

# Building a Culture of Open Education: Faculty Reflections and Student Outcomes from a Small, Liberal Arts College

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## ABSTRACT

The adoption of Open Educational Resources (OER) in higher education is reshaping the learning landscape by promoting affordability, increasing access, and fostering student engagement. This paper reflects on the authors' shared experiences with OER integration, with a particular focus on the lead author's innovative work at a small liberal arts college (Franklin College, Indiana, USA). These initiatives were strengthened through close collaboration with library faculty as well as through support from a state-wide library consortium serving small, private academic libraries. Drawing on student success tracking, surveys of student perceptions, and usage data from an open-access textbook authored by the lead author, the study assesses both pedagogical and institutional effects of OER use. Results show a link between OER usage and improved student performance, with a 2.1% increase in average final grades and more students exceeding an 87% course grade threshold. Student survey responses reflect strong approval of OER quality and accessibility, with a clear preference for digital formats and no negative feedback reported.

## 1. Introduction

In recent years, the adoption of Open Educational Resources (OER) has gained momentum as higher education institutions address the financial barriers that limit student access to essential learning materials. The rising cost of textbooks may force students to make difficult choices, such as delaying or forgoing the purchase of required materials, which can have direct consequences on academic performance and equity. OER, which are freely accessible and openly licensed educational materials, offer a promising solution by removing cost barriers and enabling instructors to customize content to reflect course objectives, diverse learning styles, and student needs.

While the theoretical benefits of OER are well-documented, more case-based evidence is needed to understand how individual instructors implement these resources in practice, and how institutional support structures, particularly academic libraries, can facilitate successful integration. Faculty experiences with OER can shed light on both the opportunities and

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limitations of this approach, providing valuable insights for educators, librarians, and administrators working to promote affordable and inclusive learning environments. It is within this context that the present article explores a faculty-led OER initiative, offering a four-year reflective case study that emphasizes the importance of collaboration, experimentation, and sustained commitment in making open education a reality.

This article presents a case study rooted in the lead author's sustained commitment to affordable learning through the use of OER at Franklin College, a small, liberal arts college. Drawing from his own experiences with textbook insecurity and a commitment to equitable teaching, the lead author has integrated OER across all his courses over the past four years. This approach has yielded significant student savings, more than \$18,000 across 237 students, and enriched classroom engagement and accessibility. Moreover, the author's innovative OER efforts have been publicly recognized through two open education awards, underscoring the pedagogical value and impact of his open educational initiatives.

The purpose of this article is twofold: first, to document the lead author's experience in adopting OER, highlighting the practical benefits and challenges encountered along the way; and second, to underscore the vital role academic libraries play in supporting faculty through collaborative efforts in OER integration. By sharing this experience, the authors aim to provide a framework for other educators seeking to make education more affordable, adaptable, and inclusive through the use of open resources.

### **1.1. Institutional Background**

Established in 1834, Franklin College is a private liberal arts institution with a full-time enrollment of 956. Academically, Franklin College offers a diverse array of programs across 50 majors in 24 academic disciplines, including programs in Business, Biology, Journalism, and Psychology. Graduate offerings include a Master of Science in Athletic Training and a Master of Science in Physician Assistant Studies. The student-to-faculty ratio is 12:1, with an average class size of 15, fostering a personalized educational experience.

Franklin College's strategic plan, *Franklin Forward*, is built upon four pillars: Experiential Learning; Diversity, Inclusion, and Access; Community and Partnerships; and Resource Optimization. These pillars are supported by four throughlines that emphasize the college's commitment to academic excellence, student success, and institutional sustainability. The plan aims to enhance the college's educational offerings and community engagement initiatives. The adoption of OER and affordable learning initiatives strongly supports *Franklin Forward* by advancing each of its four pillars and reinforcing the college's strategic vision. By removing financial barriers to course materials, OER promotes greater diversity, inclusion, and access, ensuring that all students, regardless of background, can fully participate in their education. The flexibility of openly licensed content allows faculty to design engaging and experiential learning opportunities tailored to their students' needs. OER also fosters collaboration and strengthens community and academic partnerships through shared resource development and cross-institutional initiatives. Furthermore, by reducing dependence on costly commercial textbooks, OER reflects responsible resource optimization and contributes to institutional sustainability. Through these efforts, OER helps elevate academic excellence and student success, aligning closely with the throughlines that guide *Franklin Forward* and reinforcing the college's mission to deliver accessible, innovative, and high-quality education.

The B. F. Hamilton Library at Franklin College plays a pivotal role in advancing the goals of the college's strategic plan, *Franklin Forward*, by prioritizing accessibility in its resources and services. The library is committed to fostering academic success through equitable access to print and electronic materials, research support, and academic assistance. The library supports

the adoption and implementation of OER both on campus and through its partnership with the Private Academic Library Network of Indiana (PALNI). PALNI is a nonprofit consortium of twenty-four small, private institutions in Indiana that supports deep collaboration among its supported libraries. Founded in 1992, it enables shared infrastructure, expertise, and resources to improve services such as e-resource management, digital repositories, and open educational initiatives. Through its PALSave Affordable Learning Program, PALNI awards grants that advance OER, promote student success, and generate significant cost savings across its campuses.

As an advocate for affordable learning, the B. F. Hamilton Library actively promotes the use of OER by encouraging faculty to explore grant opportunities for textbook evaluation, course redesign, textbook creation, and open pedagogies. Likewise, in collaboration with PALNI's PALSave Affordable Learning Program, the library provides faculty with essential resources and support to transition to zero-cost textbooks. From 2020 to 2025, these efforts have resulted in 24 course redesigns at Franklin College, saving students an estimated \$108,419 in textbook costs and positively impacting 1,338 students. Five faculty members have additionally been awarded Course Redesign Grants for the 2025/2026 academic year.

In addition to financial savings, the library fosters a culture of open education through workshops, events, and resource sharing. It regularly hosts open education workshops to inform faculty about the benefits of OER and to provide guidance on integrating them into their courses. The library also maintains and manages an OER LibGuide, a centralized hub for faculty and students to access open educational materials. As part of its commitment to the global open access movement, the library celebrates International Open Access Week, highlighting the importance of freely available academic resources through daily email blasts and social media posts. Representing Franklin College on the PALSave team, the library continues to advocate for sustainable and innovative approaches to open education, ensuring that students and faculty alike benefit from increased access to high-quality learning materials.

Franklin College librarians are deeply engaged in their professional development to further support and advance open education initiatives. They have actively participated in the Open Pedagogy Learning Circle through the Open Education Network, based at the University of Minnesota, as well as the 2023 Open Education Conference, further exploring best practices in open access, creative commons licensing, and innovative teaching strategies. By continuously expanding their knowledge of OER and open licensing, librarians are better equipped to assist faculty and students in adopting and creating open educational materials. Additionally, the library showcases student research through its online Scholarship and Creative Expression Collection, providing students with opportunities to contribute to open-access scholarship. Through this initiative, students learn about open licensing and the broader impact of sharing their work in openly accessible formats, fostering a deeper understanding of their role in the global knowledge community.

The library further advances open access by ensuring that open collections are easily discoverable for students, faculty, and staff. The library actively integrates open-access resources into its discovery system, making high-quality scholarly content readily available through library searches. By curating open collections in multiple formats, ranging from e-books and journals to multimedia resources, the library enhances access to a wide range of academic materials. This includes open-access collections from trusted vendors such as JSTOR, EBSCO, Elsevier, Oxford University Press, and Project Muse. By incorporating these resources into the library's discovery layer, users can seamlessly find and utilize open-access materials alongside traditionally licensed content, further supporting research, teaching, and learning across disciplines.

## **2. Literature Review**

The growing body of literature on OER highlights their potential to increase access to higher education, reduce student costs, and improve learning outcomes. Brigham Young University Professor John Hilton (2016) found that students who use OER perform as well or better than those who use traditional textbooks, while also benefiting from the financial relief of zero-cost course materials. More current research suggests improved student success. For example, a meta-analysis of 26 studies by Cho and Permezadian (2024) found that courses utilizing OER were associated with higher course grades and improved completion rates. Likewise, a multi-institutional study by Fischer et al. (2015), involving over 16,000 students (4,909 in OER courses and 11,052 in non-OER courses), provides strong evidence that OER not only alleviates financial barriers but also contributes to improved student outcomes.

While much of the existing research underscores the benefits of OER for student achievement and affordability, a growing subset of studies presents a more nuanced view, revealing inconsistent impacts on learning outcomes. A comprehensive meta-analysis published in the *International Journal of Educational Technology in Higher Education* (Tlili, et al, 2023) found that nearly half of the 25 studies analyzed showed no significant difference in learning outcomes between OER and traditional materials, suggesting that cost savings are the primary benefit unless OER is iteratively designed and improved. Further research published in the *International Review of Research in Open and Distributed Learning* by Castellanos-Reyes et al. (2024) highlights important nuances. For example, accessing OER did not correlate with better academic performances; however, instructors who employed continuous improvement cycles, iteratively refining and adapting OER based on feedback, yielded measurable gains in student learning. Literature like this suggests that OER by itself has little impact, but the design and ongoing revision of OER drive educational benefits.

### **2.1. Textbook Affordability**

Textbook costs have risen dramatically in recent decades, with the U.S. Bureau of Labor Statistics (2016) reporting an 88% increase over the past ten years. The textbook publishing industry was valued at \$3.18 billion in 2022 (Association of American Publishers, 2023), and prices continue to rise at an average rate of 6% annually, doubling approximately every 11 years (U.S. Government Accountability Office [U.S. GAO], 2005, 2013). A U.S. Public Interest Research Group study involving nearly 4,000 students from 83 colleges found that 65% of students have foregone purchasing required textbooks due to financial constraints, with 20% attributing course failure to this issue (Nagle & Vitez, 2020). Students have also reported coping strategies such as working additional hours (25%) and skipping meals (11%), highlighting the broader impact of textbook costs on student well-being and academic performance.

Although affordability remains a major concern, 90% of faculty surveyed by FlatWorld (2019) identified it as an issue; only 41% were aware of institutional efforts to address the problem. Nonetheless, 2022 saw the lowest cost of course materials in 15 years (National Association of College Stores [NACS], 2022), largely due to increased adoption of Inclusive Access programs, low-cost digital options, and greater use of free resources like OER, instructor-created content, and library materials, which 73% of students reported using.

### **2.2. Faculty Perception**

While existing research highlights the positive effects of OER on student affordability and academic success, a key challenge persists. A national survey by Tyton Partners (2023)

indicated that 61–83% of instructors believed students had access to course materials on the first day of class, a perception not fully supported by student data. However, this perception is not fully supported by student-reported data; studies from the U.S. GAO (2005, 2013) and NACS (2022) indicate that many students still forgo purchasing required materials due to financial difficulties. This gap between what faculty believe and what students experience poses a barrier to improving access and affordability, emphasizing the need for greater faculty awareness and proactive adoption of cost-saving approaches such as OER.

### **2.3. Promotion, Tenure, and Administrative Support**

Institutional policies on promotion and tenure influence OER adoption. Case studies demonstrate that administrative support can increase adoption. Thompson Rivers University (British Columbia) implemented a model in which faculty engagement with OER is recognized as part of the scholarship of teaching and learning, aligning with Boyer's (1990) broader conception of scholarship (Thompson Rivers University, 2024). Their administrative policies emphasize documenting OER contributions, providing stipends, and offering professional development.

Similarly, the Association of College & Research Libraries shows that when institutions include OER in evaluation criteria, supported by library-led initiatives and administrative endorsement, they empower faculty to pursue innovative and inclusive teaching practices. For example, Indiana University-Purdue University Indianapolis (IUPUI, now IU Indianapolis) developed a policy that acknowledged open-access and OER contributions in faculty evaluations. Supported by University Library, faculty can document their OER work in promotion and tenure materials, illustrating how library guidance in creation and adoption strengthens the effectiveness of administrative policies (Odell et al., 2016).

### **2.4. Value of Academic Libraries**

Academic libraries have emerged as essential partners in scaling and sustaining OER adoption. They provide the technical infrastructure, copyright expertise, and logistical support necessary for successful OER initiatives (Biswas-Diener & Jhangiani, 2017; Pitt, 2020). Initiatives such as PALNI's PALSave have demonstrated the potential of consortia support in promoting faculty engagement with open education. These collaborations facilitate professional development, offer financial incentives, and streamline the process of discovering, customizing, and publishing OER.

Many institutions also have digital repositories managed by librarians, making it easier to store and share OER. Additionally, libraries assist in securing funding for faculty to develop open materials and help with the technical aspects of publishing OER (Pitt et al., 2020). Another key role of librarians is copyright and open license guidance, especially Creative Commons licensing, which allows educators to legally share, modify, and distribute materials. Many educators are unfamiliar with the complexities of copyright laws, and librarians can provide essential workshops and consultations to ensure faculty can use and create OER without legal concerns (Smith, 2022).

State-wide library consortia have been particularly instrumental in scaling OER adoption across institutions with limited resources. Through PALNI, for example, small, private colleges have gained access to coordinated OER support, including centralized instructional design services, funding for faculty projects, and shared repositories. PALSave, the consortium's OER initiative, not only funds faculty adoption and creation grant but also provides structured training and peer collaboration opportunities (PALNI, 2025). These shared resources reduce

duplication of effort, amplify successful models, and enable even smaller institutions to participate meaningfully in the open education movement. As a result, faculty benefit from a stronger support network, and students across the state see more consistent access to affordable learning materials. Different from consortia serving primarily small colleges, the Washington Research Library Consortium (WRLC) supports a diverse mix of research universities, liberal arts colleges, and specialized institutions through coordinated services and Faculty Course Transformation Grants, enabling faculty to integrate OER in ways that reflect their institutional teaching models (WRLC, 2024). Together, these consortia demonstrate how collaborative networks can amplify successful practices, build faculty capacity, and deliver consistent, affordable learning resources to students across varied academic contexts.

Recent studies confirm that faculty are significantly more likely to adopt OER when supported by both institutional libraries and consortia structures. According to Colvard et al. (2018), library-led initiatives that include grant funding, pedagogical training, and publishing infrastructure result in higher adoption rates and improved student outcomes, particularly for first-generation and Pell-eligible students. In tandem, a 2023 Ithaka S+R report (Harkins et al., 2018) emphasized the role of consortia in fostering community among open educators, enhancing sustainability, and leveraging shared expertise to ensure long-term impact. As OER efforts continue to evolve, the collaboration between individual libraries and consortia offers a replicable model for advancing inclusive, cost-effective education across diverse institutional contexts.

## **2.5. Challenges**

Although OER provides numerous advantages, its adoption still faces several hurdles. Challenges include identifying high-quality materials, customizing content for specific courses, navigating permission issues, and resolving technical difficulties (Belikov & Bodily, 2016; Luo et al., 2019). A major concern is the significant time commitment required to locate, evaluate, adapt, and implement OER in courses. Many instructors find these tasks overwhelming when added to their existing teaching and research responsibilities (Allen & Seaman, 2014). Additionally, the lack of institutional support, such as stipends, course release time, or help from librarians and instructional designers, can further discourage faculty. Compounding this is the fact that OER-related work often does not count toward tenure or promotion at many institutions, leading faculty to prioritize other professional activities that are more formally recognized (Irvine et al., 2021). However, this situation is not universal. At institutions such as Franklin College, which follow Boyer's model of scholarship, OER engagement fits well within the scholarship of application and the scholarship of teaching and learning. Boyer (1990) proposed a broader view of scholarship that includes not only discovery (traditional research) but also integration, application, and teaching. Within this framework, efforts to adopt, adapt, or create OER—and to evaluate their impact on student outcomes—can be acknowledged as valid scholarly contributions. This inclusive approach encourages innovation in teaching while allowing faculty to advance professionally.

In addition, tuition-dependent institutions often struggle to allocate funds for OER-related efforts due to limited financial resources. At Franklin College, faculty are fortunate to receive funding and stipends for OER projects from PALNI. However, this level of support is not available at all institutions. Similar support structures do exist elsewhere; for example, the Consortium of Academic and Research Libraries in Illinois (CARLI) has significantly contributed to advancing OER initiatives among its member colleges and universities (Sweet & Clarage, 2020).

### **3. Methods and Results**

This study used a mixed-methods approach to investigate how Open Educational Resources (OER) affect student learning and resource accessibility. The first component involved analyzing student performance data across multiple semesters in a range of courses taught by the lead author, all of which utilized open textbooks. This analysis aimed to evaluate the academic outcomes associated with OER use. The adoption of open textbooks for the courses was made possible through PALNI's **PALSave Course Redesign Grants**.

The second component focused on assessing the broader reach of OER by tracking global engagement with an open textbook co-authored by the lead author, including data on user access and their geographical regions. In addition, the study considered institutional data related to library and consortia support for OER initiatives, including technical assistance, funding, and faculty outreach efforts. Together, these methods provided a comprehensive view of the pedagogical effectiveness, institutional support, and global accessibility of OER materials.

#### **3.1. Student Performance Data**

The **PALSave Student Success Tracker** and **Student Perception Survey** were utilized to gather student performance data for four courses using open-access textbooks. PALNI created both instruments to assess the impact of zero-cost textbooks on student learning and success across its participating institutions. Approval was obtained from PALNI to share data and results of the surveys for this study. In addition, Franklin College's Institutional Review Board approved the study to ensure ethical compliance, safeguard participants' confidentiality, and protect their rights.

##### **3.1.1. Method #1**

The **Student Success Tracker** was completed by the faculty at the end of the semester for each course. The survey's purpose was to collect data on the impact of zero-cost textbook adoption on student performance and retention. Faculty members provided course-specific details, including enrollment numbers at the beginning and end of the semester, average final grades, and the number of students earning high marks (87% or higher).

Monitoring student performance over time helped determine whether open textbooks contributed to consistent academic success. The survey also tracked Drop, Fail, and Withdraw rates, comparing them to previous semesters that used commercial textbooks, if applicable. Retention rates showed how the affordability of OER might have impacted students' ability to remain enrolled in the course. Faculty were asked whether they would continue using the zero-cost textbook and to provide feedback on its effectiveness in supporting student success. Additionally, instructors shared observations on how the textbook influenced learning outcomes and offered suggestions for improvement.

##### **3.1.1.1. Results/Analysis**

The student success data examined for this case study reflects improvements and positive outcomes across a cohort of 55 students enrolled in four courses. The overall average final grade for the group is 87%, indicating a strong performance across the board. Figure 1 shows the average course grades in the four classes using zero-cost textbooks compared to those using commercial textbooks. Commercial textbook data is not available for IMM 243 since it was offered for the first time and has not been revised yet. Courses utilizing zero-cost materials showed comparable or improved average grades, suggesting academic performance is maintained or enhanced without the use of costly textbooks. The slightly higher average grade

for PHY 201 (General Physics Course) with the commercial textbook is likely due to differences in the student cohort. Students in the commercial textbook group generally had stronger academic backgrounds and greater prior experience in physics in high school, which likely contributed to the marginally higher performance. Notably, all courses in this study saw a 2.1% increase in final grades on average, suggesting that the changes implemented had a beneficial impact on student achievement.

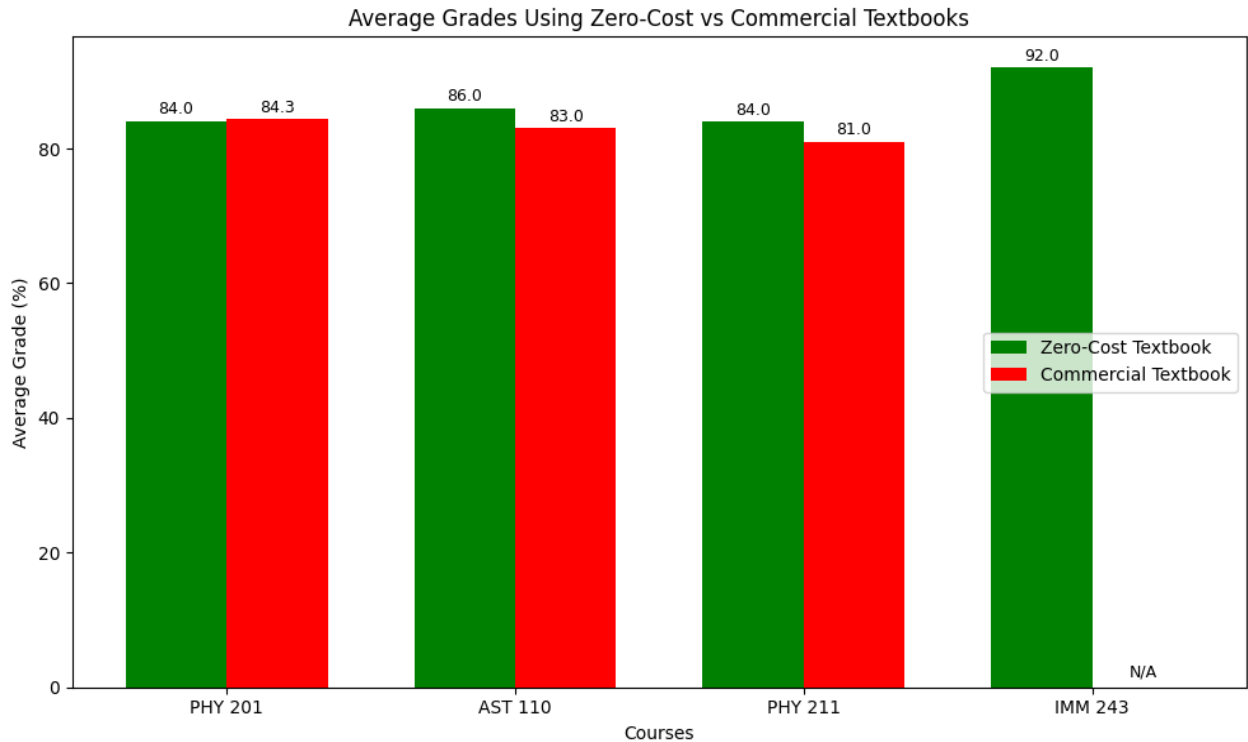


Figure 1. Student Performance showing final grades for courses using open access textbooks compared to previous semesters with paid textbooks.

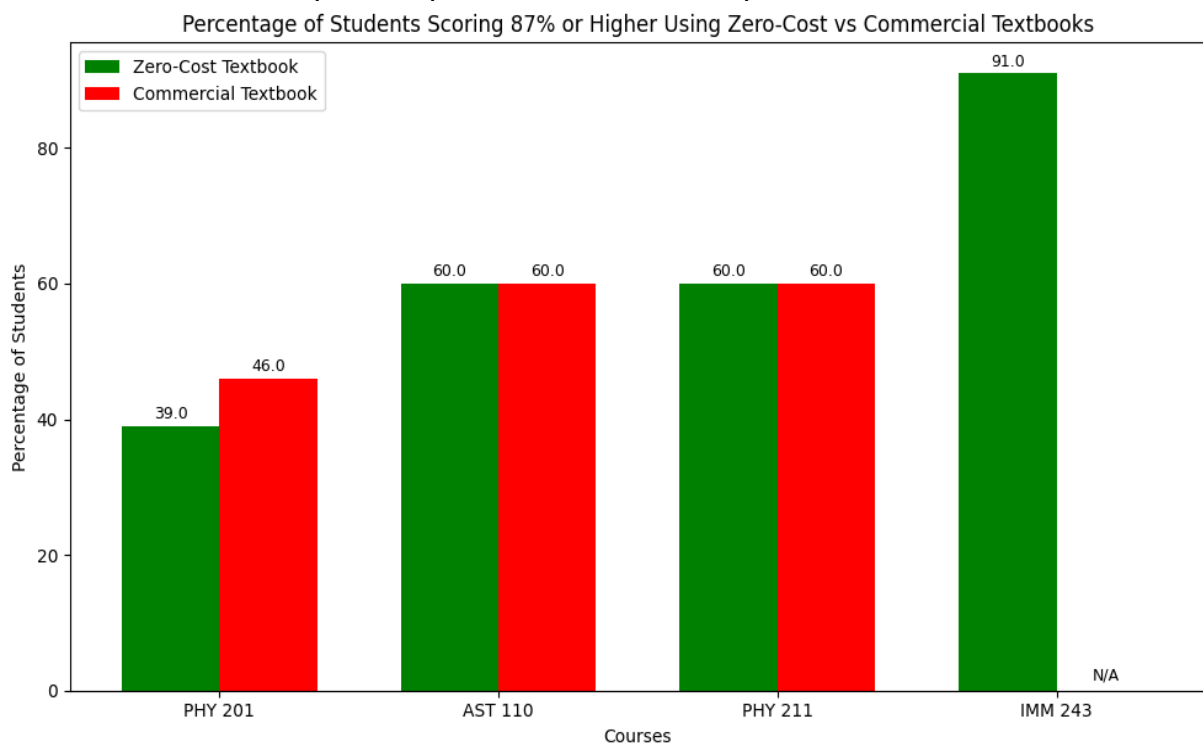


Figure 2. Percentage of students scoring 87% or higher using commercial vs. zero-cost textbooks.

Figure 2 shows the percentage of students scoring 87% or higher in four courses using either commercial or zero-cost textbooks. In three of the courses (AST 110, PHY 211, and IMM 243), students using zero-cost textbooks performed equally well or better than those using commercial materials. In PHY 201, a slightly higher percentage of students using the commercial textbook scored above 87%. As indicated earlier and supported by Figure 2 itself, the difference is attributed to that cohort's stronger academic background and greater prior experience in physics. On average, 66% of students scored higher than an 87% final grade across four courses with the zero-cost textbook. The average drop/withdrawal rate across all courses remained below 2%, while the failure rate stayed under 4%.

In terms of instructional materials, three of the four original open-access textbooks will be reused in future semesters, with the possibility of reusing the fourth one, indicating that the content and structure of these resources are still highly relevant and effective in supporting student success. Overall, these findings affirm that open-access resources can uphold or enhance academic outcomes and suggest that their continued use can support student success while reducing financial barriers to education.

### **3.1.2. Method #2**

A key part of the research involved gathering student feedback through a **Student Perception Survey** on their experiences with OER. It was administered to students to evaluate how OER impacted their learning at the end of each course taught by the lead author using zero-cost textbooks. The survey asked students about the affordability of course materials, the quality and relevance of the resources, and whether they felt that the OER enhanced their understanding of the subject matter. In addition, the survey examined how students accessed the zero-cost textbooks, including digital platforms and print options, and how often they used them in and outside of class. It also gathered data on students' perceptions of the textbook's quality, study aids, clarity, and engagement. Additionally, the survey explored the impact of zero-cost textbooks on study habits, academic performance, and overall satisfaction. Students were asked about their reading habits, whether the textbook affected their grades, and how its quality compared to traditional paid textbooks.

#### **3.1.2.1. Results/Analysis**

Across all evaluated courses, student feedback indicated a generally positive experience with course materials and how they were accessed. Most students reported using laptops or desktops to access materials, 92% outside of class and 86% during class time. Notably, none of the students reported using self-printed pages or purchasing print copies, highlighting the integration of OER and digital delivery.

Satisfaction with the quality of course materials was high, with an average approval rating of 86.8%. No students reported negative experiences, and only 13.4% indicated a neutral stance. Regarding the textbook itself, 81.8% had a positive overall impression, while 18.2% were unsure with no negative responses.

When comparing the zero-cost textbook to commercial textbooks from other courses, 83% of students said it was either of the same or better quality, with 17% uncertain. Although this comparison spans different courses and is not a direct one-to-one evaluation, it still reflects a favorable student perception.

Students were also asked about the impact the textbook had on their learning experience. A majority, 66%, said it made a positive difference, 17.4% said it made no difference, 16.6% were unsure, and 0% reported a negative impact.

Crucially, negative feedback was virtually nonexistent. Reports of dissatisfaction, perceived lower quality, or overall negative impressions averaged 0%. This lack of criticism strongly supports the conclusion that most students viewed the learning materials as satisfactory or better, underscoring the positive impact of the OER approach.

LMS (Learning Management System) links and direct access through professors emerged as the most effective methods of distribution, with usage rates of 61.2% and 54.2% respectively. In contrast, bookstore access was significantly lower, with just 19.3% of students using this option, indicating a shift away from traditional print distribution in favor of more convenient and free digital alternatives. Although printed textbooks were not provided through the bookstore, the bookstore did have information about the free PDF or web-based versions of the materials. Students had the option to request printed copies through the bookstore if they wished.

Students engaged with the assigned readings to varying degrees. Approximately 35.2% of students reported reading all assigned materials, while another third completed around 75%. Similarly, a notable portion (23%) of students did not read the assigned content, suggesting potential areas for improvement in either engagement strategies or material presentation.

Overall, the data highlights a preference for digital learning resources accessed through familiar platforms, with students expressing strong satisfaction of both content and format. The findings support continued investment in accessible digital tools and point to the importance of maintaining quality and usability to further improve engagement.

### **3.2. Textbook Usage Data**

The lead author of this study has created multiple open-access educational resources, including two notable publications supported by PALNI. One of these includes open pedagogy instructional material (Thapaliya, 2025), which facilitated student-led creation of content that was both engaging and valuable for educators and learners alike. As previously mentioned, Franklin College incorporates the Boyer model of scholarship into its tenure and promotion process, and this work aligns closely with that framework. It stands as a compelling example of how open educational practices can contribute to meaningful scholarly work. The project not only serves as inspiration for fellow faculty at Franklin College, but also for educators beyond the institution, to undertake similar initiatives that foster student leadership and produce accessible, high-impact academic materials. Because students are leading the effort, as demonstrated in this example, faculty involvement requires minimal time investment while still yielding meaningful outcomes for both the broader academic community and individual scholarship.

Secondly, the lead author has also authored an open-access textbook on ultrasound (Thapaliya et al., 2024), which was published in April 2024 by PALNI Open Press. PALNI's **PALSave Textbook Creation Grant** supported the creation of this textbook. This research also examined usage data for the textbook, tracking global access since its publication. The data has revealed a broad international reach with 32,676 views and 22,296 unique active users from 163 countries across all continents at the time of this publication. Notably, 107 of these are low-income countries with 9,505 active users, underscoring the role of open educational resources in bridging educational gaps and supporting learners in underserved regions.

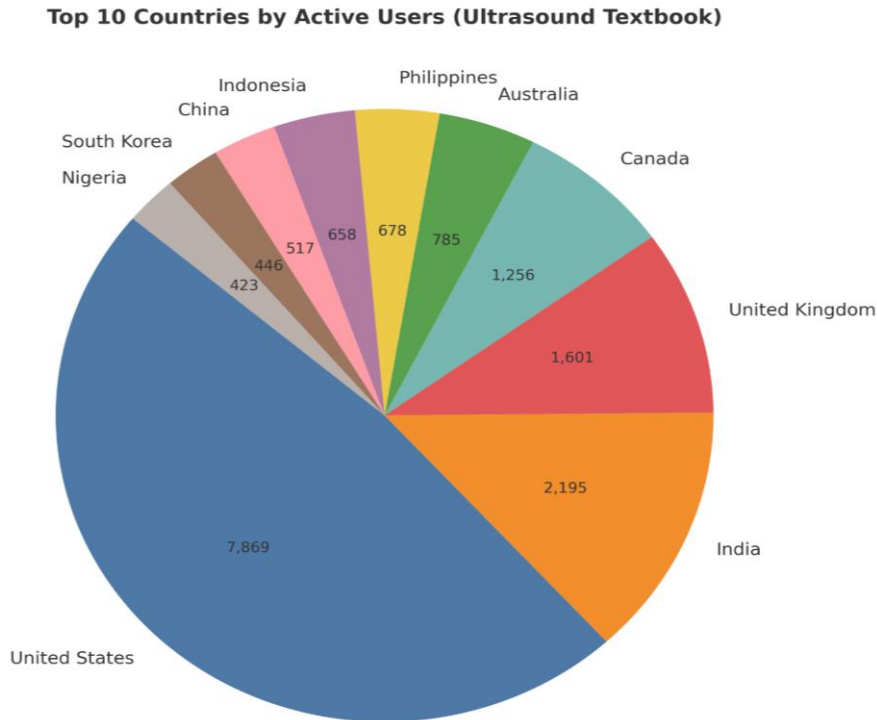


Figure 3. Distribution of active users by country accessing the open-access textbook. While the United States has the highest number of users, a significant portion of the engagement comes from low-income countries.

The pie chart in Figure 3 shows the top ten countries by number of active users accessing the ultrasound textbook. While the United States had the highest engagement with 7,869 users, several low-income countries such as India (2,195), the Philippines (678), and Nigeria (423) also showed significant usage.

The widespread international access to the ultrasound textbook is driven by the global relevance of ultrasound in healthcare and education, combined with the scarcity of affordable resources, especially in low-income countries. As an open educational resource, the textbook removes cost barriers and is freely accessible to learners and professionals worldwide. Its beginner-friendly format and discoverability through OER platforms further contribute to its global reach.

Franklin College plans to adopt the book for relevant courses, and it has the potential to be adopted at other institutions as well, offering significant cost savings for students, eliminating traditional textbook expenses, and supporting academic success. The direct impact on affordability and student achievement underscores the value of this OER initiative and its ability to benefit both educators and learners across institutions.

### 3.3. Library/Consortia Support Data

#### 3.3.1. Method #1

To support faculty in the adoption of OER, the college library launched an **OER LibGuide** in 2018. The LibGuide was designed to introduce and define open access and OER, provide curated links to open-access collections and subject-specific open textbooks, and include a bibliography for further reading. Awareness of the LibGuide was promoted through multiple channels: direct email outreach to faculty, presentations and materials distributed during International Open Access Week each October, and faculty development events such as PALSave workshops hosted on campus.

### **3.3.1.1. Data/Analysis**

Since its launch, the Franklin College OER LibGuide has received a total of 365 views, indicating sustained interest and engagement from faculty and staff. Notably, 39% of total views occurred during high-engagement periods, specifically, the summer and fall of 2020, spring of 2021, and fall of 2023, demonstrating peaks in usage that may align with broader campus initiatives, course planning, or renewed efforts to promote open access.

A close examination of LibGuide analytics reveals that the most frequently accessed section is the Open Access Collections page, which accounts for 62% of all page views. This suggests that users are especially interested in locating and utilizing existing open-access resources for teaching and research.

In addition, workshops have contributed to increased visibility and usage of the LibGuide. For instance, a PALSave workshop held in January 2024 at the college attracted five attendees, with nine additional registrants and fifteen expressing interests. During the same month, the LibGuide received 21 views. Similarly, in October 2018, coinciding with Open Access Week, the LibGuide recorded 13 views, likely reflecting the success of outreach efforts tied to this annual event.

### **3.3.2. Method #2**

Another important aspect of library/consortium support for **OER is workshops** and financial incentives to engage with OER. Since 2018, PALNI has provided two in-person educational workshops and numerous webinars, with a total of 61 attendees from Franklin College recorded. Through PALNI's financial incentives, Franklin College faculty redesigned 24 courses with zero-cost course materials, wrote 13 open textbook reviews, created two open pedagogy assignments, and wrote one textbook. To date, recorded zero-cost courses at Franklin College have saved students approximately \$108,900 across 1,400 students, which is a significant impact at a small, private college.

## **4. Discussion**

This study provides compelling evidence that the adoption of Open Educational Resources (OER) positively influences student academic outcomes, accessibility, and institutional engagement. The analysis of student performance data in courses examined for this case study demonstrated improvements in final grades and retention rates following the integration of open textbooks. The 2.1% increase in average final grades and the higher proportion of students achieving above 87% collectively indicate that OER can support enhanced learning outcomes without compromising academic rigor. These findings align with prior research suggesting that affordability and accessibility of course materials directly contribute to student success and persistence (Hilton, 2016; Colvard, 2018).

Student perception data in this case study further corroborate these benefits, showing strong satisfaction with the quality and accessibility of OER materials. The high usage rates of digital platforms such as laptops and web browsers underscore the growing preference among students for flexible, technology-enabled learning tools. The limited reliance on traditional bookstore options highlights a significant shift in how students acquire educational content, emphasizing the critical role of Learning Management Systems (LMS) and direct instructor distribution in facilitating timely access. While engagement with assigned reading varied, the absence of

negative feedback on material quality affirms that OER meets or exceeds student expectations, reinforcing their value as sustainable alternatives to commercial textbooks.

The global usage data for the open textbook authored in this study extends the significance of OER beyond local contexts, illustrating their capacity to promote educational equity worldwide. Furthermore, the number of times the textbook was accessed and used, coupled with its specialized subject matter, illustrates the demand for open-access content beyond that required for high-enrollment courses. Locally, the textbook creation project offered a timely opportunity for the author to collaborate to address a gap in OER content.

Library, institutional, and consortium support, exemplified by the launch and sustained engagement with the OER LibGuide, associated workshops, and financial incentives, emerged as a vital component in fostering faculty adoption of open materials. The peaks in LibGuide usage during strategic outreach periods indicate that sustained communication and professional development are essential to embedding OER into teaching practices. The preference for open-access collections among faculty users highlights the importance of curated, easily navigable resources in lowering the barriers to OER integration. Additionally, by offering multiple faculty engagement opportunities and leveraging consortia stipends and program infrastructure, the library was able to foster further the use of OER at Franklin College.

These findings suggest positive feedback where institutional support, faculty engagement, and student satisfaction mutually reinforce the successful implementation of OER initiatives. This study underscores the need for continued investment in library and consortia infrastructure to provide the technical, pedagogical, and outreach resources necessary for scaling OER adoption.

While this case demonstrates the benefits of OER adoption in a small liberal arts context, scalability across different educational settings presents additional considerations. Larger universities may encounter added layers of coordination across departments, while smaller institutions may experience limitations in technical infrastructure or staffing. Adjustments to faculty workload policies and the recognition of OER in tenure and promotion decisions at larger research universities can shape adoption trajectories. Additionally, seed grant programs at these institutions can play a key role in incentivizing faculty innovation. Sustainable funding models beyond short-term grants are essential, as are robust frameworks for quality assurance. Community colleges, which typically serve high numbers of non-traditional and first-generation students, could integrate OER in their introductory and general education courses to maximize early impact on affordability and retention. Cultural and contextual relevance remains important, as resources developed in one region may need adaptation to meet the needs of diverse student populations and varying curricula.

Collaborative consortia, such as PALNI, offer a replicable model by pooling expertise and resources, though institutions may need to adapt the approach to fit different administrative models and decision-making frameworks. Regardless of the type of institution, whether liberal arts colleges, community colleges, or large research universities, OER adoption should not be just isolated efforts by individual faculty members but a coordinated, comprehensive institutional strategy. Such an approach ensures that OER is not dependent on the dedication of a few champions but is instead integrated into curriculum planning, budgeting, professional development, and student success initiatives across the board.

Although a single case study, the evidence presented in this study supports institutional policies that encourage the adoption and development of OER as a means to enhance educational access, affordability, and quality. Libraries and consortia play a pivotal role in sustaining these efforts through targeted support and resource curation. Ultimately, the integration of OER

stands as a promising strategy to promote equitable student success and foster innovation in higher education pedagogy.

## **5. Conclusion**

In conclusion, this study compellingly demonstrates that OER can significantly enhance educational equity, affordability, and academic success. At Franklin College, such adoption led to a 2.1-point increase in average final grades and a greater proportion of students scoring above 87%, while generating over \$18,000 in cost savings for 237 students. High levels of student satisfaction with OER, in terms of both quality and accessibility, were reported, with learners preferring flexible digital access and reporting no negative experiences. These institutional outcomes align with broader research showing that OER adoption often yields equal or better learning gains and improved completion rates compared to traditional textbooks. Crucially, the partnership between faculty, library staff, and the state-wide consortium, supported through targeted LibGuides, workshops, and financial incentives, was instrumental in scaling faculty engagement and sustaining OER uptake. By showcasing the lead author's award-winning, student-led OER efforts as a scalable model, this case advocates for continued institutional investment in OER infrastructure and professional development. Ultimately, our findings support policies that promote OER creation and adoption to advance inclusive, cost-effective, high-quality higher education.

This study also highlights the multifaceted benefits of OER in improving student learning outcomes, enhancing resource accessibility, and fostering institutional support for sustainable educational innovation. By demonstrating tangible academic gains, positive student perceptions, and widespread global reach, the findings affirm that OER are not only viable alternatives to traditional textbooks but also powerful tools for advancing equity and inclusion in higher education. Continued commitment to OER initiatives at the institutional and consortia levels will be essential to fully realize their transformative potential and ensure that quality education remains accessible to all learners.

Other liberal arts colleges can benefit significantly from embracing the kind of OER-driven approach highlighted in this study. By leveraging open educational resources, these institutions can substantially reduce student financial burdens, improve academic outcomes, and foster greater engagement, outcomes affirmed by national research demonstrating that OER enhances grades and lowers dropout rates while promoting equity.

As this study was carried out at a single liberal arts college, the findings may not be fully generalizable to larger universities, community colleges, or research-intensive institutions, where faculty experiences and institutional support systems may vary considerably.

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