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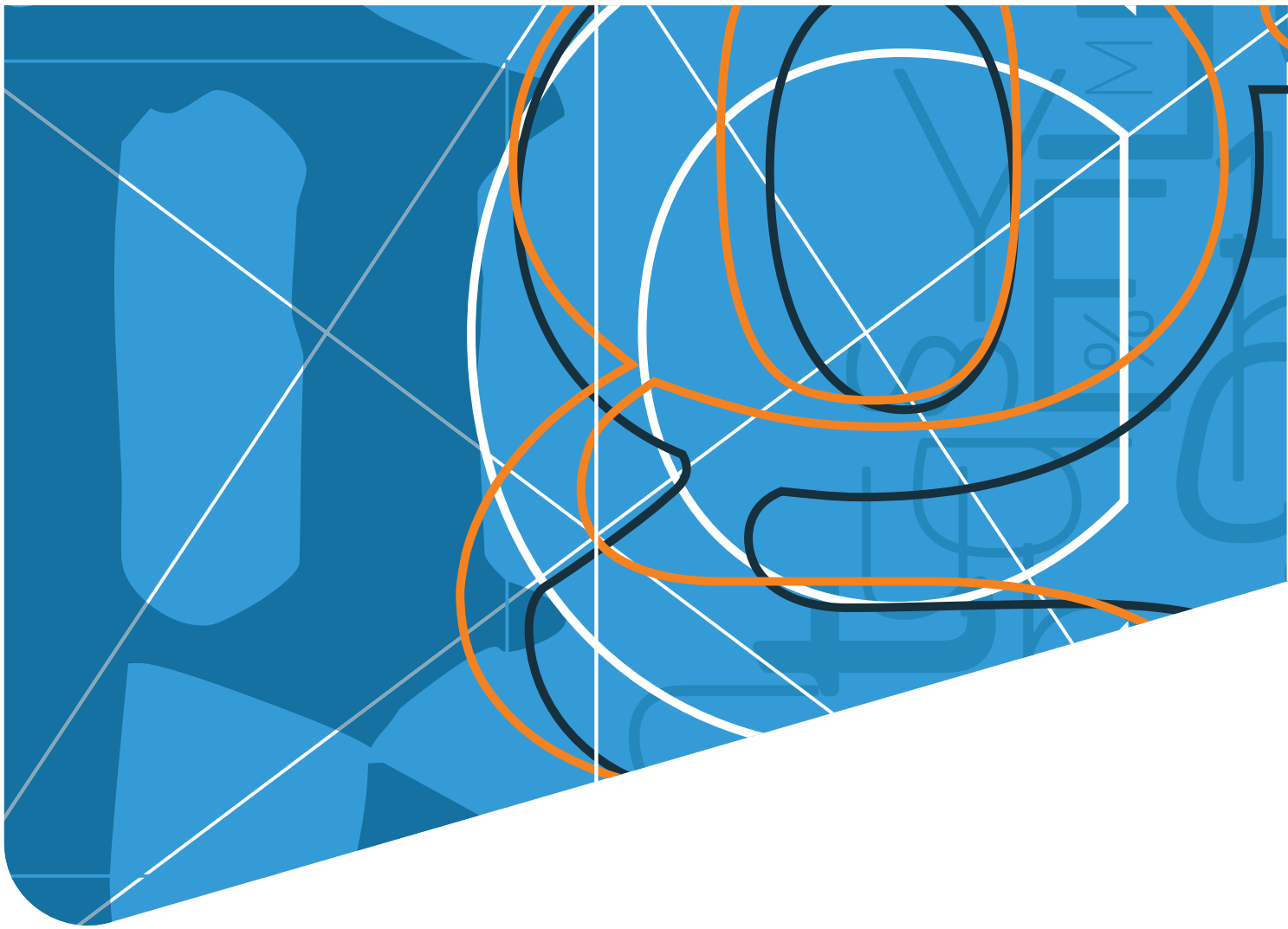

eBooks White Paper

TEXTBOOK AFFORDABILITY AT NORTH AMERICAN ACADEMIC LIBRARIES

ADVANCING DISCOVERY

Written by: Michael Levine-Clark
With special thanks to Robert Boissy

Springer nature research BMC SCIENTIFIC AMERICAN palgrave macmillan Adis

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About the author

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Michael Levine-Clark is the Dean of Libraries at the University of Denver where he oversees the Anderson Academic Commons, a vibrant, student-focused space that combines the library with other academic support services. He serves on a variety of national and international publisher and vendor library advisory boards and a range of committees within library professional organizations. He is widely published and has been invited to speak on six continents about trends in academic libraries and scholarly communication.

Introduction

In response to a growing concern about textbook affordability, academic librarians across North America have been engaging in initiatives to help faculty identify teaching resources that will be free for their students. Among these resources are eBooks and eTextbooks that have been licensed by the library.

Springer Nature has long included textbooks in its eBook collections, so these titles are already available to librarians and faculty who wish to help decrease costs for their students. In order to determine what sort of impact this availability makes, this white paper reports on a study of usage of Springer Nature eBooks, including textbooks, across all North American libraries for the five-year period 2013-2018. The study examines all eBooks published between 2005-2018 as well as the mathematics archives. In addition to the North American usage study, several case studies show how individual institutions have taken advantage of their access to these collections to generate high usage of textbooks.

Textbook Affordability

As the overall cost of higher education has skyrocketed, affordability of textbooks has become a greater concern for students, their parents, and legislators. In the 2016-2017 academic year, after adjusting for inflation, students at public universities in the United States paid 31 percent more than they would have a decade earlier, while students at private universities paid 24 percent more.[1] Meanwhile, since 1989, the increasing price of higher education in the U.S. has outpaced wages by almost 8 times.[2]

In response to the tremendous increase in the cost of higher education, state governments have developed policies and initiatives to encourage adoption of open educational resources (OERs) and/or to decrease the costs of textbooks. The Scholarly Publishing and Academic Resources Coalition (SPARC) tracks OER initiatives and notes that "nearly half of all U.S. states have considered OER legislation in past years, and the trend is likely to continue."[3] SPARC's OER State Policy Tracker provides brief descriptions of the various actions taken by state legislatures, and some include an emphasis on OER adoption and decreasing the amount spent on traditional textbooks.[4] SPARC also publishes a list of North American OER Policies & Projects, which includes details on some US and Canadian initiatives, including multiple library-led projects.[5]

Library Initiatives to Decrease Costs for Students

Libraries have taken the lead in a number of projects designed to decrease or eliminate textbook costs for students. For instance, through its Affordable Learning LOUISiana program, LOUIS, a consortium of academic libraries in Louisiana, works with faculty at member institutions to help them adopt either affordable education resources (AERs) or OERs. Since the inception of this program in 2012, they have saved students across the state around $9 million.[6] One project, "Curriculum Driven Acquisitions (CDA)," helps institutions "identify, and add to the library's collection through purchase, eBooks that can be substituted for required course textbooks."[7] Money spent by the library can benefit all students by providing them with access to eBooks at no additional cost.

This sort of program makes a tremendous difference for students who might otherwise be struggling to afford an education. One professor who participated in a CDA program notes that:

"As a faculty member I am increasingly concerned about keeping the costs of books reasonable for students struggling with very real problems like food, housing, and transportation insecurity. While two of the books I assign in my Race, Class, and Schools course . . . are relatively inexpensive when compared to textbooks in the sciences, the modest cost (~$40 total) is a real barrier to some students. I am deeply grateful that the library leadership at my institution has been proactive about expanding students access to e-texts."[8]

Integration of licensed e-resources into courses, while by no means free for the institution, can help make a course much more affordable for an individual student.

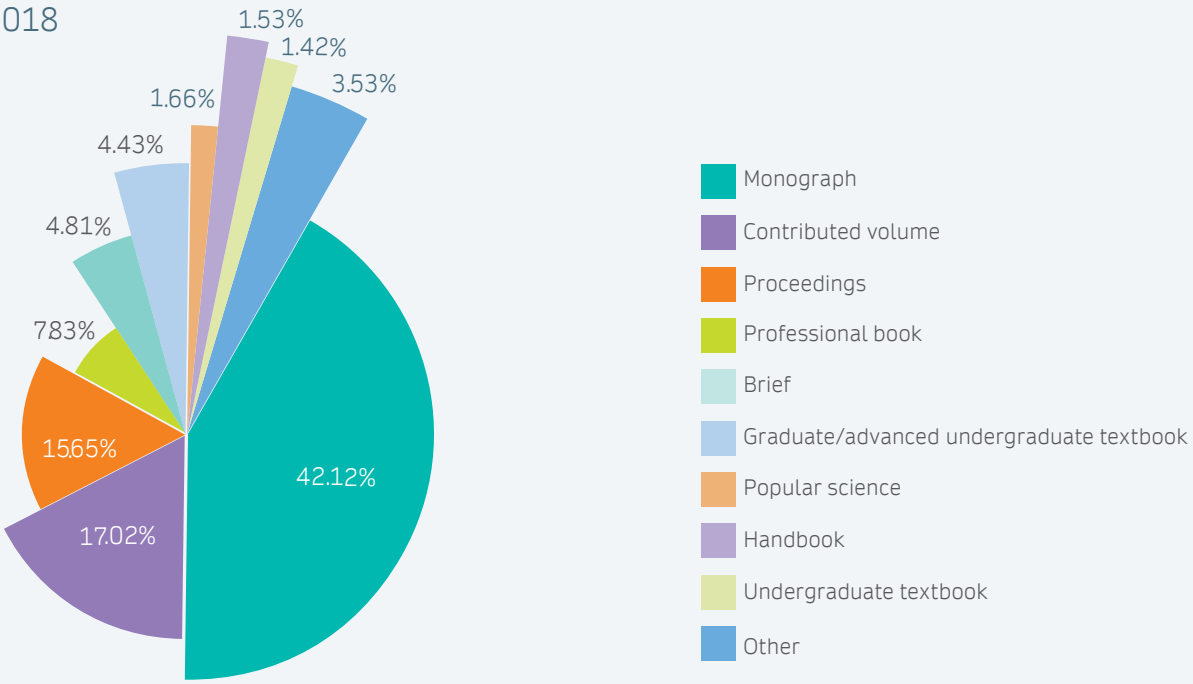
Individual libraries have also embraced the idea of helping decrease costs for students. The University of Central Florida has helped students save close to $2 million with a similar program that mixes OERs and licensed eBooks.[9] Increasingly, libraries are offering grants to faculty to help them identify alternative texts that will decrease costs for students. The University of Kentucky Libraries[10] and the University of North Carolina Greensboro[11] have both been effective in helping their faculty switch to more affordable texts for their students.

Textbooks in Library Collections

These initiatives by libraries to help decrease the cost of education by providing OERs or licensed resources for course adoption are in direct conflict with traditional collection development practices. Academic libraries have historically excluded textbooks from their collections. Because textbooks are expensive, go through multiple editions, and do not represent original research, collection development policies typically include language that explains why libraries do not actively collect them. While this is understandable given limited budgets and shelf space, it means that libraries may not be as well equipped to support affordability initiatives as they would like.

In addition, many publishers leave textbooks, and even monographs with a high likelihood of course adoption, out of the eBook packages because of concern that accessibility of these materials via the library will lead directly to a decrease in sales to students and faculty at that institution. This can prevent libraries engaging in textbook affordability initiatives.

Content breakdown
2005 – 2018



Springer Nature Textbooks

Springer Nature is one of the few publishers that includes textbooks in the ebook packages licensed to libraries. Further, because these collections are presented DRM free, all students in a class can access an eBook simultaneously, so these titles are a viable option for libraries seeking to engage their faculty in textbook affordability initiatives.

Textbooks make up about 5.9% (4.4 % graduate/advanced undergraduate titles and 1.4% undergraduate textbooks) of the Springer Nature titles used in this study, 42.1% of the titles are monographs – many of which might be suitable for course adoption.

The Data Set

For this study, we examined usage from January 2013 to July 2018 for all libraries in North America that licensed any of the Springer Nature collections published 2005-2018 and mathematics and statistics titles included in the pre-2005 archive. This amounted to 97,583 titles, of which 97,353 were used over this five-year period.

Across these 97,583 titles, there were 915,947,539 chapter downloads, with 78.6% of the downloads occurring in libraries in the U.S. and 21.4% occurring in Canadian libraries.

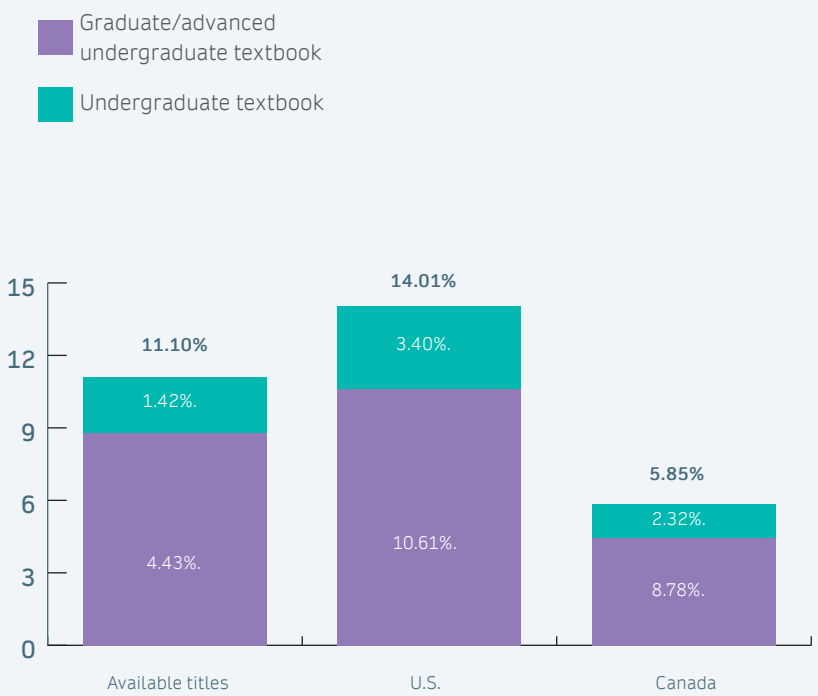
There are 4,323 graduate/advanced undergraduate textbooks in this set and 1,386 undergraduate textbooks. 4,277 of the graduate/advanced undergraduate textbooks and 1,371 of the undergraduate textbooks were used at least once.

North American Usage

Textbooks account for a disproportionately high amount of the usage across the time period of this study. While just 5.9% of all titles in these collections are textbooks, they represent 13.4% of all chapters downloaded. This pattern holds true across most subject collections.

The graduate/advanced undergraduate textbooks account for 93,587,458 chapter downloads over this time period (10.2% of all downloads). With 28,994,506 downloads, the undergraduate textbooks represent 3.2% of all downloads. Libraries in the U.S. account for a higher rate of textbook use than for eBooks as a whole, with 81.6% of the chapter downloads for graduate/advanced undergraduate textbooks and 84.3% of undergraduate textbooks.

Textbook Usage: Canada and United States (2013 – 2018)

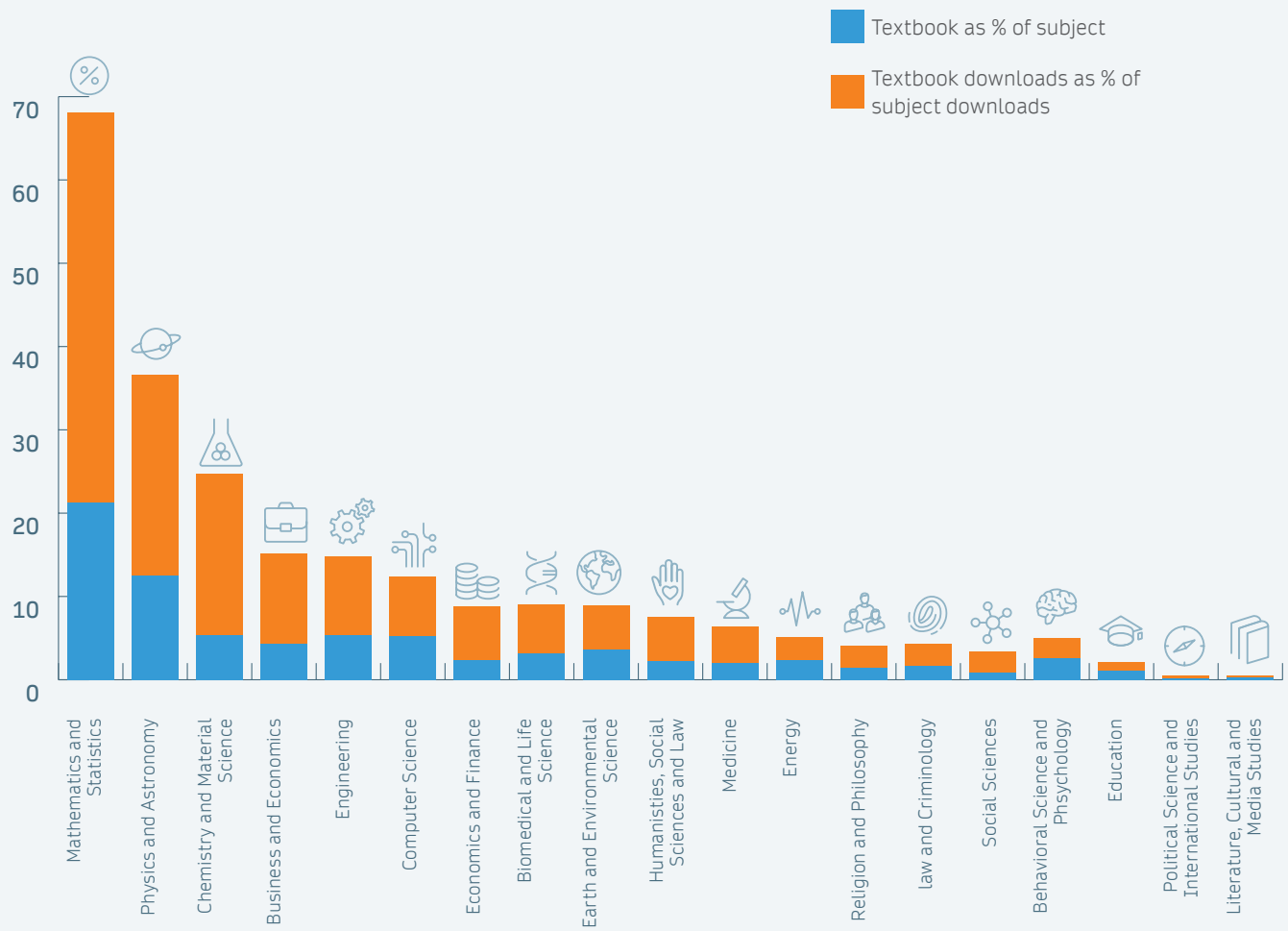


93,587,458
chapter downloads

10.2%
of all
downloads

In most of the subject collections, textbooks account for far more downloads than their overall representation in the subject. For instance, while 21.3% of the titles in Mathematics and Statistics are textbooks, but they represent 46.8% of the chapter downloads in this collection. Chemistry and Materials Science has the biggest spread between textbook availability (at just 5.4% of the titles in the subject collection) and chapter downloads (19.3% of the downloads in the subject collection). The only subject collections where this general pattern does not hold true have very small numbers of textbooks available.

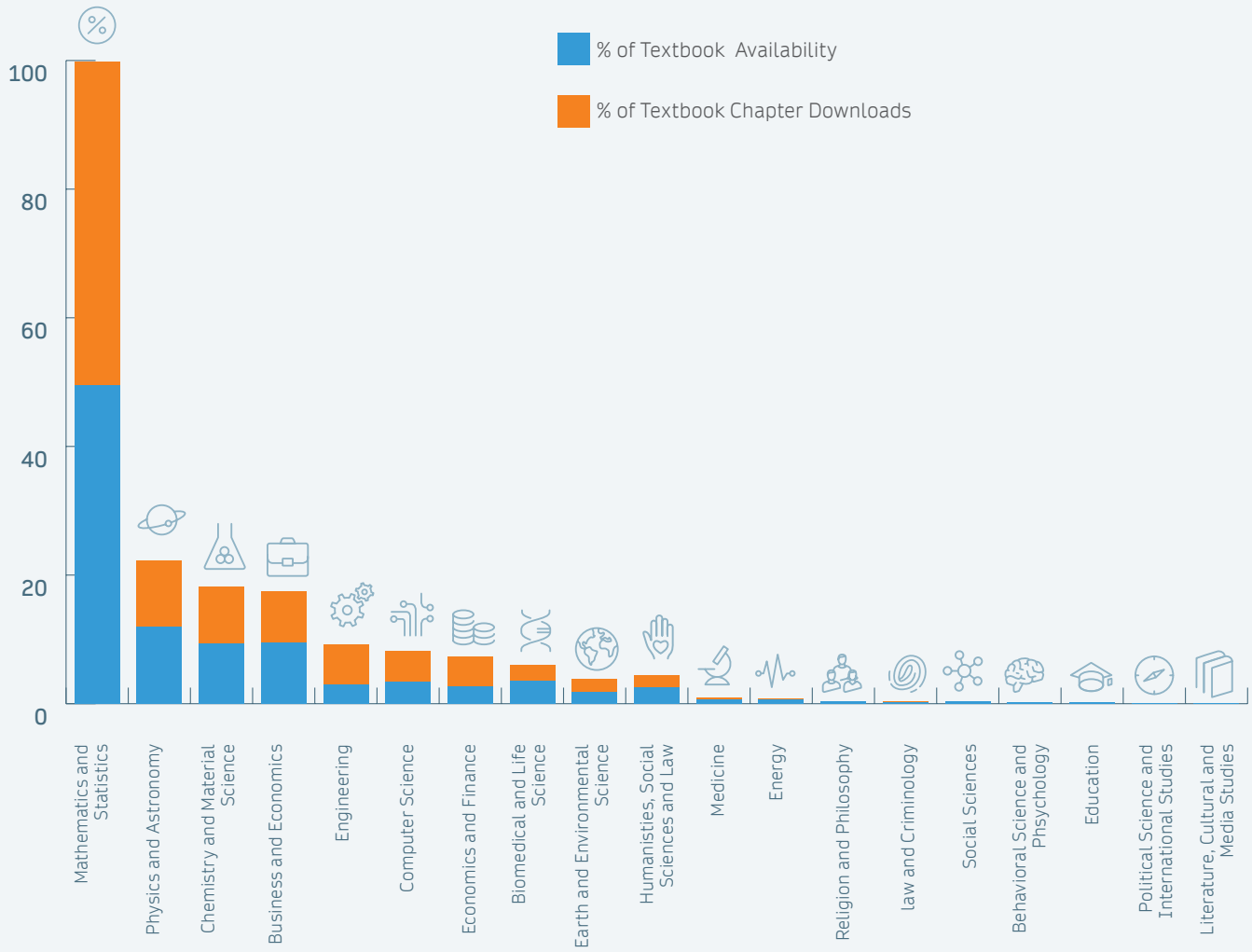
Textbook Downloads as Percentage of Subject Downloads (2013 – 2018)



In most cases, the relative availability of textbooks fairly closely matches the usage. For instance, 49.5% of all textbooks are in Mathematics & Statistics and 50.3% of textbook downloads occur in that same subject area. There are some subject collections where textbooks seem to outperform their availability. Chemistry and Materials Science includes 3.0% of the textbooks but 6.1% of the textbook downloads, Biomedical and Life Sciences has 3.5% of the textbooks but 4.7% of textbook downloads, and Medicine has 2.7% of the textbooks and 4.7% of the textbook downloads.

It is clear that textbooks included in library eBook collections get used heavily.

How All Textbooks Stack Up, by Subject (2013 – 2018)



Case Studies

While it is useful to look at these patterns across hundreds of libraries as a way of understanding demand in general and to provide context for benchmarking an individual school, most academic librarians represent a single institution and want to know what these patterns mean for their community of users.

The case studies that follow show how textbook usage occurs at specific colleges and universities, and hopefully these examples will inspire librarians to engage more deeply with their own communities around textbook affordability.

Textbook Promotion at a Liberal Arts College

Bates College is an undergraduate liberal arts school in Maine with around 2,000 students. The science librarian works closely with faculty to identify content to be used in courses, and as part of this effort promotes textbooks from licensed eBook collections. This effort has paid off: the ten most-downloaded eBooks from 2013 to 2018 are textbooks, and these ten titles had 25.2% of all Springer Nature eBook downloads at Bates over this time period. See table below for estimated savings.

	Chapter downloads 01.2013 - 09.2018	Chapters in book	Whole book download equivalent	Retail soft-book price of book	Student savings 2013-2018
Total for all titles Jan 2013-Sept 2018	**78,81**				
An Introduction to Statistical Learning	6,413	10	641.30	$79.99	$51,297.59
Understanding Analysis	4,425	8	553.13	$59.99	$33,181.97
Plate Tectonics	1,727	13	132.85	$74.99	$9,962.13
Botany Illustrated	1,288	130	9.91	$59.99	$594.36
Python Programming Fundamentals	1,267	16	79.19	$49.99	$3,958.58
An Introduction to Mathematical Cryptography	1,191	8	148.88	$89.99	$13,397.26
Explorations in Monte Carlo Methods	1,156	5	231.2	$59.95	$13,860.44
Electronic Properties of Materials	1,059	22	48.14	$84.99	$4,091.11
Handbook of Life-Course Criminology	604	18	33.56	$84.99	$2,851.89
Introduction to Partial Differential Equations	591	12	49.25	$69.99	$3,447.01

Textbook Usage at a Large University

New York University (NYU) is a major research institution with over 50,000 students and very high usage numbers. In the one-year period from October 2017 to September 2018, there were 1.7 million Springer Nature chapter downloads at NYU. Of the fifty books with the most chapters downloaded, eighteen were textbooks.

In the year of this study, 50,324 Springer Nature eBooks were downloaded at least once at NYU. 8.4% of these titles were textbooks (compared to 5.9% across all of the North American libraries in this study). 1,425 of the titles used (2.8%) were undergraduate textbooks and 2,944 (5.6%) were graduate/advanced undergraduate textbooks.

While a massive amount of downloading occurred in textbooks at NYU, the overall rate was actually lower than the rate for the multi-institutional data set. 12.5% of all chapters downloaded at NYU were textbooks. 58,702 (3.4%) chapters were downloaded from undergraduate textbooks and 156,708 (9.1%) were downloaded from graduate/advanced undergraduate textbooks.

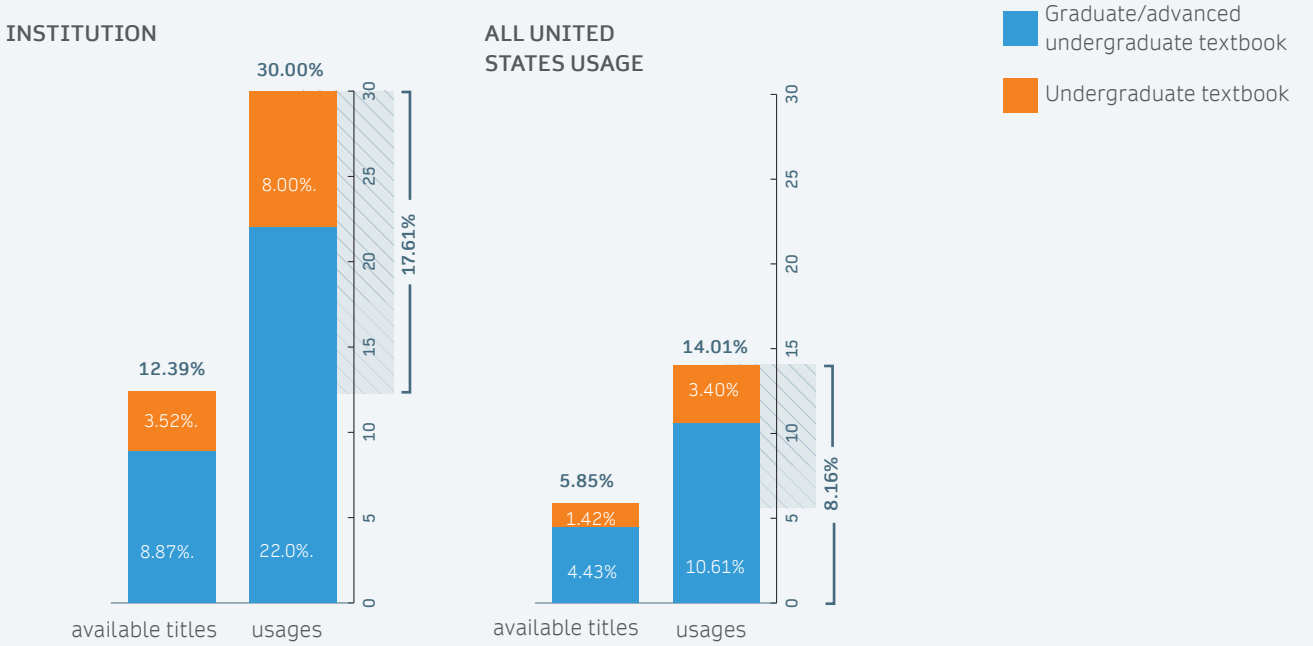
Textbook Usage at a Private University in New England

This private university, a member of the Association of Research Libraries, is located in New England and has under 10,000 students. The university is particularly strong in mathematics. They license only three current eBook collections along with three archival collections:

- Computer Science
- Mathematics and Statistics
- Physics and Astronomy
- Lecture Notes in Computer Science
- Lecture Notes in Mathematics
- Lecture Notes in Physics

While their Springer Nature eBook collection is relatively small, their usage is extremely high. Textbooks account for 12.4% of their Springer Nature eBooks, but a staggering 30.0% of their usage. While their particular mix of collections means that they have a higher percentage of textbooks than the norm, their very high level of usage is even further outside the norm.

Private ARL in New England



A Textbook with High Usage

Sheldon Axler's Linear Algebra Done Right (2015) is used as a textbook at many institutions. In calendar year 2017, there were 94 courses across 62 schools for which this title was an assigned text. We have enrollment information for 59 of those courses. Of the 62 schools, 39 license it through their Springer Nature Mathematics & Statistics eBook package. In 2017 the enrollment for these courses at the 39 schools was 1,689. At these schools, there were 58,656 chapter downloads for this title (23.6% of all downloads for this title in that year).

Clearly this is a title with very high use, and it seems likely that this use is connected to it being assigned in courses. There is no way of knowing whether instructors at these schools knew that the title was available as a licensed eBook, nor is there any way of knowing if any instructors told their students that the title was available to them through the library. However, this overall very high rate of use suggests that students were finding this title to help satisfy their course reading requirements.

At a list cost of $59.99, this is not a particularly expensive textbook. On Amazon.com there are copies priced as low as $32.24, and a copy can be rented for $16.49 for a semester from Chegg.com (all prices checked on August 20, 2019). If all of the students at the 39 schools that had licensed this title had purchased it at the retail price, they would have spent $351,877 collectively. If all of them had managed to find the book at the cheapest Amazon price, they would have spent $189,107. And if they had all rented the title, they would have spent $96,724. In reality, not every student would have purchased or rented it, and those who did would have used a variety of these methods – but the overall savings to students by having a licensed copy available through their library at these 39 schools was significant. And that is just one book. Libraries that license textbooks can save their students a huge amount of money.

Conclusion

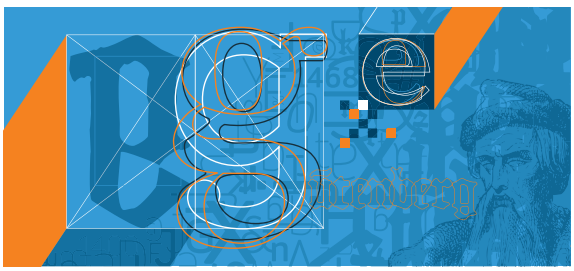
At a time when the cost of textbooks is soaring and consumers are hyper aware of those high prices, libraries have the opportunity to play a role in helping students save money. Academic libraries across North America have begun to develop programs designed to promote textbook affordability, and this trend is likely to continue.

Many academic libraries, even those that have not yet engaged in this space, have already licensed eBook collections that include textbooks. The case studies described here show a few ways in which textbooks in library-licensed eBook collections are being used – in some cases, quite heavily. Librarians should include content they have already licensed in their textbook affordability initiatives, because for students at these institutions, an eTextbook provided by the library comes at no cost.

[1] National Center for Education Statistics, Tuition Costs of Colleges and Universities. https://nces.ed.gov/fastfacts/display.asp?id=76. Accessed August 15, 2019.
[2] Camilo Maldonado, "Price of College Increasing almost 8 Times Faster than Wages," Forbes. July 24, 2018. https://www.forbes.com/sites/camilomaldonado/2018/07/24/price-of-college-increasing-almost-8-times-faster-than-wages/#6f2f297a66c1. Accessed August 15, 2019.
[3] SPARC, OER State Policy Tracker, https://sparcopen.org/our-work/state-policy-tracking/. Accessed August 15, 2019.
[4] SPARC, OER State Policy Tracker.
[5] SPARC, List of North American OER Policies & Projects, https://sparcopen.org/our-work/list-of-oer-policies-projects/. Acc. Aug. 15, 2019.
[6] Affordable Learning LOUISiana, Choice. Affordability. Accessibility. https://www.louislibraries.org/alearningla. Acc.Aug.15, 2019.
[7] Affordable Learning LOUISiana, Current Projects, https://www.louislibraries.org/alearningla/projects. Acc.Aug.15, 2019.
[8] Affordable Learning LOUISiana, Current Projects.
[9] UCF Libraries, Textbook Affordability, https://library.ucf.edu/textbook-affordability/. Accessed August 15, 2019.
[10] University of Kentucky Libraries, Alternative Textbooks (Open Educational Resources): Getting Started, https://libguides.uky.edu/alternative_textbooks. Accessed August 15, 2019.
[11] UNC Greensboro, Office of the Provost, "UNCG Open Educational Resources Grant Yields $150,000 in Aggregate Savings to Students in its First Year," Aug. 15, 2016. https://provost.uncg.edu/blog/2016/08/15/oer-grants-reduce-student-text-costs/. Acc. Aug. 15, 2019.

Affordable Textbooks at Springer Nature

Thousands of institutions worldwide are utilizing the textbooks found in licensed Springer Nature eBook subject collections to help support faculty with their course planning and to help reduce textbook costs for students. Springer Nature eBooks are 100% free of Digital Rights Management meaning there are no limits to the number of simultaneous users, downloads and printing for institutional users within a license agreement. Visit springernature.com/affordabletextbooks to find out more and request a free textbook title list.



Johannes Gutenberg (c.1395 – c.1468)
Johannes Gutenberg was a German inventor whose introduction of mechanical movable type printing into Europe is widely regarded as laying the basis for the modern knowledge based economy. Whereas movable type had been used in Asia previously, Gutenberg's innovation was developing a casting system using molten type metal that produced many duplicates of the same letter. This process was used to print the 42-line or Gutenberg Bible, which was acclaimed for both its technical quality and its beauty. Gutenberg referred to the process as "Das Werk der Bücher" – the work of the books – an indication perhaps that, although he had invented the printing press, he understood his real legacy to be the books that the process created.

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