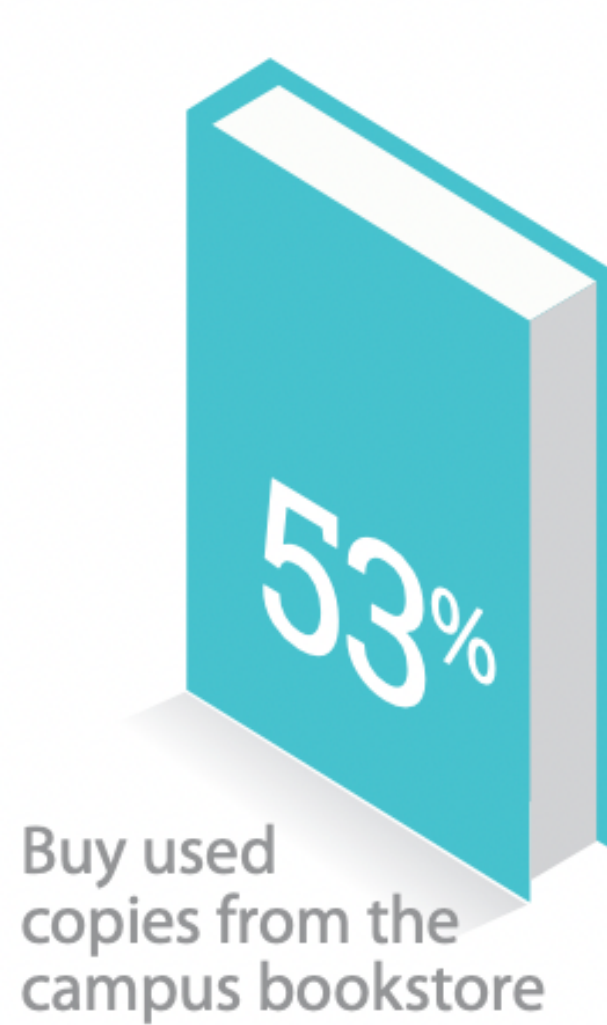
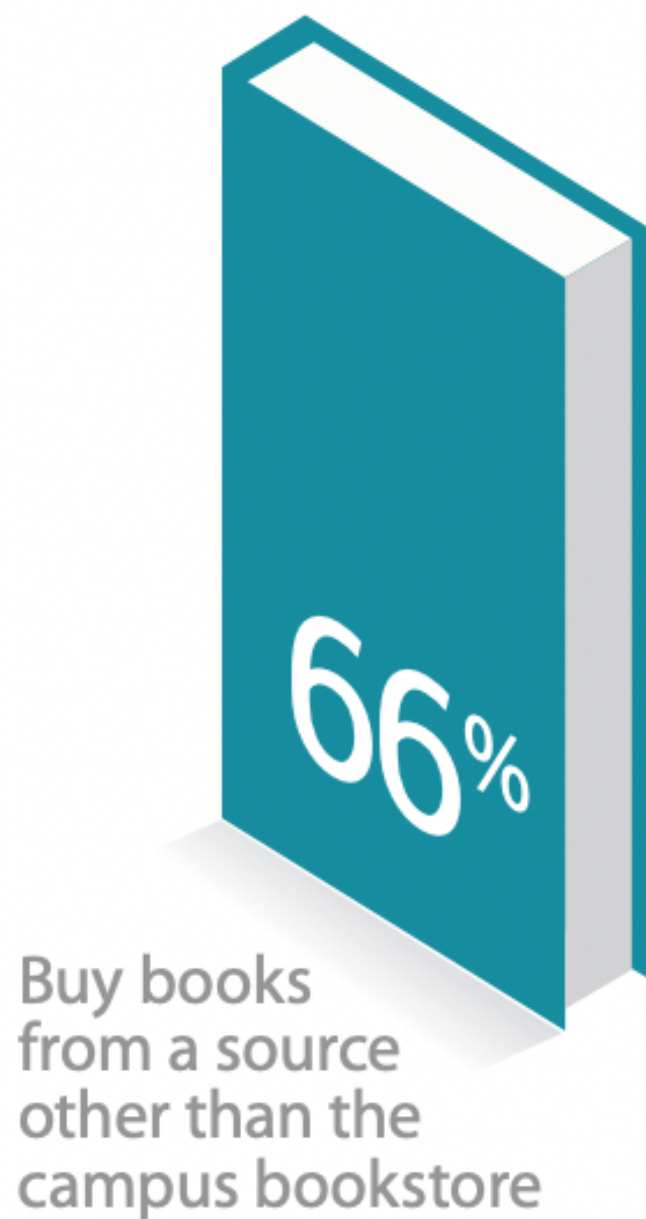
# Textbook cost negatively impacts student behavior and academic progress

53%

of students said they had not purchased required materials for a course at least once, and the most common reason was cost.

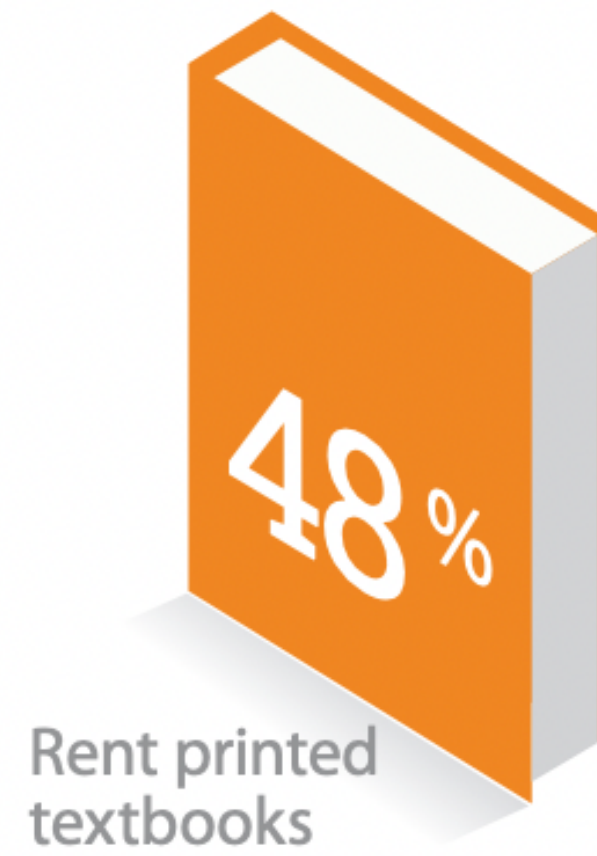
The share of students reporting financial strain due to textbook costs was higher for Pell students and underrepresented minorities.

How are  
they dealing  
with the  
costs?\*



Does  
financial  
aid help?

Only **23%**  
of respondents said  
financial aid  
covered ALL their  
textbooks.



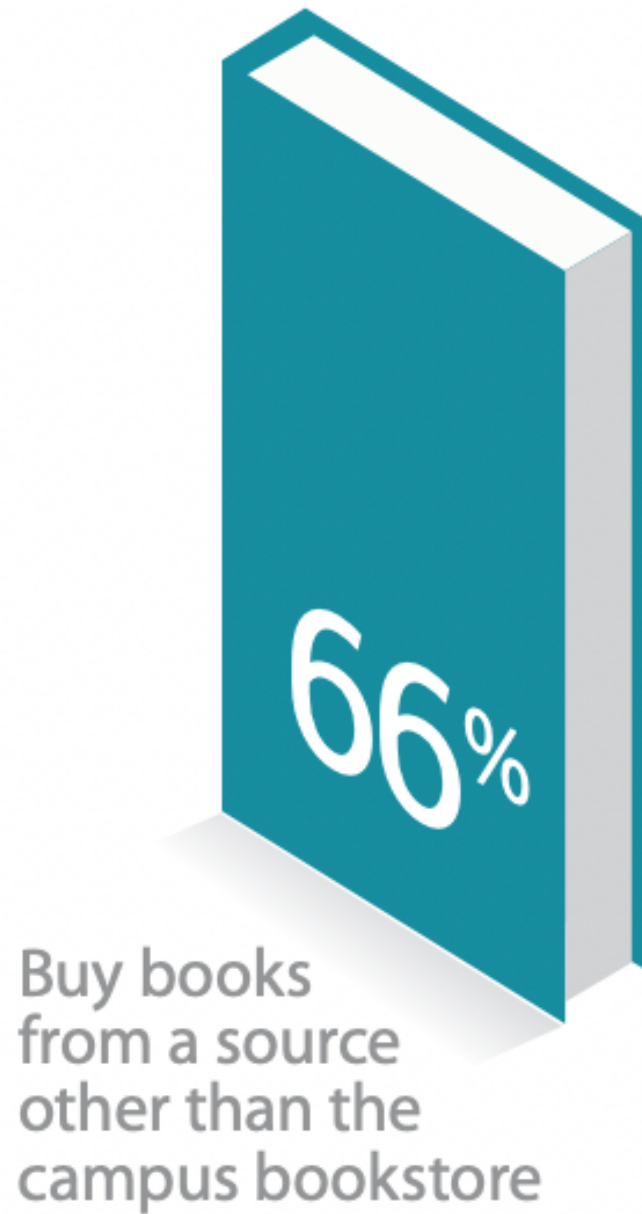
Does financial aid help?



Only **23%** of respondents said financial aid covered ALL their textbooks.



How are  
they dealing  
with the  
costs?\*



Buy used  
copies from the  
campus bookstore

Does  
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# OER Has the Potential to Improve Academic Performance



Courses that adopted OER have demonstrated a significant decrease in withdrawal rate, a relatively lower failure rate, and no obvious change in D-grade rate.



Zhao, Y., Satyanarayana A., Cooney C. (2020). Impact OER on Student Academic Performance and Retention Rates in Undergraduate Engineering Departments



# OER Has the Potential to Improve Academic Performance



“... OER improve end-of-course grades and decrease DFW (D, F, and Withdrawal letter grades) rates for all students. They also improve course grades at greater rates and decrease DFW rates at greater rates for Pell recipient students, part-time students, and populations historically underserved by higher education.”

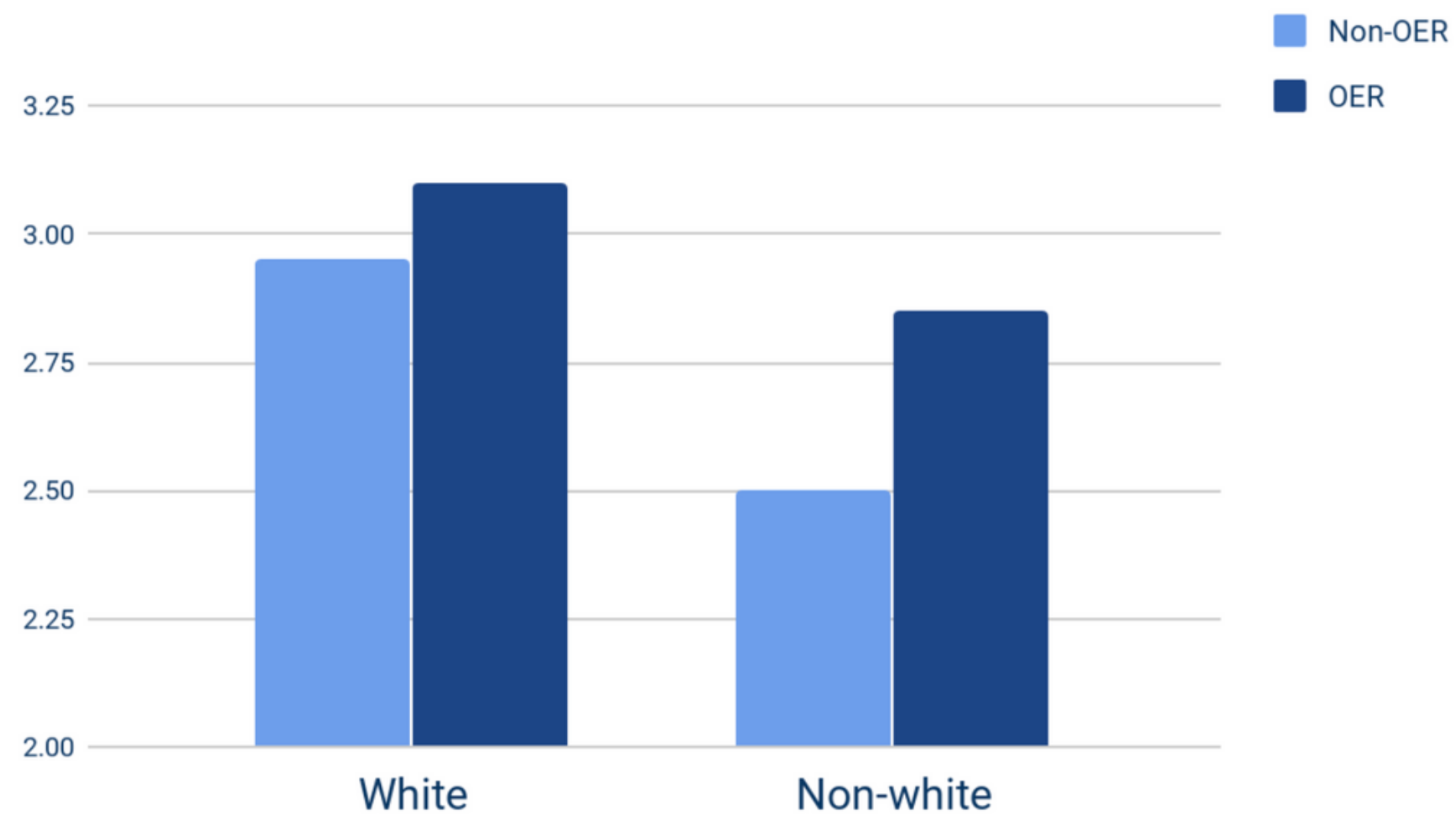
n = 21,822



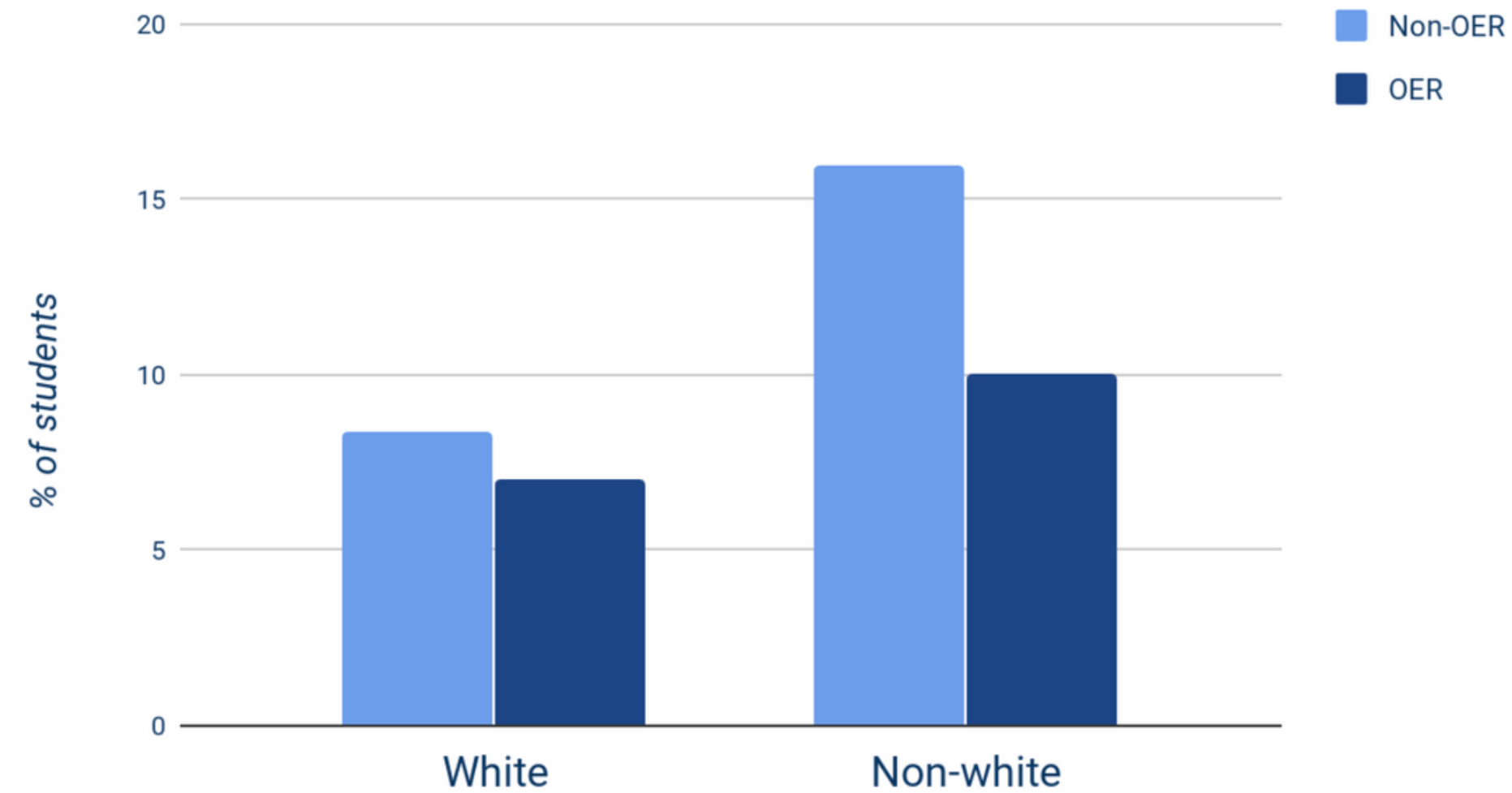
COLVARD, N., WATSON, C., & PARK, H. (2018). THE IMPACT OF OPEN EDUCATIONAL RESOURCES ON VARIOUS STUDENT SUCCESS METRICS. INTERNATIONAL JOURNAL OF TEACHING AND LEARNING IN HIGHER EDUCATION, 30(2), 262-276.

n = 21,822

Average grade

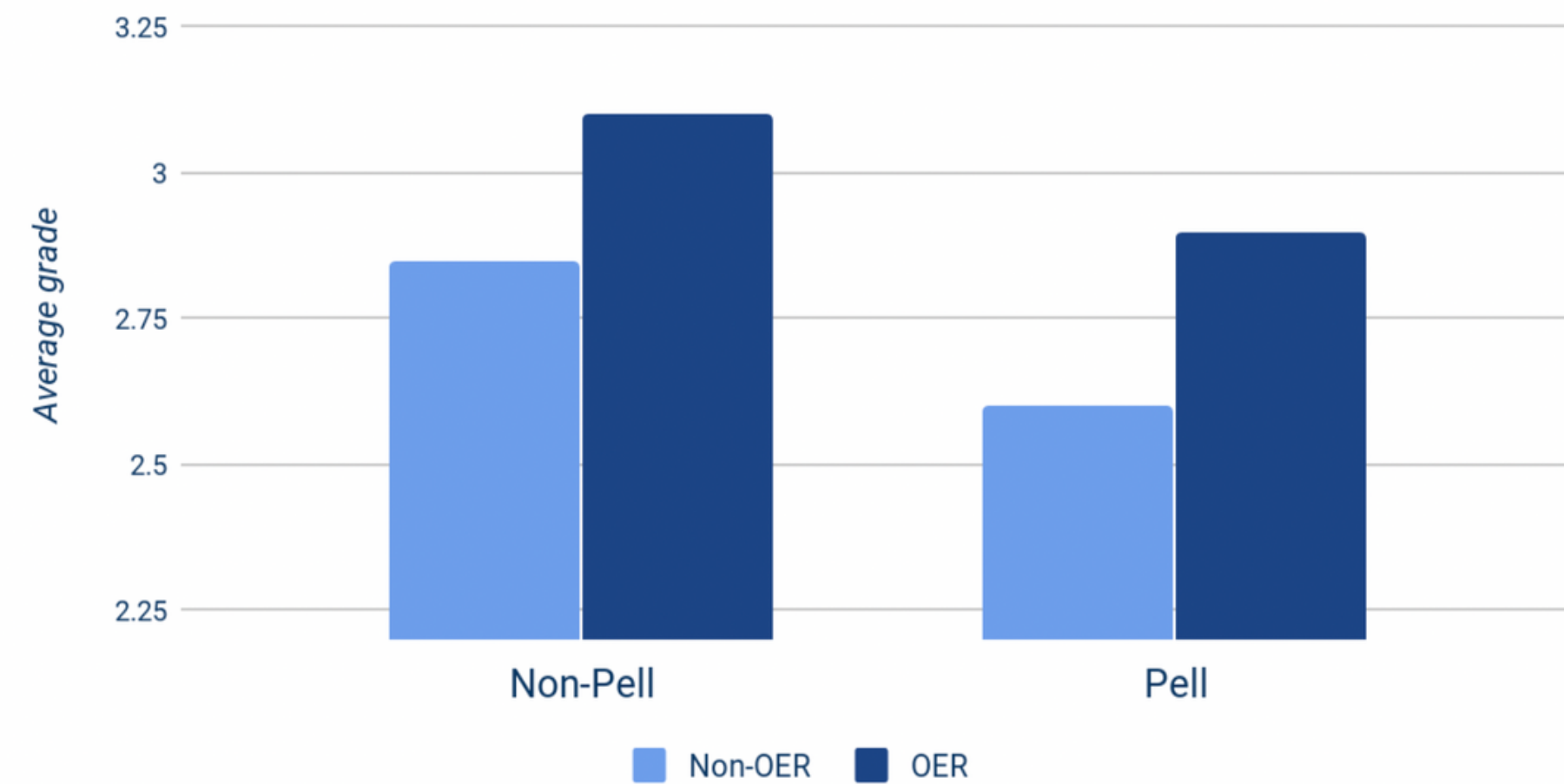


DFW Rate

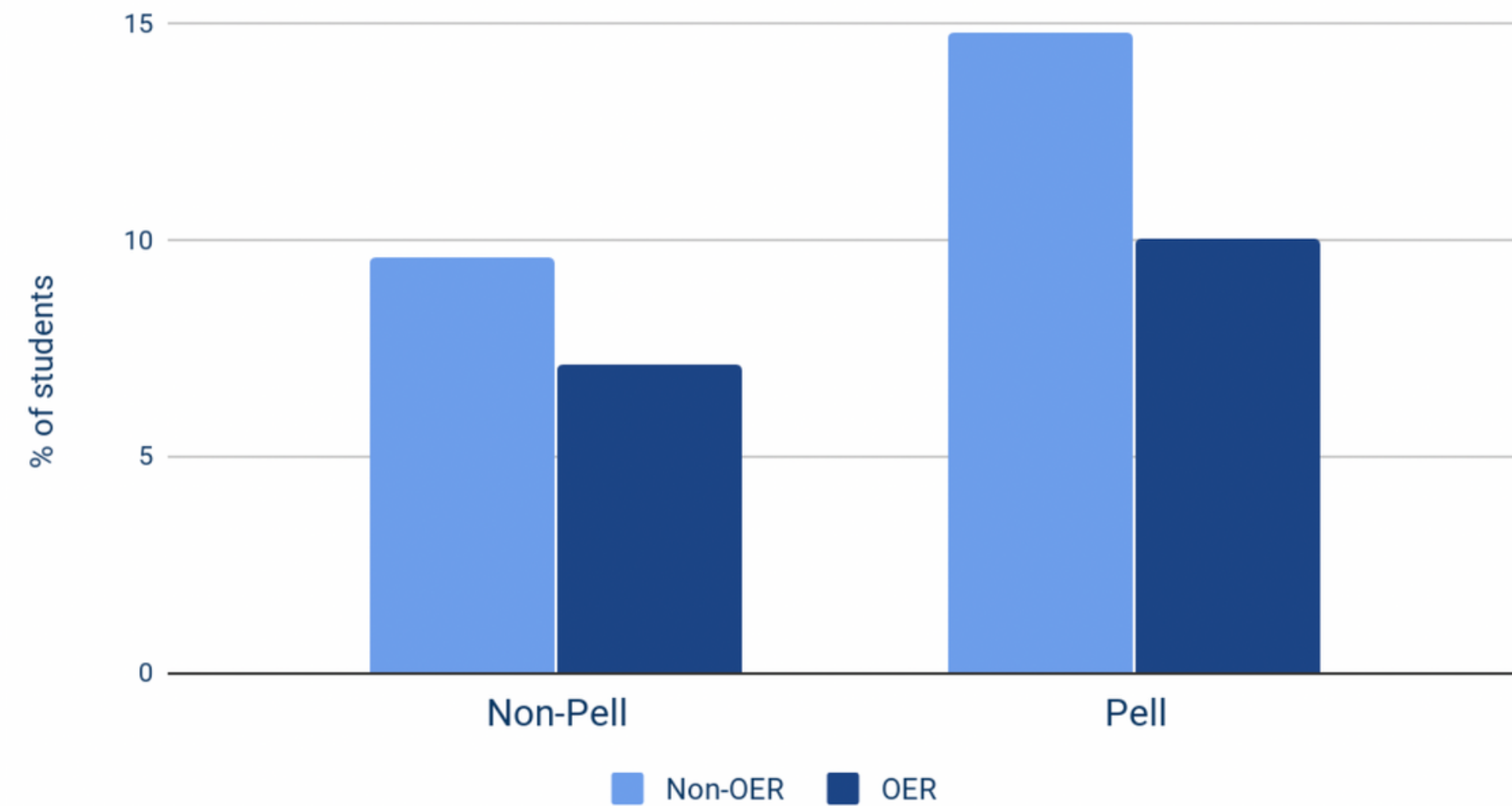


n = 21,822

Average grade



DFW Rate





# OER Has the Potential to Improve Academic Performance



Students who use OER perform significantly better on the course throughput rate (aggregate of three variables – drop rates, withdrawal rates, and C or better rates) than their peers who use traditional textbooks, in both face-to-face and online courses that use OER.

n = 36,223



Hilton III, J. L., Fischer, L., Wiley, D., & William, L. (2016). Maintaining Momentum Toward Graduation: OER and the Course Throughput Rate. The International Review of Research in Open and Distributed Learning, 17(6). <https://doi.org/10.19173/irrodl.v17i6.2686>

# OER Has the Potential to Improve Academic Performance



In Connecticut, 79% of students enrolled in over 60 course sections supported by the state's OER grant program earned a grade of C or better (2021 CT OER Legislative Report).

n = 1,184





# Enrollment intensity



Students enrolled in OER courses have higher credit loads than those enrolled in non-OER courses (Fischer, et al., 2015; Clinton-Lisell, 2022).

Fischer L, Hilton J 3rd, Robinson TJ, Wiley DA. A multi-institutional study of the impact of open textbook adoption on the learning outcomes of post-secondary students. J Comput High Educ. 2015;27(3):159-172. doi: 10.1007/s12528-015-9101-x.

Clinton-Lisell, Virginia. (2022). How does OER Efficacy Vary Based on Student Age and Course Modality?. American Journal of Distance Education. 10.1080/08923647.2022.2077061.



# Enrollment intensity



In one study, 42.2% of students who saved money with OER said they reinvested those funds in their education (i.e. by paying for tuition, taking more classes, etc) (Kahihifo, et al., 2017).



# Enrollment intensity



Another study suggests that students who took multiple OER courses on average earned more college credits over time than otherwise similar students who took no OER courses (Griffiths, et al., 2020).



Griffiths, R., Mislevy, J., Wang, S., Ball, A., Shear, L., Desrochers, D. (2020). OER at Scale: The Academic and Economic Outcomes of Achieving the Dream's OER Degree Initiative. Menlo Park, CA: SRI International.



# Enrollment intensity



Studies have found that students taking OER courses made faster progress towards degrees than their peers who took no OER courses (Griffiths, et al., 2022).



Griffiths R, Mislevy J, Wang S. Encouraging impacts of an Open Education Resource Degree Initiative on college students' progress to degree. High Educ (Dordr). 2022 Feb 26:1-18. doi: 10.1007/s10734-022-00817-9. Epub ahead of print. PMID: 35250046; PMCID: PMC8881698.



# Return on investment



At Tidewater Community College, OER decreased drop rates and the reduction in refunds to students represents a “renewable new source of funds” for institutions to invest in OER (Wiley, et al., 2016).



Wiley, D., Williams, L., DeMarte, D., & Hilton, J. (2016). The Tidewater Z-Degree and the INTRO model for sustaining OER adoption. Education Policy Analysis Archives, 23(41). <http://dx.doi.org/10.14507/epaa.v23.1828>



# Return on investment

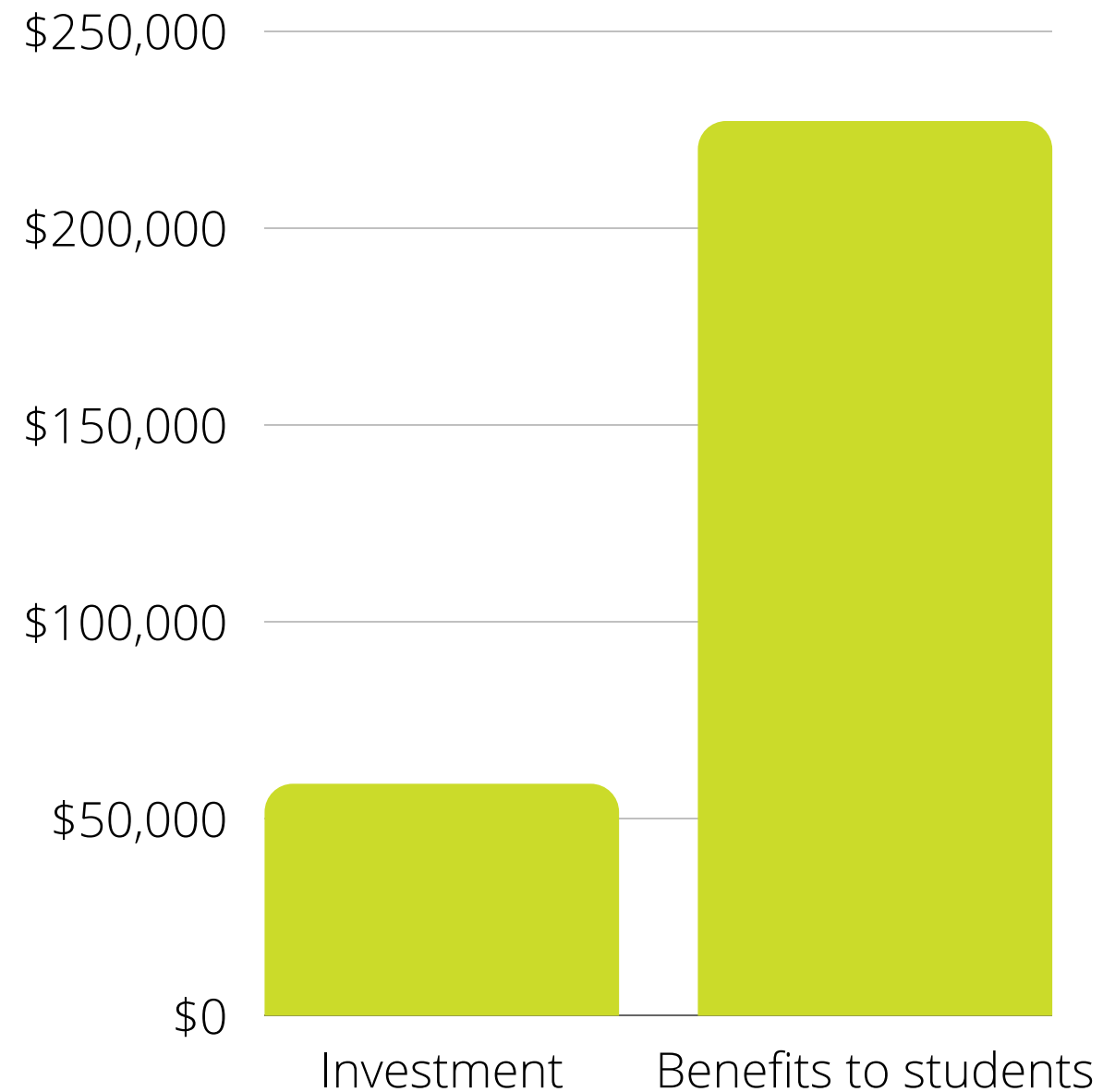


The Achieving the Dream study found that an average of \$1.03 in gross revenue was generated for every dollar spent (program and additional delivery costs)—a modest 3% institutional return on investment that reflects an average net financial benefit of \$38,000. In other words, the students' savings generated by OER degrees did not come at a cost to the colleges.





# Return on investment

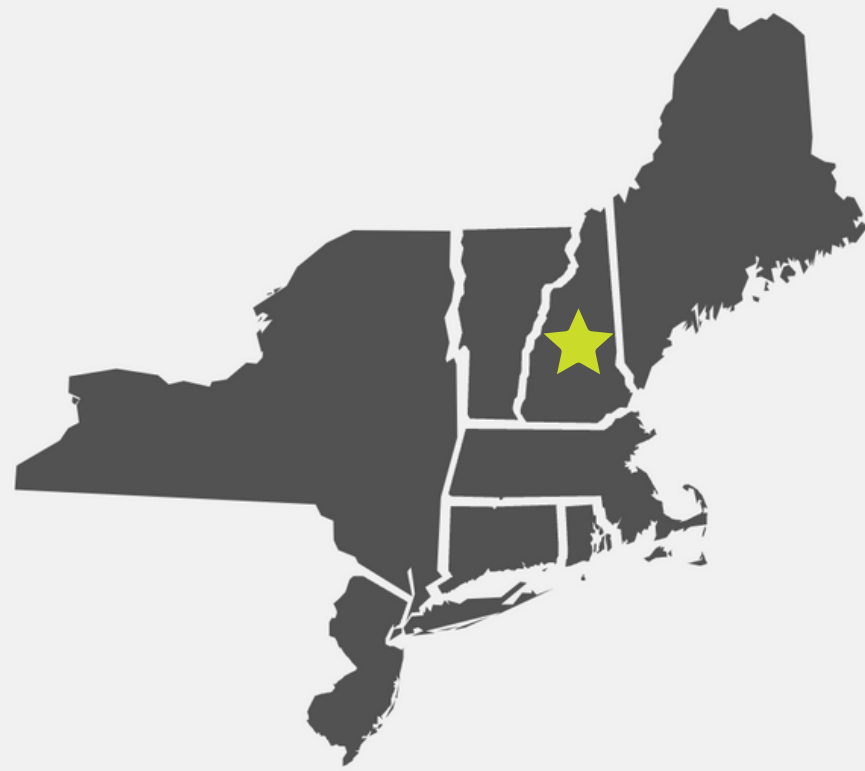


Connecticut State OER Council Grant Program

Across the first two years of the Connecticut OER grant program, over 3,800 students have benefited from efforts related to the grant work across a minimum of 165 course sections resulting in over \$492,000 in savings.

**4x ROI**





## Plymouth State University

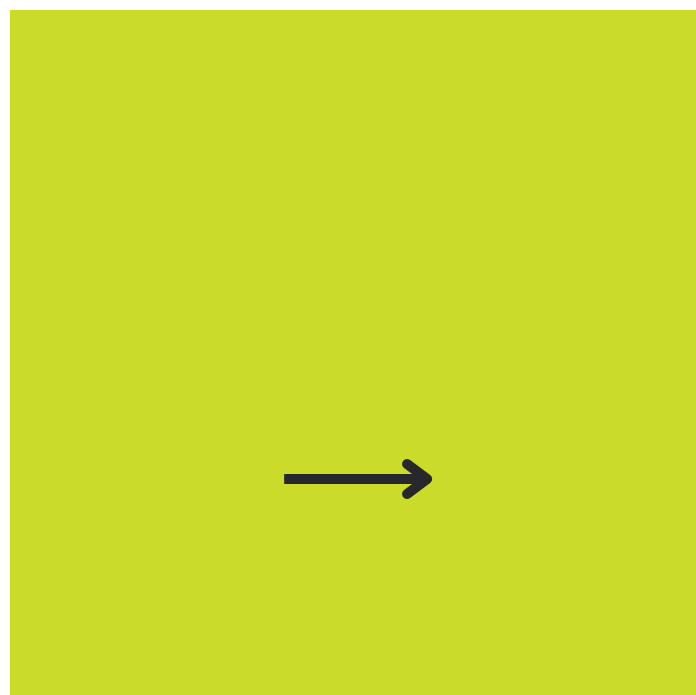
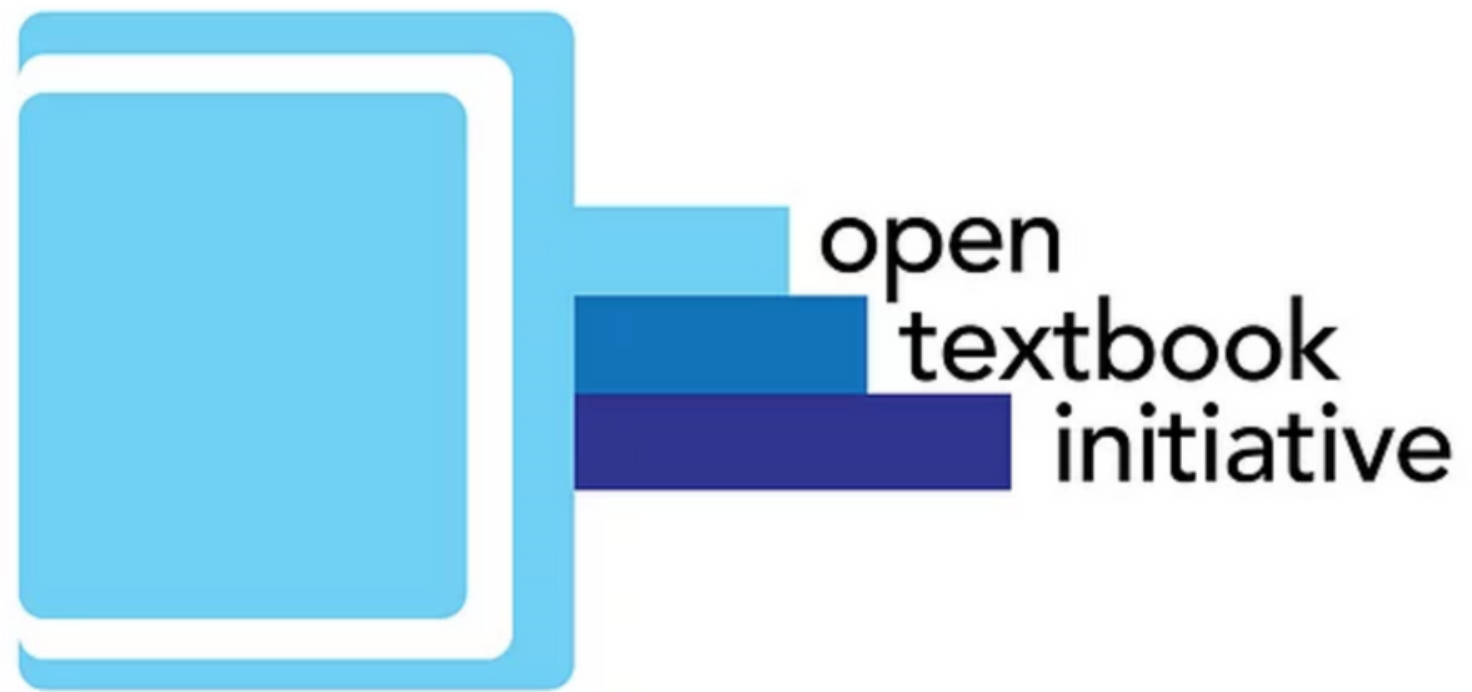
"Not only do I want to create more interactive learning objects for my students to enhance their learning, but I want to engage them in the creation of these as well, and then openly license them so other faculty and students in our field will have free access." - Professor Julie Bernier, PSU

# \$1, 509, 388

in student textbook savings using OER, 2016-2022







## Rhode Island

State funding for Open Education Network memberships and micro-grants were available to public institutions through the Rhode Island Office of the Postsecondary Commissioner and the Office of Innovation. A statewide steering committee led the work and represented both public and independent institutions.

**+/- \$5,000,000**

in student textbook savings using OER, 2016-2021

**OER isn't just  
about free  
textbooks.**



# Teach to the learning outcomes, not the text.



"As someone who entered [Introduction to Sociology] two weeks late, it truly benefited me to have access to [Dr. Rothschild's adaptation of] the OpenStax online textbook free of charge. I was able to save money in terms of not having to buy a physical textbook again after having dropped a different course. Having access to the course textbook right from my computer improved my learning experience in [Intro to Sociology]. It set me up for success knowing that the material in the online textbook would all be covered since it was specifically designed for Dr. Rothchild's course."

**Sam Avila, Roger Williams University '22**





April Hathcock, Director of Scholarly Communications & Information Policy, New York University

Critical information literacy scholar, April Hathcock, emphasizes that we should work towards “[gathering] intellectual work from the margins. We want to feel comfortable citing examples from Grandmama and Miss Peachy down the street, even as others cite wisdom from Althusser or Marx” (Downey, 2016).

# ROTEL

Remixing Open Textbooks through an Equity Lens  
(ROTEL): Culturally Relevant Open Textbooks for  
High Enrollment General Education Courses and  
Career and Professional Courses at Six Public  
Massachusetts Colleges

**Fitchburg State  
University**

**Holyoke  
Community  
College**

**Salem State  
University**

**Framingham  
State University**

**Northern Essex  
Community  
College**

**Springfield  
Technical  
College**





“OER do have value ... [but] can also lead to the exploitation of knowledge producers, can reinforce a Western-centric perspective that leads to forms of educational colonialism, can confuse autonomy for liberty, and can privilege a neoliberal formulation of education that precludes real social change” (Almeida, 2017).

Almeida, Nora. “Open Education Resources and Rhetorical Paradox in the Neoliberal Univers(ity).” *Journal of Critical Library and Information Studies* 1 (2017)



# OER supporting equity & culturally responsive pedagogy



Dr. Amy Clinard, Bunker Hill Community College

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Dr. Clinard found that the traditional Education textbook that she was using had a predominantly western outlook that didn't reflect the background and upbringing of the majority of students enrolled in her class. The commercial textbook focused only on western measures of parenting based on samples of White, European, and American families. The OER version had a far more inclusive perspective, but even *if it hadn't the licensing structure would allow for revisions to make it so.*



# MIT OpenCourseWare

MIT OpenCourseWare recently rolled out a new platform to expand access to its growing OER library of thousands of MIT courses, with a mobile-friendly interface and enhanced search features, and is developing new equity-focused collaborations with educators to create, use and share more culturally-relevant adaptations.





# NEBHE Community of Practice

Our 2021 community of practice brought together 8 regional faculty members to refresh their fundamental knowledge of OER and work towards a deeper understanding of utilizing open educational practices to increase student engagement, success, and ownership of the cultural content present in their learning materials.

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# OER supporting equity & culturally responsive pedagogy

Dr. Suzanne Marmo-Roman, Sacred Heart University

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In Dr. Marmo's class, each semester students are asked to research evidence of structural racism in their areas of practice. Students prepare a webpage that will be updated each year as a renewable assignment, allowing new students to learn from their predecessors and build upon that knowledge for the students who come after them.





# OER supporting equity & culturally responsive pedagogy



Dr. Kathleen Brinegar, University of Vermont

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Kathleen Brinegar is an Associate Professor of Education at Northern Vermont University. She is committed to a research agenda that promotes equity and cultural responsiveness by honoring the experiences of young adolescents with marginalized identities. She is particularly interested in OER as a vehicle for equity both in decreasing the cost of education and in enacting culturally responsive and humanizing pedagogies. This past year her students had the opportunity to openly license artifacts they created on various topics, for example: Practices to Support Young Adolescents."

# OER supporting equity & culturally responsive pedagogy

Dr. Daniel Leland, Thomas College

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“Most people first hear of Open Educational Resources and think of the students’ financial benefit. Let’s face it; textbooks are costly, and anything we can do to ease the students’ pressure is a benefit. I quickly found that while saving costs is essential, it is a side benefit of OER development,” says Dan. “Most importantly, they get the sense that they are participants and have ownership in the class, not just attending a slideshow presentation.”





# How do students feel about contributing their voice?

Students enrolled in courses taught by our Faculty Community of Practice members were surveyed in late November 2021 to understand their experiences of renewable vs. traditional assignments using theoretical frameworks such as representational justice (Lambert, 2018), Pekrun's achievement emotions questionnaire (2011), and Black & Deci's perceived autonomy support (2000).



The University of Vermont



Great Bay  
Community College



BERKSHIRE  
COMMUNITY COLLEGE



Sacred Heart  
UNIVERSITY



COMMUNITY  
COLLEGE  
OF RHODE ISLAND

NEW ENGLAND BOARD  
of HIGHER EDUCATION

# Renewable vs. traditional assignments



Renewable assignments had higher levels of reported interest/enjoyment, perceived choice, perceived competence, relatedness, and pride than did traditional assignments. Traditional assignments had higher levels of reported pressure. Overall, the findings indicate more intrinsic motivation for renewable assignments than traditional assignments (Clinton-Lisell & Gumb, unpublished).

n = 68

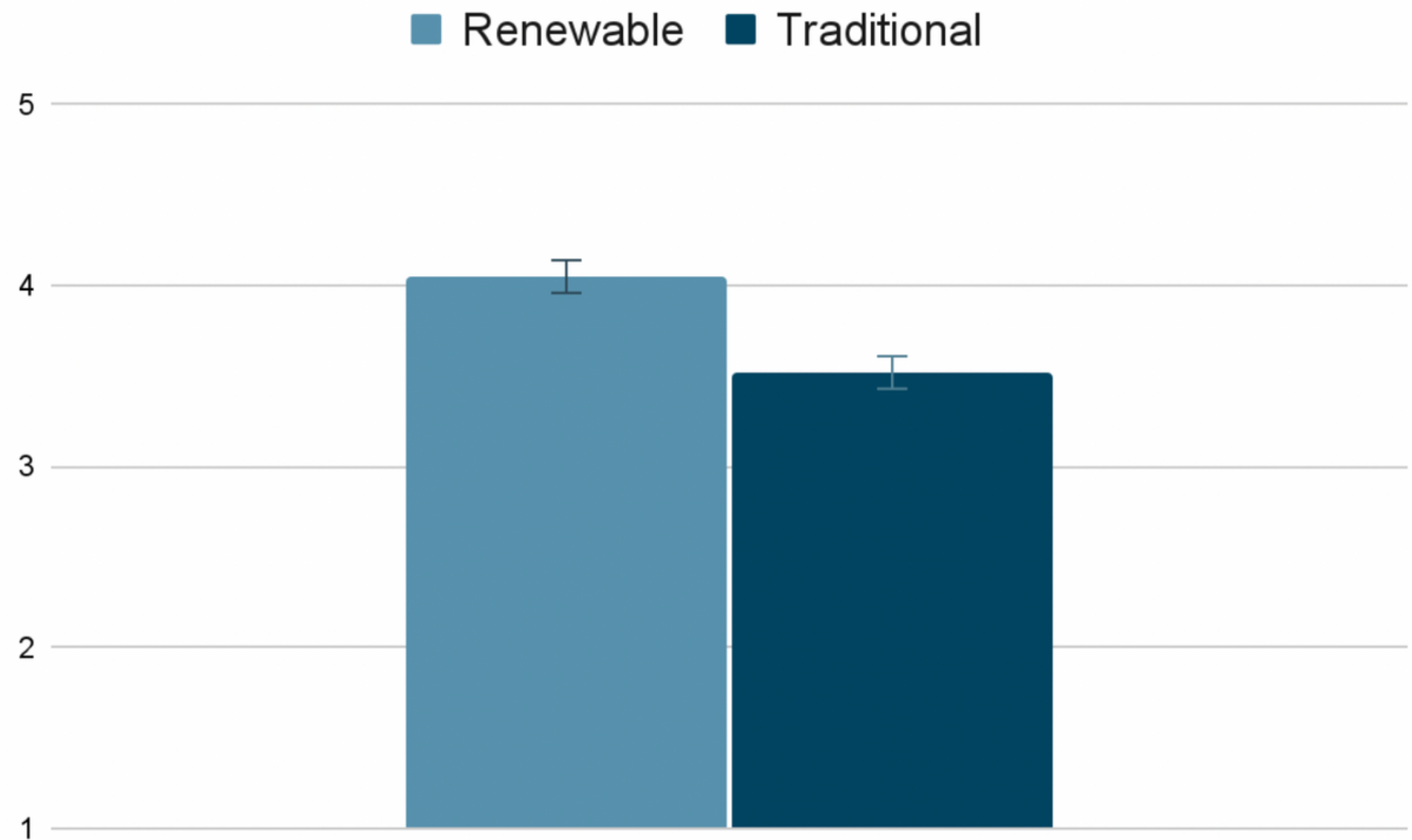


# Renewable vs. traditional assignments

Students perceived notably higher representational justice with renewable than with traditional assignments.

n = 68

## Representational justice

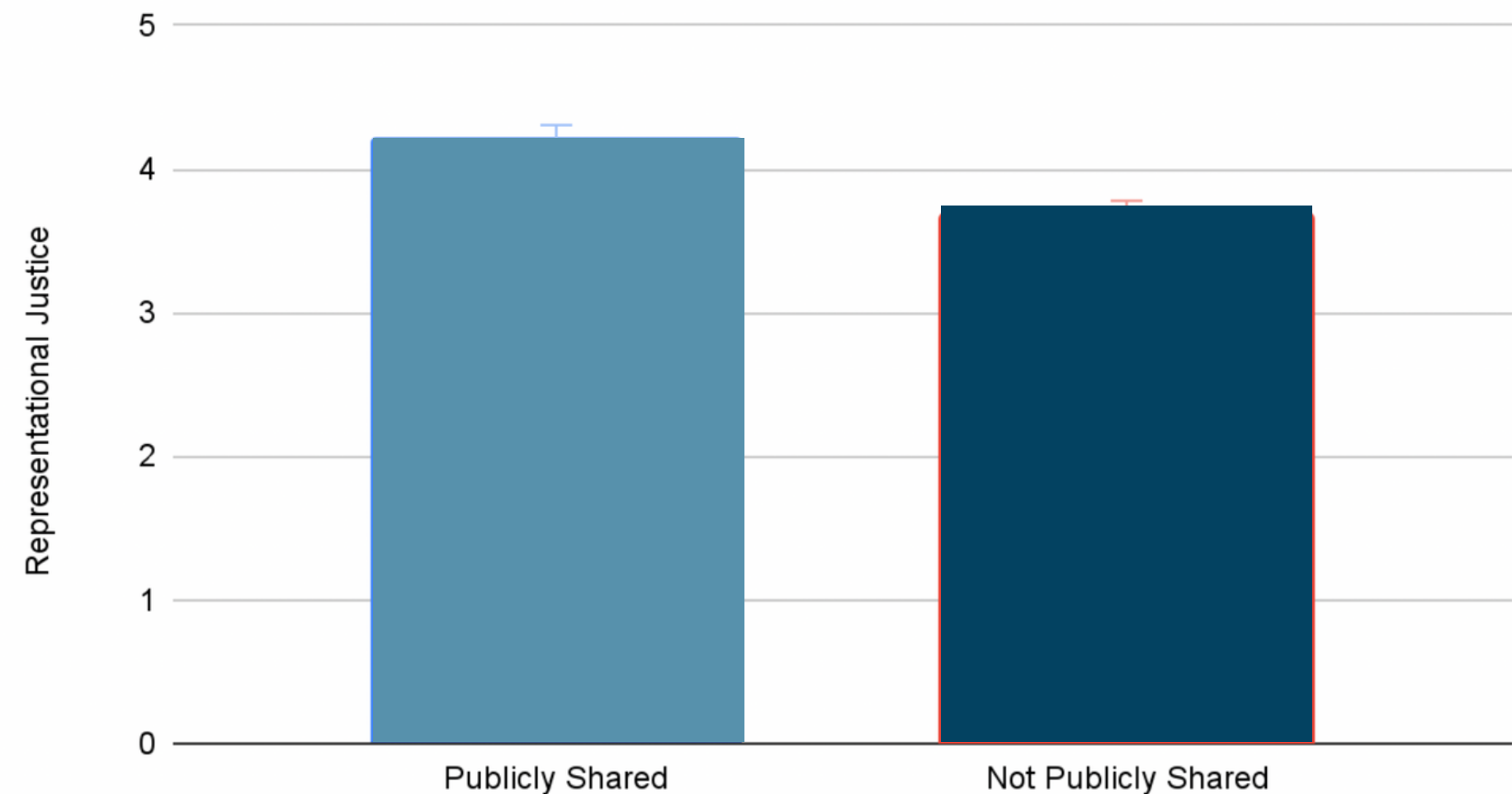


# Renewable vs. traditional assignments

Those who chose to license their work into an OER felt a stronger sense of representational justice.

n = 68

Representational Justice

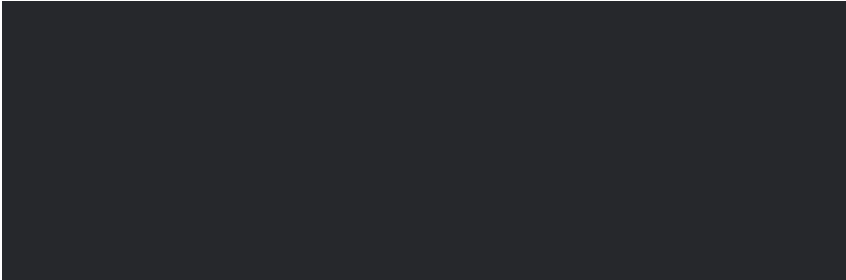




# What else did they have to say?

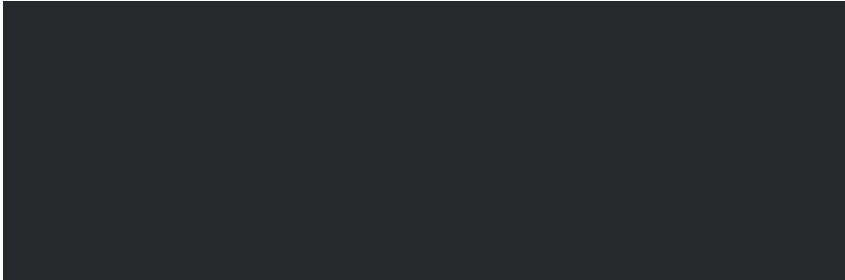
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"It was a great idea, and I got to discuss BIPOC folks in the work that I do, since there was a lack of representation in the literature."



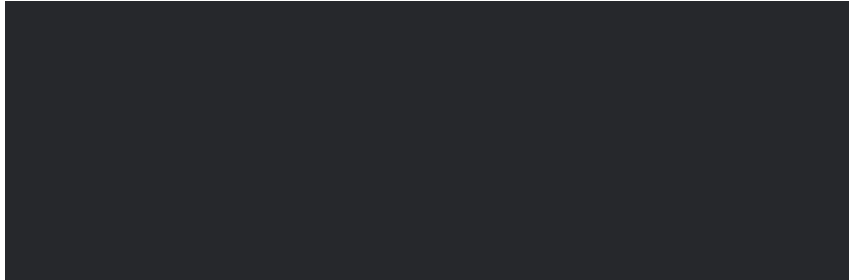
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"This topic was something that I never understood and never took the time to actually learn it, but after this assignment, I understand it completely and am able to apply it outside of class."



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"I consider my traditional assignments important to myself and my teacher, however, this renewable assignment transcends a focus on myself for learning to how my product will interact with my peers and the world."



# Faculty need your support.



This research means nothing without your support. OER is free for our students, but it is not free to create and maintain. Faculty need and deserve your support to do this work for and with our students.





# NEBHE can help!

Lindsey Gumb  
Fellow, Open Education  
lgumb@nebhe.org

<https://nebhe.org/openeducation>



**Leadership  
resources**



**Research**



**Professional  
development**



**Practitioner  
Perspectives**