



Making the Case for Open Educational Resources



AAC&U

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Foreword by Lynn Pasquerella





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FOREWORD

Making the Case for Open Educational Resources serves as a critical guide at a pivotal moment in American higher education. In the aftermath of the worst global pandemic in more than a century, college enrollment experienced the biggest plunge ever recorded, reaching its lowest point in a decade. Declining birthrates; burgeoning mental health issues; rising tuition; mounting student debt, including the loan burdens of 40 percent of borrowers who left college without a degree; and increased competition for international students are contributing factors.

In addition, the immediate need for post-pandemic workers led employers such as General Motors, Google, Apple, Microsoft, Accenture, Ernst & Young, Penguin Random House, and several state governments to remove the bachelor's degree as a requirement for many jobs previously requiring one. At the same time, the proliferation of short-term credentials, certificate programs, and fast tracks to specific careers at a growing number of companies has created new forms of competition for colleges and universities.

These trends both reflect and contribute to an unraveling of the consensus that higher education—once a cornerstone of the American Dream—is a good investment. Instead, a pervasive concern is that higher education is too expensive, too difficult to access, and doesn't teach people 21st-century skills. Indeed, according to a 2023 Gallup poll, Americans' confidence in higher education has decreased significantly over the past several years, dropping from 57 percent in 2015, and 48 percent in 2018, to a new low point of 36 percent (Brenan, 2023). A *Wall Street Journal* poll taken the same year confirmed a dramatic loss of trust in higher education over the past quarter century. When asked whether a four-year college degree is “worth the cost because people have a better chance to get a good job and earn more income over a lifetime” or whether it is “not worth the cost because people often graduate without specific job skills and with a large amount of debt to pay off,” 56 percent of respondents said college is no longer worth the cost (Belkin, 2023). While these numbers are troubling in and of themselves, especially disconcerting is the sharp increase in skepticism among those who have already earned a college degree, with 42 percent in this category maintaining that their college education wasn't worth it. Perhaps even more troubling is that the lack of confidence in higher education is strongest among those aged 18 to 34.

Disinvestment in public higher education over the past forty years and the concomitant failure of Pell grants and other forms of federal funding to keep pace with the rising and hidden costs of attending college have fueled these attitudes by catalyzing an economic and racial segregation in higher education. Indeed, a major report released by the National Center for Education Statistics at the US Department of Education in 2023 revealed that nearly 25 percent of college students face basic needs insecurity. Students at for-profit and community colleges are experiencing the highest percentages of homelessness and food insecurity, with those studying at HBCUs, tribal colleges, and other Minority-Serving Institutions also reporting higher levels than the national average (Alonso, 2023). These mounting inequities will undoubtedly be exacerbated by the recent Supreme Court rulings striking down both race-conscious college admissions and President Biden's proposed loan forgiveness plan that would have cancelled up to \$400 billion in student loans.

Thus, campus leaders inside and outside the classroom must reimagine higher education in ways that meet the equity mandate before us. Higher education's multiple stakeholders and commitment to shared governance make change leadership different, and often more complex, than for corporations. The complexity is enhanced by the current overreach by governors, governing boards, and legislatures into tenure and promotion decisions, administrative appointments, and academic affairs, signaled by the imposition of educational gag orders around "divisive concepts" and bans on diversity, equity, and inclusion.

Against this backdrop, effective change agents need evidence-based strategies to promote a change mindset and address key challenges. This publication offers a crucial tool for effectively advocating for open educational resources (OER) as a means of improving college affordability and democratizing higher education by fostering more equitable outcomes. In the process, it makes a compelling case for the pedagogical benefits of OER, detailing their multifaceted impacts on teaching and learning. I am grateful to all those who have contributed to this important work as an essential component of fulfilling AAC&U's mission of advancing the democratic purposes of higher education by promoting equity, innovation, and excellence in liberal education.

Lynn Pasquerella

President, American Association of Colleges and Universities

ACKNOWLEDGMENTS

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We also acknowledge with deep gratitude the William and Flora Hewlett Foundation for providing financial support that enabled us to develop this publication. We also thank the leadership and staff members of the foundation for their continued advocacy for open educational resources and the outcomes they produce.



INTRODUCTION

In April 2023, the American Association of Colleges and Universities (AAC&U) and the Institute for the Study of Knowledge Management in Education (ISKME) published *Leveraging Open Educational Resources to Advance Diversity, Equity, and Inclusion: A Guide for Campus Change Agents* (Watson et al., 2023). The publication includes seven evidence-based strategies that higher education advocates and institutions can employ to accelerate their open educational resources (OER) advocacy efforts. The approaches acknowledge that change in higher education does not occur as a single event; rather, it is a process that contains stages that occur over time and requires recursive engagement.

Change in higher education presents unique challenges, as research has shown that fostering innovation adoption within this setting is more difficult to achieve than in other contexts (Bolman & Deal, 1999; Borins, 2001). One of the reasons is that top-down decisions in colleges and universities often result in significant resistance from faculty and other stakeholders. Successful advocacy efforts for innovations in this context require a data-driven, persuasive foundation that speaks to an array of stakeholders because an evidentiary footing is often essential to decision-making in higher education.

In early 2023, the authors of this publication surveyed those who currently were or in the past had served as leads for campus and consortia teams that were participating in AAC&U's Institute on Open Educational Resources. Within this OER leadership population, there is broad agreement that leveraging OER research articles and reports is a critical advocacy strategy when promoting OER to faculty and administrator audiences. Indeed, faculty making choices within their individual courses and administrators making budgetary decisions often seek such information. This publication, which should be seen as a companion to *Leveraging Open Educational Resources to Advance Diversity, Equity, and Inclusion*, is designed specifically to meet evidence and advocacy needs.

As the title suggests, *Making the Case for Open Educational Resources* is intended to assist OER advocates in their work to craft persuasive presentations, publications, and arguments as they promote OER. While the publication is the result of an exhaustive review of the literature, it is not intended to present a comprehensive summary of all the research regarding OER and open practices. Its purpose is to highlight key studies, utilizing attractive and easy-to-comprehend

graphics, that OER advocates might leverage to inform and underpin their efforts in a variety of contexts and to a variety of audiences. The overarching goal is to immediately help campus OER leaders more easily make the case for OER.

OER advocates often interact with faculty, staff, administrators, students, and parents, and we intentionally chose the selected research findings for inclusion in this publication based upon the goals, needs, and concerns of these audiences. The focus was on locating and highlighting studies that would resonate with these stakeholders while also addressing overarching challenges higher education is facing today in terms of students and their learning. Generally speaking, much of the research regarding OER falls into one of four domains (cost, outcomes, use, and perceptions), often referred to by the acronym COUP (Bliss, 2013). Elements of each of those can be found throughout this publication. However, based upon OER advocacy needs, we have organized this publication around four areas:

- Cost and student behavior
- Student and faculty perceptions
- Student success outcomes
- More equitable outcomes

While the majority of the messaging around OER continues to speak to cost savings for students, which does indeed align with the compelling and continuing public concern regarding the cost of higher education, an emerging research base is revealing how OER speak to a range of additional outcomes. Most higher education institutions have developed a portfolio of solutions designed to collectively address these challenges, and the evidence presented within this publication makes a compelling argument for why OER should be included within most institutions' student success strategy portfolios. This publication will help readers advocate for that outcome at their institutions.

How to Use This Publication

This publication is designed to provide clear summations of key OER research studies, and OER advocates may find it helpful to share this entire publication with specific audiences. For example, when meeting with a senior leader who is considering initiatives to fund, the publication's broad case may be ideal for sharing. It may also be helpful to share the publication with other

collaborators, such as student leaders within your institution's student government association or colleagues in another office on campus. Additionally, in a workshop setting, you may find it useful to distribute this publication to attendees during or prior to the event.

At the same time, OER proponents often give presentations or create handouts in which they desire to advocate for OER based upon a specific outcome or to a specific audience. In those cases, the full publication may serve to distract rather than elevate. To assist in those contexts, this publication is intended to be used as a dissectible document from which graphics and summaries can be easily harvested. Most of the graphics will fit neatly within the aspect ratio of presentation software, and all of the graphics can be freely downloaded in a ZIP file via AAC&U's Publications Store (www.aacu.org/OERgraphics). Readers are encouraged to use these graphics freely and liberally in publications and presentations, and on their advocacy website. Please note the Creative Commons license of this publication as you use these items.

Finally, as you strategize about how to leverage this information, you are encouraged to explore the larger body of literature that provides comprehensive guidance on how to promote change in social systems. Rogers' *Diffusion of Innovations* (2003) is a seminal text in this field that recognizes change as a process, not an event, and describes how to functionally leverage what we know about "early adopters" and other members of a social system. The resulting recommendations and models are built upon over a half century of research and scholarship.

Within the context of education specifically, readers may find the Concerns-Based Adoption Model (CBAM) of interest, as it provides guidance regarding what type of messaging to provide to stakeholders as they move through the aforementioned adoption process (Hall & Hord, 2019). These resources, in concert with *Leveraging Open Educational Resources to Advance Diversity, Equity, and Inclusion: A Guide for Campus Change Agents* (Watson et al., 2023) and this publication, will provide readers with the evidence-based tools they need to increase their probability of successfully moving OER work forward on their campuses.

WHAT ARE OPEN EDUCATIONAL RESOURCES

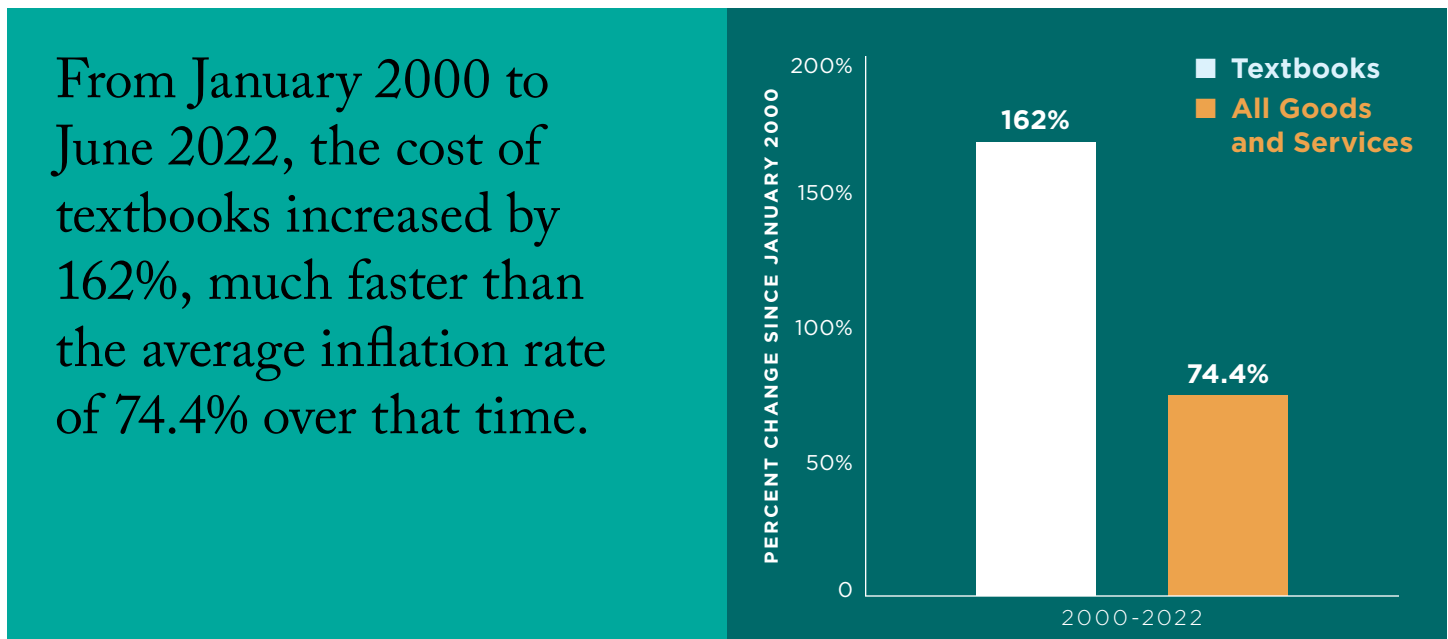
Open educational resources (OER) are “teaching, learning, and research materials that reside in the public domain or have been released under an open license that permits their free use and re-purposing by others” (Creative Commons, n.d., para 3). The term “open education” refers to the “myriad of learning resources, teaching practices, and education policies that use the flexibility of OER to provide learners with high quality educational experiences” (Hewlett Foundation, n.d., para 4).

OER are available in a variety of formats, including textbooks, lesson plans, assignments, videos, and other educational tools. Using OER in the classroom allows educators and students to access, reuse, adapt, and share content without the constraints of traditional copyright restrictions, resulting in a more customizable and tailored educational experience. They allow educators to alter materials, enabling open pedagogy and increasing flexibility in the classroom. Moreover, research has shown that the use of OER to replace course materials students previously had to purchase provides a range of additional benefits, including reducing student debt and ensuring all students have access to needed materials on the first day of class. Relatedly, research has found that OER have a positive influence on academic performance, retention, and completion (e.g., Colvard et al., 2018; Fischer et al., 2021; Griffiths et al., 2020; Marsh et al., 2022; Smith et al., 2020).

WHY USE OER? COST AND STUDENT BEHAVIOR

The student debt crisis initially led many faculty and institutions to consider OER—and for good reason. For students, from one semester to the next, the cost of textbooks has been one of the least predictable elements in their budgets when attending college. That cost has been increasing dramatically in recent decades, far outpacing inflation and the price of other consumer goods and services, such as medical care, childcare, and housing. From January 2000 to June 2022, the cost of textbooks increased 162 percent, while the average overall inflation rate rose 74.4 percent (see Figure 1; Perry, 2022).

Figure 1: Cost of Textbooks Relative to Inflation (Perry, 2022)



Estimates of annual student spending on textbooks vary widely based on factors such as student enrollment status and institution type. However, in the 2021-2022 academic year, the average spending on books and supplies for a full-time undergraduate student at a four-year public university was \$1,226 (Hanson, 2022). Although the per-textbook cost has risen significantly, student spending on paper textbooks has slowly decreased over time, due in part to OER (National Association of College Stores, 2022). Nevertheless, the cost of textbooks continues to be a significant burden on students and has contributed substantially to the overall increase in educational expenses.

While much attention focuses on the cost of materials, what are less often reported are student decisions and behaviors that result from the need to purchase expensive textbooks. In one study, the vast majority of students (87 percent) indicated that the cost of the textbook was central when deciding whether or not to make the purchase (Davis & Mckee, 2022). Figure 2 offers key insights into the ways students respond to challenges created by expensive course materials, including the accommodations they make. For example, many students work extra hours, and some forgo meals to afford course materials (Hanson, 2022). Relatedly, students have long recognized that not having the textbook would likely negatively impact their performance in the course (see Figure 3). A majority of students report they did not purchase a required textbook at some point, while nearly all students recognize that decision would likely negatively impact their performance in the course (Florida Virtual Campus, 2018; Redden, 2011; Senack, 2014). These findings highlight nuanced and fraught dynamics that result from expensive textbooks, extending far beyond the issue of student debt.

Figure 2: The Impact of Expensive Textbooks on Students

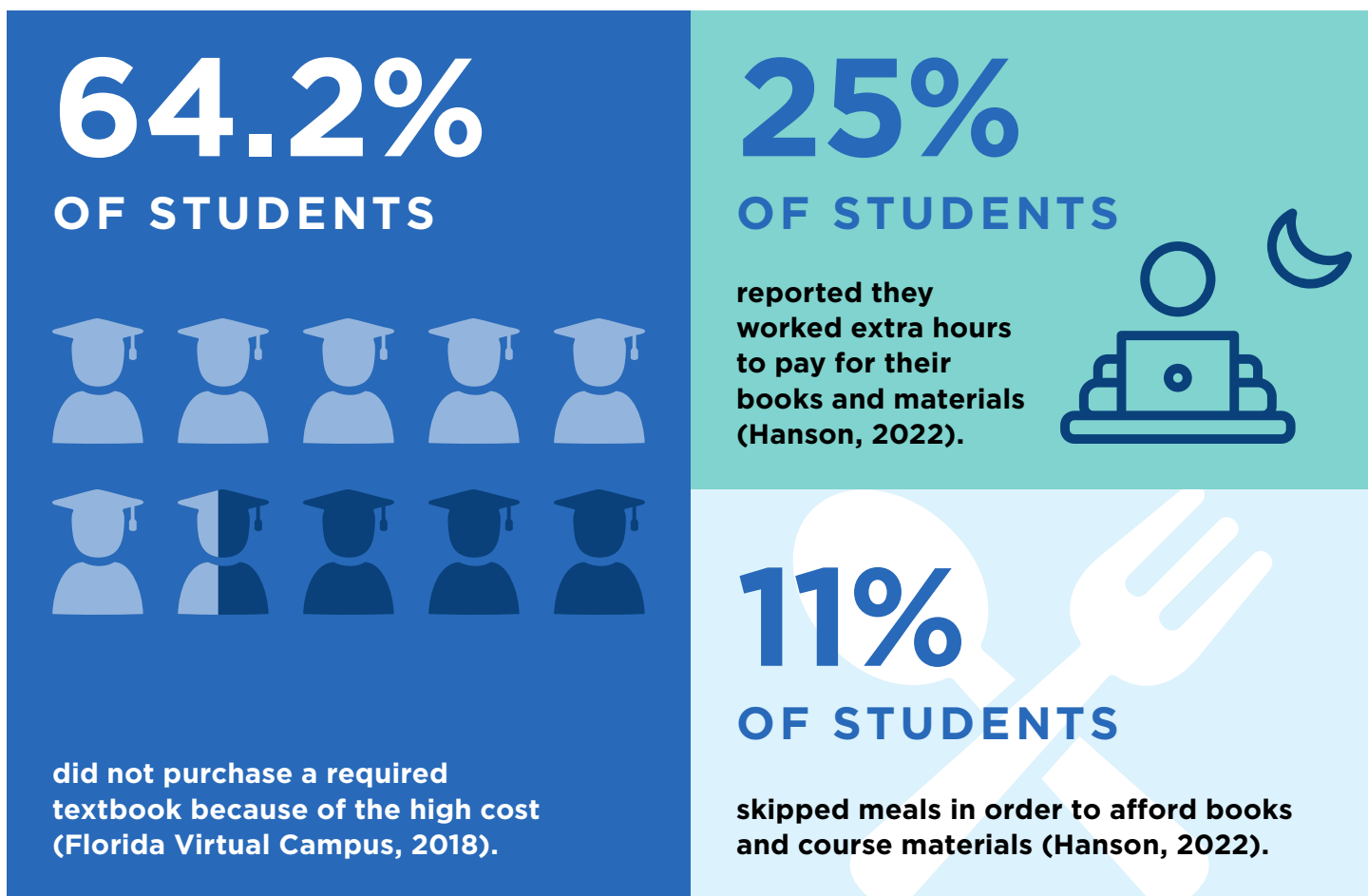
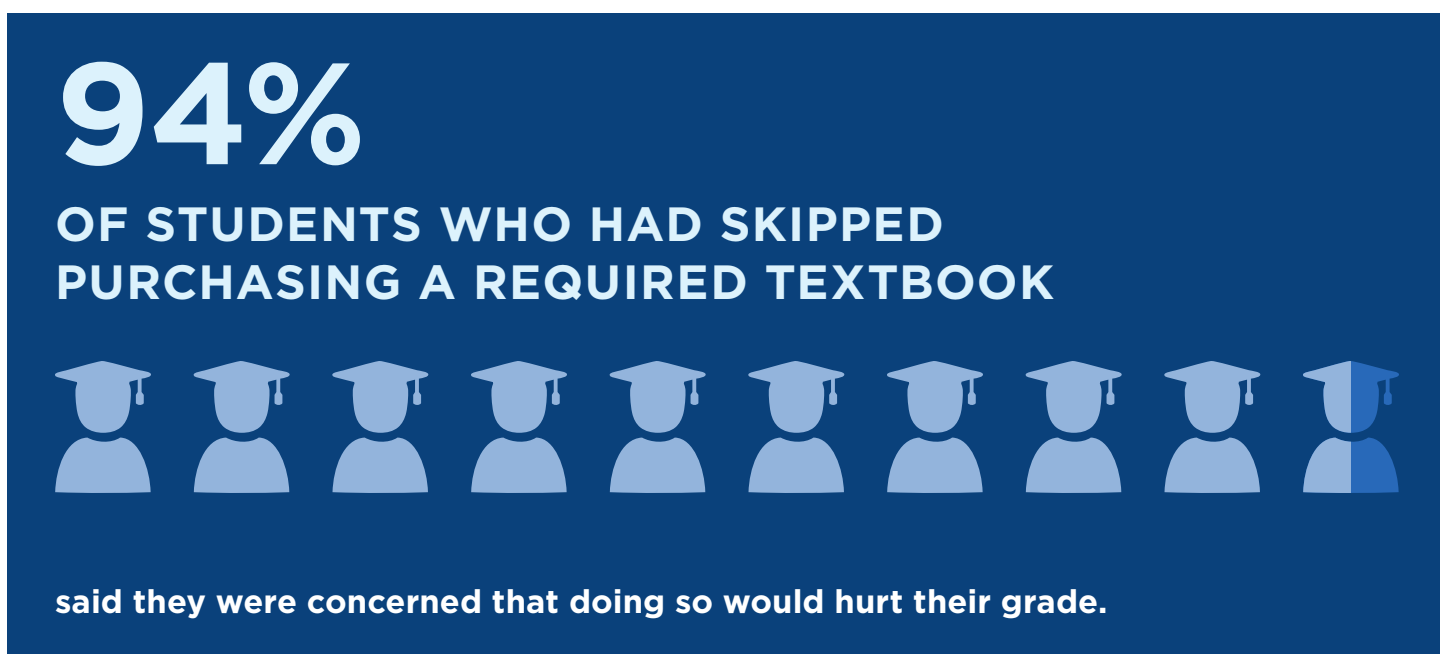


Figure 3: Student Perceptions of Grade Impact When Forgoing the Purchase of Textbooks (Senack, 2014)



WHY USE OER? STUDENT AND FACULTY PERCEPTIONS

One of the more expansive domains of OER research concerns student and faculty perceptions and awareness of OER and related open educational practices. This line of inquiry is especially important as we discern what students and faculty value. It also informs our ability to anticipate what concerns might elicit resistance. Multiple studies have shown that students find OER textbooks to be high quality, easy to access, and more engaging than traditional textbooks (e.g., Clinton, 2019; Davis & Mckee, 2022; Jhangiani et al., 2018; Jones & Nyland, 2020; Nusbaum et al., 2020; Watson et al., 2017). Figure 4 provides some specifics from these findings.

Other important additional findings that may contribute to faculty decisions to adopt OER include

- the use of OER increases a student's likelihood of picking that course (Nusbaum & Cuttler, 2020),
- end-of-semester instructor ratings increase after faculty adopt OER (Nusbaum & Cuttler, 2020), and
- students self-report higher rates of textbook usage in OER-based courses (Jones & Nyland, 2020).

Figure 4: Student Perceptions of OER

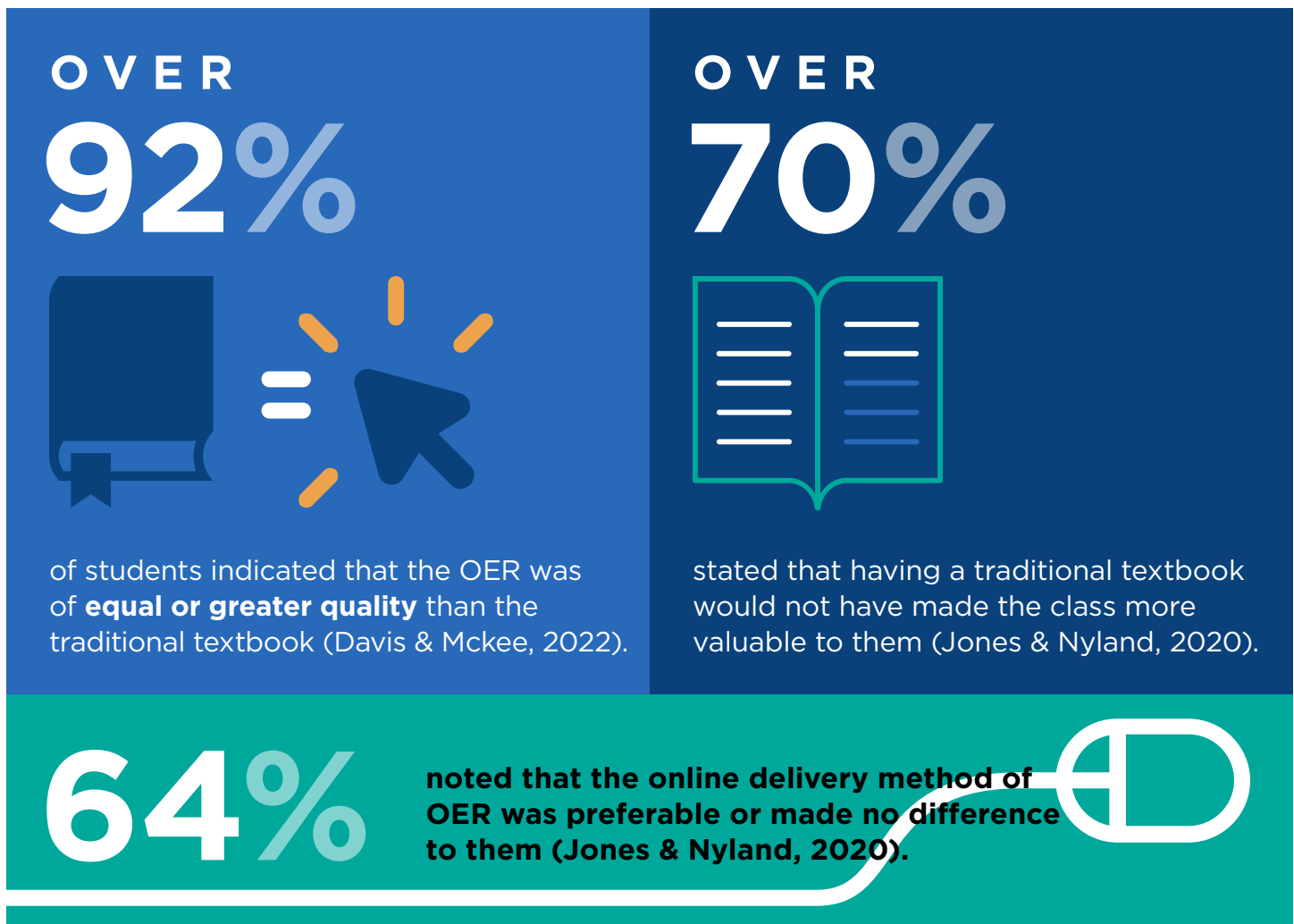


Figure 5 provides additional data supporting the last bullet. In this study, students in OER-based courses were more likely to complete class readings relative to their peers in a course using a traditional textbook (Jones & Nyland, 2020).

In multiple studies, students reported that OER-enabled open pedagogy (often referred to as open educational practices) provided them with positive learning experiences (Clinton-Lisell, 2021) and that using open pedagogy gave them a greater sense of agency in their learning (Baran & AlZoubi, 2020; Griffiths et al., 2022), including increased levels of motivation (Clinton-Lisell & Gwozdz, 2023). In addition, students using OER-enabled open pedagogy developed better critical thinking skills compared to peers who learned through traditional pedagogy (Hilton et al., 2019, 2020). Open pedagogy allows faculty members to adapt and modify resources to fit their teaching style and the specific needs of their students, fostering a more engaging and effective learning experience. Moreover, the use of OER promotes the sharing of best practices, resources, and ideas among educators, enhancing the overall quality of the educational experience (Clinton-Lisell, 2021).

In short, research has revealed that students have strong positive perceptions of OER. Further, OER offer faculty the opportunity to engage in impactful open pedagogy and positively influence perceptions of their courses. As a result, it is no surprise that faculty awareness and adoption of OER continues to rise (see Figure 6). In 2023, 64 percent of faculty reported being at least somewhat aware of OER (Seaman & Seaman, 2023b). Relatedly, faculty OER use nearly doubled between 2020 and 2023. Additional information that may help faculty make the decision to adopt OER includes survey results that found they are more satisfied with OER than with commercial offerings, and those using OER are least likely to desire to replace their current textbook (Seaman & Seaman, 2023a).

Figure 5: Student Reading Behaviors With OER vs. Traditional Texts (Jones & Nyland, 2020)

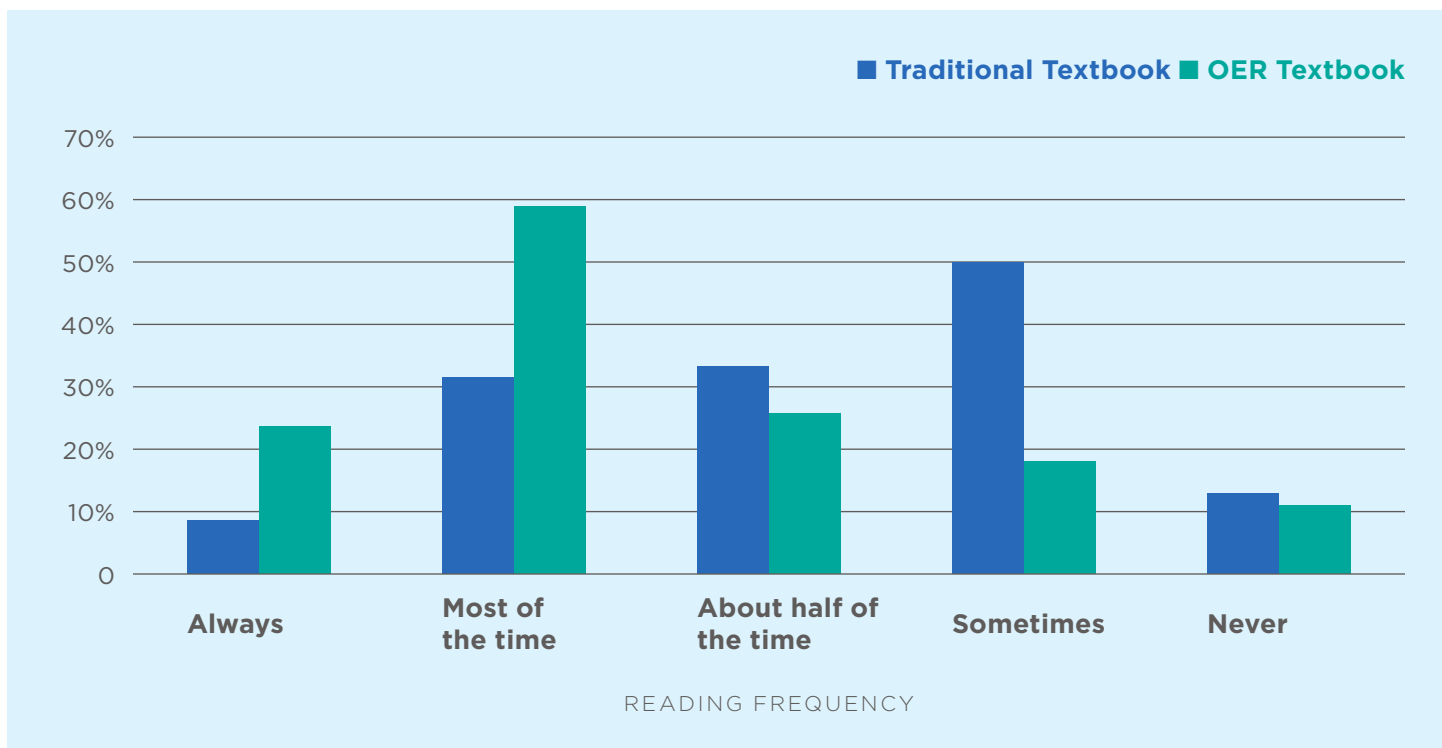


Figure 6: Faculty Awareness of OER in Higher Education (Seaman & Seaman, 2023b)

29%

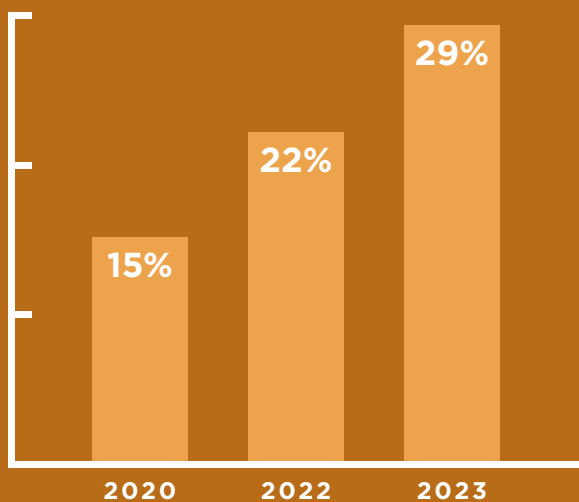


of faculty are very aware of OER and know how they can be used in the classroom.

Faculty at **two-year colleges and public institutions** are more aware of OER. Faculty at smaller institutions are more likely to be very aware of OER than colleagues at larger institutions.



The use of OER as required material increased by 7% between 2022 and 2023.



Faculty with the greatest OER awareness typically



teach at least one online course and



have 16–25 years of teaching experience.

WHY USE OER? STUDENT SUCCESS OUTCOMES

Student success is often viewed as a key goal for higher education institutions. However, there is often significant variability from one campus to the next regarding each one's definition of student success (McNair et al., 2016). In some contexts, graduation, retention, and job placement rates are central to this notion, while others focus on course completion rates, student learning, and/or students' achievement of specific learning outcomes. Often, within the same campus, faculty and administrator definitions of student success are incongruent. It is helpful to understand how your various audiences define the term as you select studies to share and as you craft your messages for them. Interestingly, evidence is emerging that suggests OER contribute to a wide range of student success metrics.

Figure 7 summarizes the results of research conducted on the impact of OER on pass rates at Houston Community College. In this study, OER were found to predict improvements in pass rates for all student groups (Smith et al., 2020). This mirrored findings from the previous year at the University of Georgia (Colvard et al., 2018). In that large-scale study (N = 21,822) of student performance, the DFW rate (i.e., students who earn either a D or an F or withdrew from the course) was significantly lower in courses using OER when compared with the same courses taught by the same faculty in previous semesters (see Figure 8). While individual student data are not available from these studies, one might hypothesize that providing all students with free course materials specifically helps those students who might otherwise fail because they were unable to purchase an expensive textbook.

Figure 7: Predicted Impact of OER on Students Passing the Course (Smith et al., 2020)

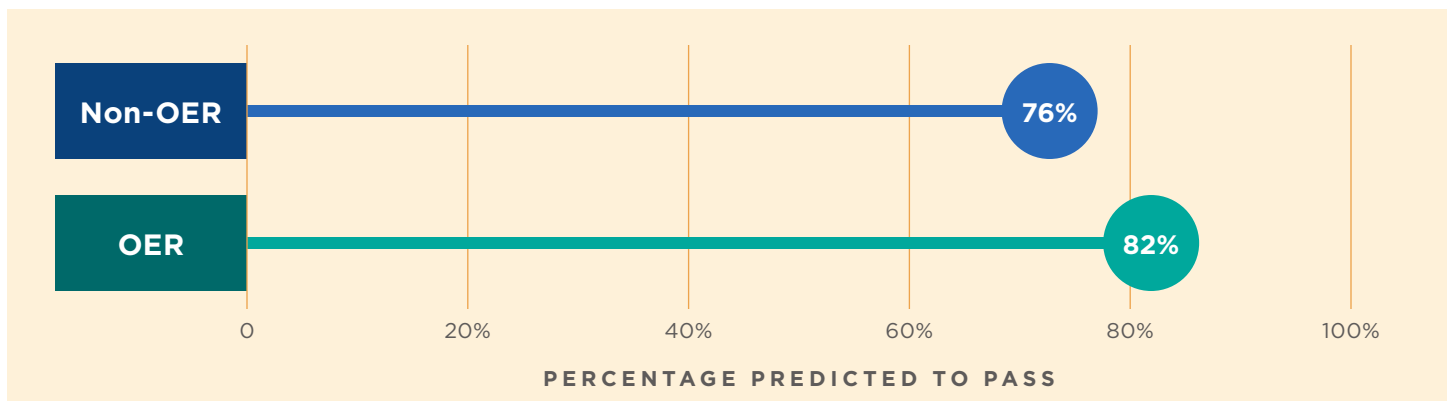
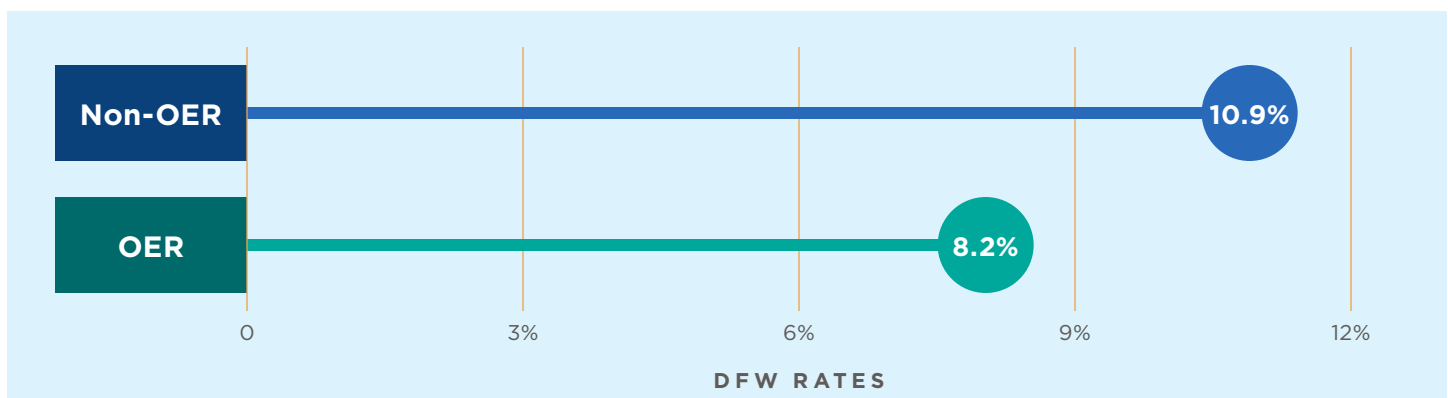


Figure 8: DFW Rates in OER vs. Non-OER Courses at an R1 Institution (Colvard et al., 2018)



OER have also been shown to have a positive impact on the overall grade curve. Colvard et al. (2018) found that end-of-course grade averages in OER courses were significantly higher than previous semesters of non-OER courses taught by the same faculty. Additionally, as one might imagine, student grades are typically lower in courses that are more difficult. However, research regarding course difficulty and the influence of OER has shown that “OER adoption appeared to lessen the negative relationship between course difficulty and final grades” (Fischer et al., 2021, p. 18). In short, even in difficult courses, when OER are used, grades tend to be higher.


Two additional arguments emerge from these findings within the context of student success. End-of-course grades denote how well students performed in a course and are also suggestive of student learning. We would anticipate that a student earning an A, for instance, learned more in a course than a student earning a C. Given that some studies have found that OER positively influenced the grade curve, we can make a companion argument about OER’s influence on student learning. As noted earlier, research has revealed OER’s positive influence on specific learning outcomes (Hilton et al., 2019, 2020). These studies are supportive of student success notions that include learning, which are often of the greatest interest to faculty.

Students have a range of reasons for dropping out of college, including financial constraints and academic disqualification. OER have long been seen as a strategy to decrease financial burden; however, the aforementioned studies also suggest that OER can diminish failure rates that contribute to students being forced to or choosing to leave college due to insufficient progress toward degree attainment. Of those who leave college, 38 percent do so due to financial concerns while 28 percent drop out because they do not meet the institution’s academic expectations (Parker, 2023). OER address both of these concerns, ultimately providing a strategy that supports graduation and retention rates. These metrics of student success are often of the greatest interest to campus leaders.

In addition to diminishing failure rates, a study found, in some contexts, that students taking a course load that included OER courses accumulated more course credits than students who did not take any courses using OER (Griffiths et al., 2020). The study examined eleven colleges utilizing OER. Students in 10 of those colleges (see Figure 9) accumulated more course credits than those students at the same institution who had not taken any OER courses, and of those 10, six gathered statistically significantly more course credit than those who had taken no OER courses.

Griffiths et al. (2020) did note limitations to their study design and shared that the study did not account for factors such as student motivation, and this may provide one rationale for these findings. However, it is also theorized that students in OER sections may have had more money as a result of OER cost savings and therefore could afford to take additional credit hours in a given semester. In 2022–2023, tuition and fees at public two-year institutions averaged \$3,860, while books and supplies averaged \$1,460 (Ma & Pender, 2022). Books and supplies account for approximately 38 percent of the core costs of attendance at the institutions under consideration in this study, so it is reasonable to suggest the OER courses may have influenced the number of credits accumulated. The overarching outcome reported here is compelling and suggests contributions to student success metrics, such as progress toward degree and graduation rates.

Figure 9: Student Credit Accumulation When Enrolled in OER Courses (Griffiths et al., 2020)



| College | Dosage** | Additional Credits per Student |
|--|----------|--------------------------------|
| Alamo College | High | 3.14* |
| Austin Community College | Low | 1.88* |
| Bunker Hill Community College | High | 1.75 |
| Borough of Manhattan Community College | Low | 2.44* |
| Central Virginia Community College | High | 7.90* |
| Monroe Community College | Low | 1.26 |
| Montgomery College | High | 7.30* |
| Pierce Community College | Low | 0.13 |
| Santa Ana College | Low | 5.16* |
| Herkimer College | High | 1.05 |

* Indicates when students accumulated statistically significantly more course credits than those who had not taken any OER courses.

** Low dosage refers to students enrolled in either one or two OER courses. High dosage refers to students enrolled in three or more OER courses.

WHY USE OER? MORE EQUITABLE OUTCOMES

The use of OER is frequently promoted as an equity strategy for higher education (e.g., Griffiths et al., 2022; Hewlett Foundation, 2020; Illowsky & Watson, 2021; Watson et al., 2023), and at its core, providing free, open materials to all students on the first day of class does provide equity in access and equity in terms of course material-related debt accumulation. As textbook costs disproportionately impact low-income students, students of color, and first-generation students, the adoption of OER can help alleviate these key disparities and create a more inclusive learning environment (Jenkins et al., 2020; Stanberry, 2022).

In addition to examining how OER are alleviating the cost burden and access challenges for all students, researchers are increasingly exploring how the adoption of OER impacts various subpopulations of students. However, “only one study published prior to 2019 (see Colvard et al., 2018) analyzes OER efficacy among various student populations” (Hilton, 2019, p. 872). The key strategy employed in this emerging domain of OER research is gathering demographic information about students as part of the data collection process. This enables researchers to disaggregate data and examine how various subpopulations are faring in terms of the research questions under consideration (AAC&U, 2015; Gavin et al., 2018). This is an essential approach to examining OER as an equity strategy as this area of research advances. Without this approach, it is impossible to determine whether “OER are working as well for women, students of color, low-income students and other student populations” (Ekowo, 2017, para. 7). This approach reveals differences in lived experiences around textbook costs among various subpopulations. It also illuminates the effectiveness of OER in terms of equitable outcomes. Ultimately, a nuanced understanding of the influence of OER is emerging.

As an example, Jenkins et al. (2020) surveyed over seven hundred students at a public, four-year university in Southern California. Figure 10 summarizes the disparities revealed regarding various burdens created by textbook cost. Specifically, this research found that textbook cost has an impact on student stress levels as well as on student behavior and academic performance. This occurs at varying rates for different student subpopulations. The impact is more profound for first-generation students, students receiving financial aid, and Latinx students. Additionally, first-generation students report taking fewer classes, not registering for classes, and dropping or withdrawing from classes at higher rates than their continuing generation peers as a result of high textbook costs (Jenkins et al., 2020).

In addition to understanding inequities in student experience resulting from textbook cost, disaggregating data by student subpopulations is also revealing how OER are impacting key outcomes, including failure rates and final grades (e.g., Colvard et al., 2018; Marsh et al., 2022; Smith et al., 2020). Earlier in this report, Figure 7 summarized the results of research conducted on the impact of OER on predicted pass rates, sharing those results in aggregate. Figure 11 disaggregates those data, revealing predicted improvements in pass rates for students of color when OER replace traditional textbooks (Smith et al., 2020). Figure 12 shows the impact that textbook costs have on student outcomes, and the way these costs disproportionately impact first-generation students, students who are ethnic minorities, and students with intersections of these identities (Nusbaum et al., 2020).

In the aforementioned study from the University of Georgia, student data were disaggregated to better understand how students fared in OER versus non-OER courses. This research found that replacing traditional textbooks with OER resulted in lower DFW rates. As noted in Figure 13, this was especially pronounced for students who were Pell-eligible, non-White, or part-time. Students in OER courses were much less likely to receive a DFW than their peers in non-OER courses. Additionally, across all student subgroups, end-of-course grades improved in OER courses. The most substantial improvements were seen for part-time students, followed by non-White students and students who were Pell-eligible (Colvard et al., 2018).

Figure 10: Impact of Textbook Cost on Key Student Subpopulations (Jenkins et al., 2020)

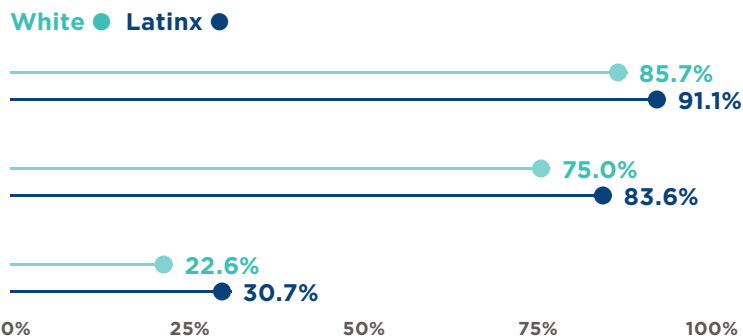
Results for students by race/ethnicity

Educational Burden Type

Experienced increased stress levels due to textbook costs

Did not have textbook on the first day of class due to costs

Avoided taking class due to textbook costs



Results for students by first-generation status

Educational Burden Type

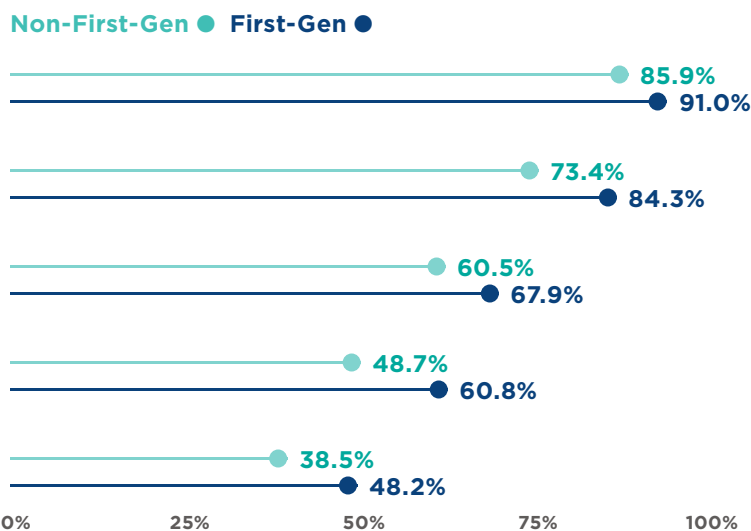
Experienced increased stress levels due to textbook costs

Did not buy required textbook for class due to costs

Did not have textbook on the first day of class due to costs

Did not buy textbook due to costs and later felt it hurt performance

Did not buy textbook due to costs, knew it would hurt performance



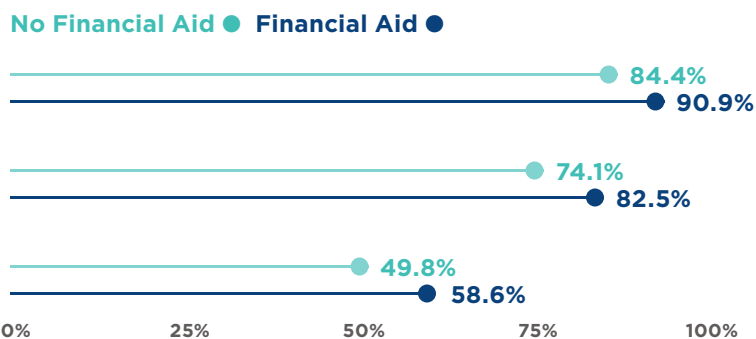
Results for students by financial aid status

Educational Burden Type

Experienced increased stress levels due to textbook costs

Did not have textbook on the first day of class due to costs

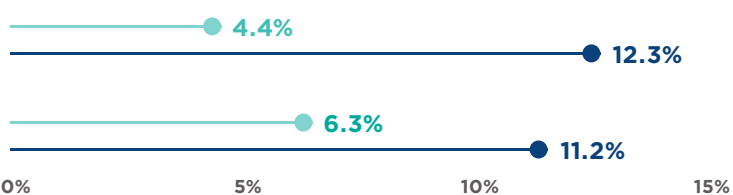
Did not buy textbook due to costs and later felt it hurt performance



Failed class due to textbook costs

Latinx students are almost 3x as likely as White students to fail a class

First-generation students are almost twice as likely to fail a class as non-first-generation students



Possibly the most intriguing finding from this study is depicted in Figures 14 and 15. There, end-of-course grades for subpopulations of interest in non-OER and OER sections are compared. Note that grades increased for all students in OER courses. However, the gap between end-of-course grade averages for the two subgroups was narrower in OER courses than the gap between end-of-course grade averages for the two subgroups in non-OER courses (Colvard et al., 2018). In other words, when OER replace traditional textbooks, performance gaps between subgroups of interest tend to be diminished, resulting in more equitable end-of-course grade outcomes. Although not specifically examined in this study, this finding is also suggestive of more equitable learning, as higher grades typically indicate more learning has occurred.

Figure 11: Predicted Impact of OER on Students of Color Passing the Course (Smith et al., 2020)

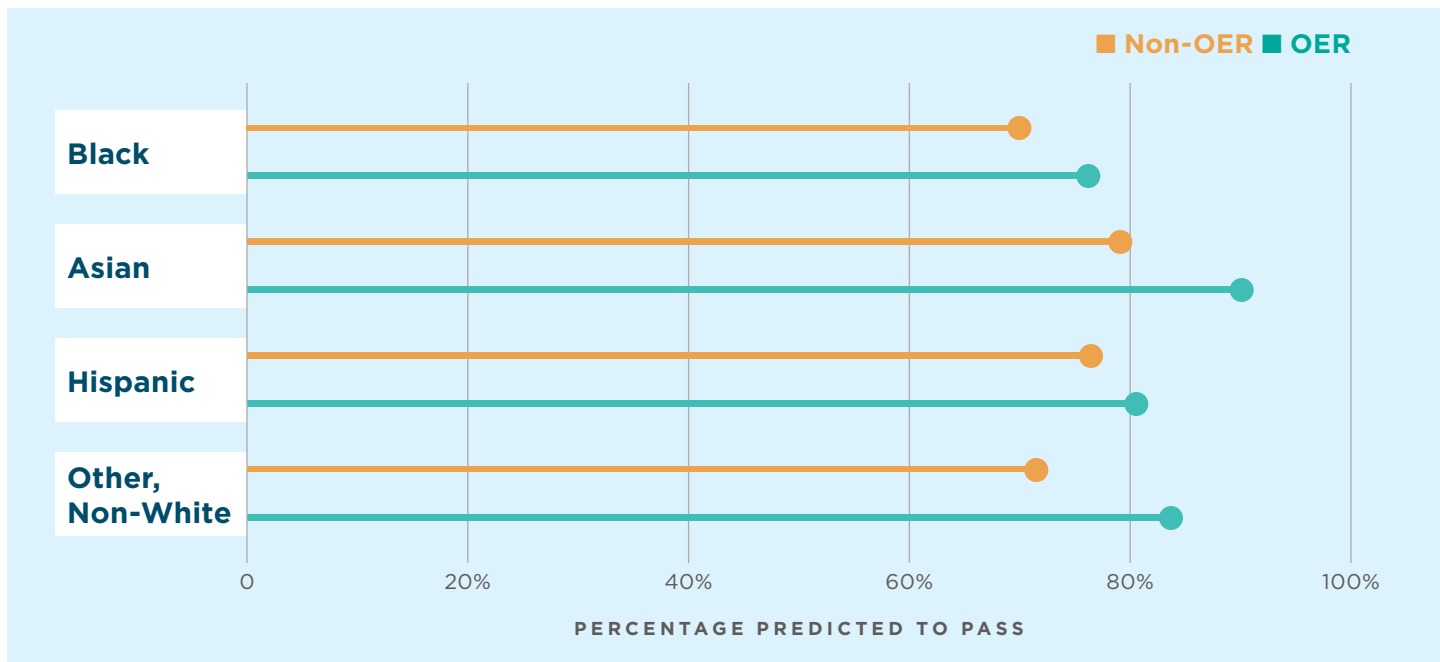


Figure 12: Self-Reports of Poor Grades Because Student Couldn't Afford the Textbook (Nusbaum et al., 2020)

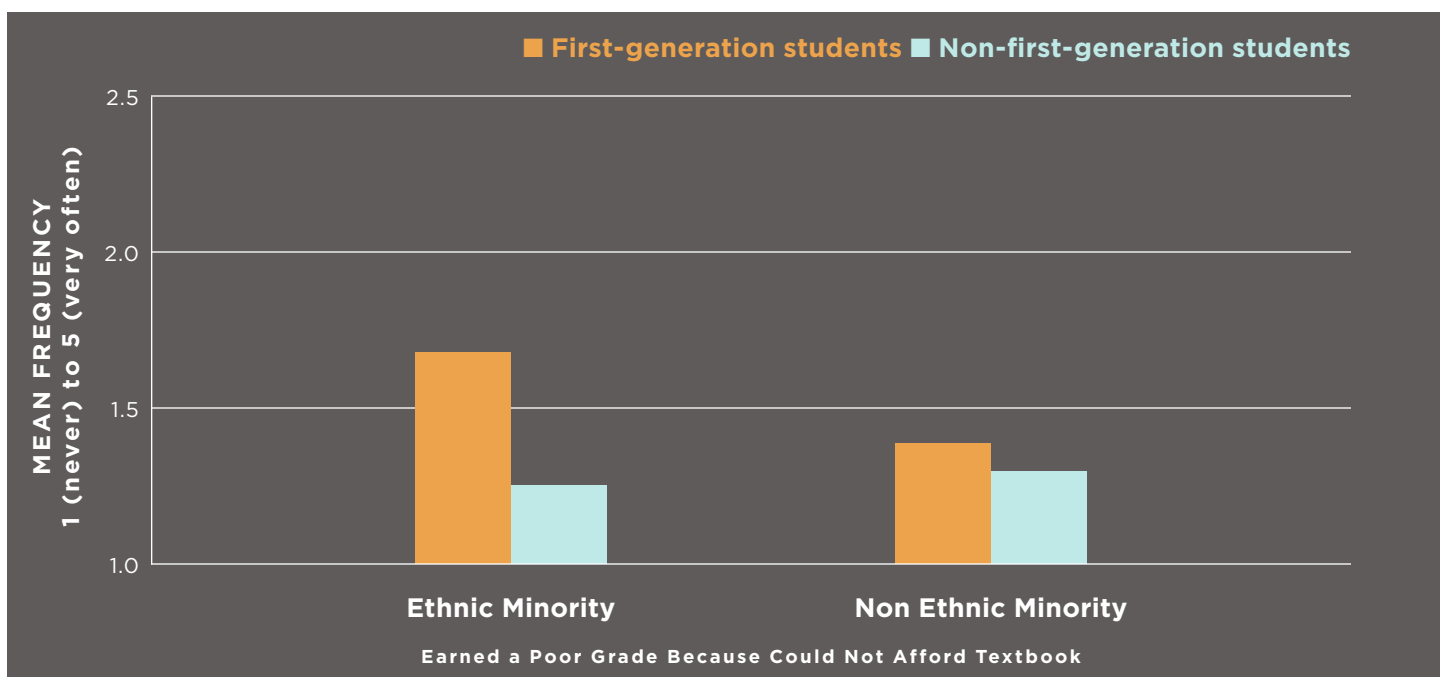


Figure 13: DFW Rates in OER vs. Non-OER Courses (Colvard et al., 2018)



Figure 14: Performance Gap Narrows for Non-White Students When OER Are Adopted (Colvard et al., 2018)

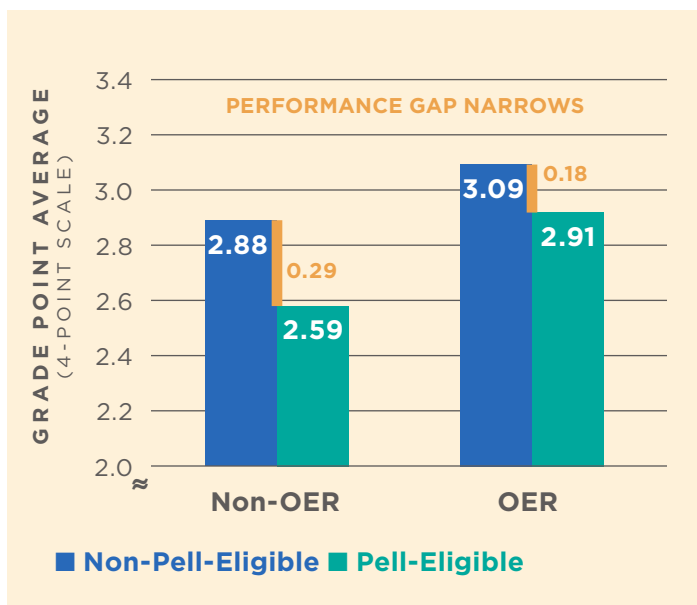
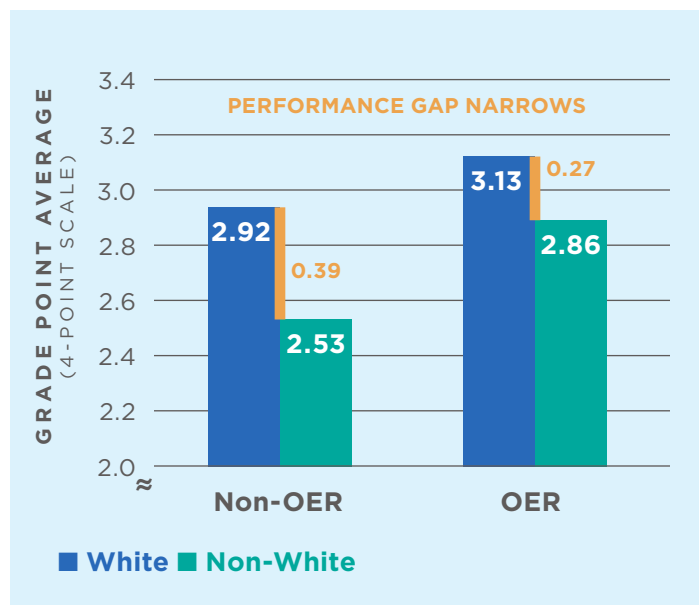


Figure 15: Performance Gap Narrows for Pell-Eligible Students When OER Are Adopted (Colvard et al., 2018)



SUMMARY AND CONCLUSION

Summary

A compelling case for OER in higher education has emerged as a result of wide-ranging research investigating a variety of facets associated with free, open course materials and the practices associated with them. The argument supporting OER isn't simply about affordability and equity; it is surprisingly nuanced and complex. This publication emphasizes four areas that encompass a broad array of research. Each area offers key insights that can be leveraged to provide evidence-based support upon which to build a foundation for advocating for the adoption of OER and open education practices. What follows are highlights from each of the four sections. While much more is contained in this publication, these items may serve as talking points for readers as they prepare for presentations and meetings with stakeholders and potential adopters.

Cost and Student Behavior

- From January 2000 to June 2022, the cost of textbooks increased 162 percent, while the average overall inflation rate rose 74.4 percent (Perry, 2022).
- Eighty-seven percent of students indicated that the cost of the textbook was key when deciding whether or not to make the textbook purchase (Davis & Mckee, 2022).
- Many students work extra hours to afford textbooks (Hanson, 2022).
- Some students forgo meals to afford textbooks (Hanson, 2022).
- In several studies, a majority of students report they did not purchase a required textbook at some point while nearly all students recognize that decision would likely negatively impact their performance in the course (Florida Virtual Campus, 2018; Redden, 2011; Senack, 2014).

Student and Faculty Perceptions

- Students generally find OER textbooks to be of high quality, easy to access, and more engaging than traditional textbooks (e.g., Clinton, 2019; Davis & Mckee, 2022; Jhangiani et al., 2018; Jones & Nyland, 2020; Nusbaum et al., 2020; Ross et al., 2018; Watson et al., 2017).
- The use of OER increases a student's likelihood of picking that course (Nusbaum & Cuttler, 2020).
- End-of-semester instructor ratings increase after faculty adopt OER (Nusbaum & Cuttler, 2020).
- Nationally, faculty OER use nearly doubled between 2020 and 2023.
- As a result of OER practices, a variety of impacts on learning have been discerned in recent years as a result of open educational practices, including positive impacts on reading behaviors (Jones & Nyland, 2020), improved student agency (Baran & AlZoubi, 2020; Griffiths et al., 2022), increased motivation (Clinton-Lisell & Gwozdz, 2023), and improved critical thinking (Hilton et al., 2019, 2020).

Student Success Outcomes

- Of students who leave college, 38 percent do so due to financial concerns while 28 percent drop out because they do not meet the institution's academic expectations (Parker, 2023).
- OER were found to predict improvements in pass rates for students (Smith et al., 2020).
- DFW rates were significantly lower in courses using OER (Colvard et al., 2018).
- OER appear to "lessen the negative relationship between course difficulty and final grades" (Fischer et al., 2021, p. 18).
- In some contexts, students taking a course load that included OER courses accumulated more course credits than students who did not take any courses using OER (Griffiths et al., 2020), thus accelerating time to degree.

More Equitable Outcomes

- Textbook cost has an impact on student stress levels as well as on student behavior and academic performance at varying rates for different student subpopulations (Jenkins et al., 2020).
- This impact is more profound for first-generation students, students receiving financial aid, and Latinx students (Jenkins et al., 2020).
- Textbook costs disproportionately impact low-income students, students of color, and first-generation students, and the adoption of OER can help alleviate these key disparities and create a more inclusive learning environment (Jenkins et al., 2020; Stanberry, 2022).
- For a variety of student demographics, OER positively impact key outcomes, including failure rates and final grades (Colvard et al., 2018; Marsh et al., 2022; Smith et al., 2020).
- When OER replace traditional textbooks, performance gaps between subgroups of interest tend to be diminished, resulting in more equitable end-of-course grade outcomes (Colvard et al., 2018).

Conclusions

As noted in the introduction, this publication does not attempt to present a comprehensive summary of all of the research regarding OER and open educational practices. Its purpose is to provide OER advocates with tools and evidence they can utilize to promote OER on their campuses and to their stakeholders. As with most domains of research, it should be noted that there have been inconsistent findings across the broad corpus of OER literature, and there are ongoing opportunities for future research. For example, reports of non-significant impacts of OER on student success metrics in some studies could be due to the quality of the OER adoption scenario, which is undocumented and unaccounted for in those studies. It could be that poorly implemented course redesign activities as OER were adopted countered any positive benefits that may have resulted from OER. As a companion to examining student success outcomes, researchers should consider the quality of the OER adoption scenario to better understand the context and effect.

The “access hypothesis” refers to the idea that providing open access to high-quality educational resources can significantly improve student success, particularly for students from disadvantaged backgrounds (Grimaldi et al., 2019). This hypothesis is based upon the assumption that eliminating the financial barrier posed by expensive textbooks and other educational materials will enable more students to have access to the necessary resources to succeed in their courses. The access hypothesis is a significant concept in OER research and is often discussed in relation to OER adoption’s potential as an equity strategy in higher education. Despite this emphasis, there is a need for further investigation that effectively isolates the influence of textbook access on student success. Most research has attempted to quantify the impact of OER on student success metrics but fails to adequately isolate students who would not have otherwise purchased the textbook.

In addition, there is a need for more research on the potential benefits of OER on historically underserved student populations. Research that collects key demographic information will enable disaggregation based upon student characteristics. This key approach will improve our understanding of the potential of OER as an equity strategy.

While research continues to advance and associated methodologies are improved and refined, the current state of evidence suggests OER adoption has the potential to positively impact a number of student success metrics and address key concerns associated with the cost of course materials today. While certainly not a remedy for all of higher education’s student success challenges, institutions should consider using OER to create a cheaper, more inclusive, accessible, and effective educational environment. The data above will help you make that case.

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