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## Faculty and Student Perspectives on Open Education at Gettysburg College

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## Faculty and Student Perspectives on Open Education at Gettysburg College

### Abstract

Commercially available textbooks and course materials are often expensive for students and sometimes don't cover topics in exactly the way you might prefer to teach. Freely available and completely adaptable open educational resources (OER) have risen in popularity in recent years, both nationwide and locally, as a way to address both issues. Join us to hear from Alice Brawley Newlin (Management), Tasha Gownaris (Environmental Studies), Chris Oechler (Spanish), and Ryan Nedrow '22 to hear about their experiences with OER in the classroom. Panelists will talk honestly about the benefits, drawbacks, challenges, and successes associated with open course materials in order to give you a better sense of whether OER might be a good fit in your own context!

### Keywords

OER, open education, open pedagogy

### Disciplines

Curriculum and Instruction | Higher Education | Scholarly Communication

### Comments

Presentation given at the [Friday Forum](#) on March 5, 2021. The Friday Forum is a series of lectures given by members of the Gettysburg College community on their personal scholarly research, creative activities, or professional or curricular development activities.

A [recording of the presentation](#) is available.

### Authors

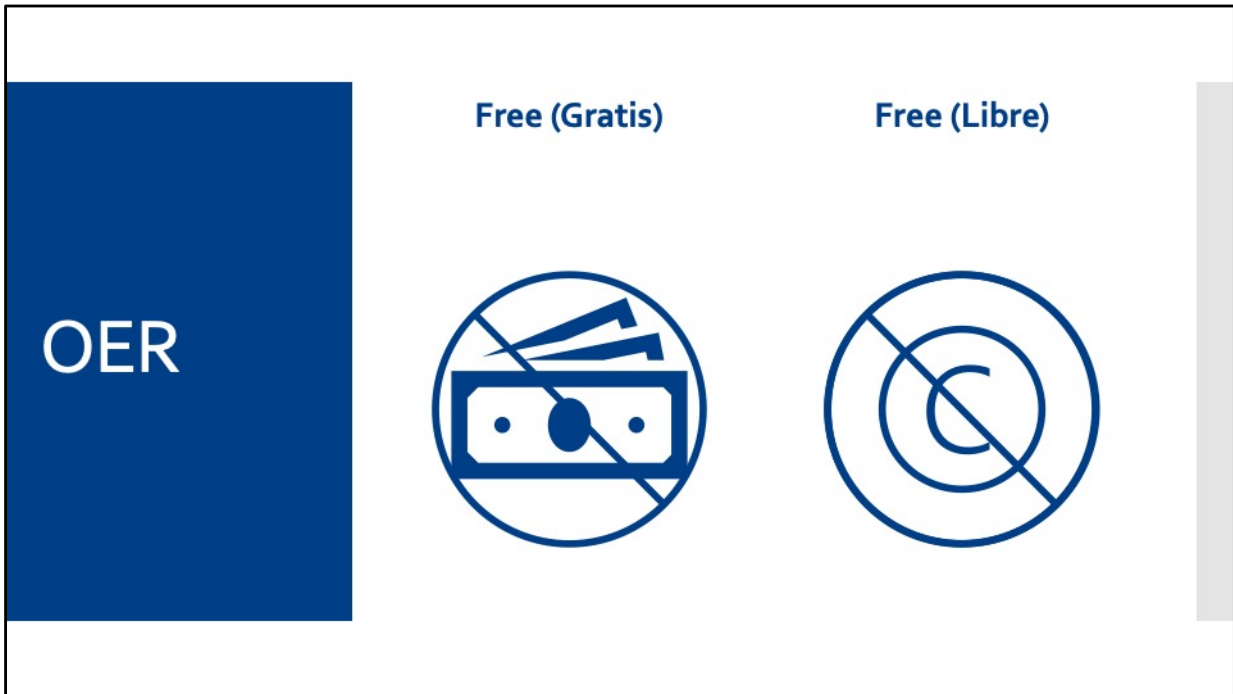
Mary R. Elmquist, Janelle Wertzberger, Alice M. Brawley Newlin, Natasha J. Gownaris, Christopher C. Oechler, and Ryan E. Nedrow



# Faculty and Student Perspectives on Open Education at Gettysburg College

Thank you so much for joining us today! If we haven't met, my name is Mary Elmquist, and I'm the Scholarly Communications Librarian at Musselman Library. I'm also here with Janelle Wertzberger, the Assistant Dean of the Library and Head of Scholarly Communications, and a great group of panelists, who I'll introduce in just a minute.

We're here to get some stories of people's experiences with open education and open educational resources (or OER) from here at Gettysburg, but first, I want to take just a minute to give you all some context on what this is and why we think it's important.



To start, I'd like to give a quick definition of OER. OER are textbooks and other course materials (like homework software, test banks, etc.) published openly and made available freely. This means that OER are available for no cost, digitally (although some open textbooks are also available in low-cost, print versions), and that they are free from copyright restrictions. That latter bit means that OER are often fully adaptable to suit the needs of your courses and students—something that some of our panelists will elaborate more on today!



## 2019 Student Textbook Survey: Key Findings

But going back to the no-cost aspect, I want to talk a little about why that matters, locally speaking. Just over a year ago, our team from the Library presented another Friday Forum on the results from the textbook survey we conducted in the Fall of 2019. If you weren't there or, like me, you can barely remember what happened two weeks ago, I want to let you know about just a few key things we learned from that survey.

**64%** of respondents  
spent over **\$200** on  
books in Fall '19.



First: In Fall of 2019, almost 2/3 of our respondents said they had spent more than \$200 on books for that semester. This didn't include other materials, like clickers or lab safety gear. We found about 33% said that they had spent *over \$400* when those additional materials were included.



Only 8% of participants had **any** financial aid left over for books.

Secondly, we found that financial aid didn't put much of a dent in book costs for most students who filled out our survey. From the whole group, only 8% said they had *anything* left to spend on books from their aid package. Even among the Pell Grant recipients in our response group—those who qualified for this federal grant for students with “exceptional financial need”—only 14% had money to spend on books from their aid.



**First-generation students  
and Pell Grant recipients are  
more likely to **not purchase**  
and/or **share books** to save  
money.**

With regards to these students with greater need, we looked at how a few specific groups—namely first-generation students and those Pell recipients—worked around and were affected by high book costs. Both groups were more likely than their counterparts who didn't fall into those categories to use strategies that left them with limited or partial access to books to save on costs.





**First-generation students and Pell Grant recipients are more likely to struggle academically because of book costs.**

And both groups were more likely to say they struggled academically due to high book costs. First-gen students were almost twice as likely to say this as non-first gen, and Pell recipients were about three times as likely as non-Pell students to report this struggle.

Students say **\$50** is a reasonable price per class for all materials.



And finally, it might be helpful to know that, when we asked students what they thought was a reasonable price for *all materials* in a single course, our most common response was \$50. So, as a pretty typical example: for a student taking 4 classes, that's \$200 a semester. And as we learned, 64% of our respondents said they spent more than that in Fall 2019.

But I don't want to be all doom and gloom,. We have some things to celebrate, too! Recently, our team has been pulling together new and old reports of OER adoptions from Gettysburg College instructors, and what we've found has been really exciting.



In our data, going back to the 2013-2014 academic year, 53 instructors have used OER in more than 40 unique courses. All of these classes together have enrolled more than 3400 students, who have saved on textbook costs as a result...and saved they have!



**\$591,303.34**  
since 2013

Over these last 7 years, OER adoptions have saved students at Gettysburg College over *half a million* dollars by our estimations! And today, we're excited to hear more from some of the folks who have made this happen and been directly affected by it!



Dr. Alice Brawley Newlin

Management

MGT 235: Introductory  
Business Statistics



Dr. Natasha Gownaris

Environmental Studies

ES 128: Oceanography  
ES 211: Principles of  
Ecology



Dr. Christopher Oechler

Spanish

SPAN 301: Spanish  
Composition,  
Conversation and  
Culture



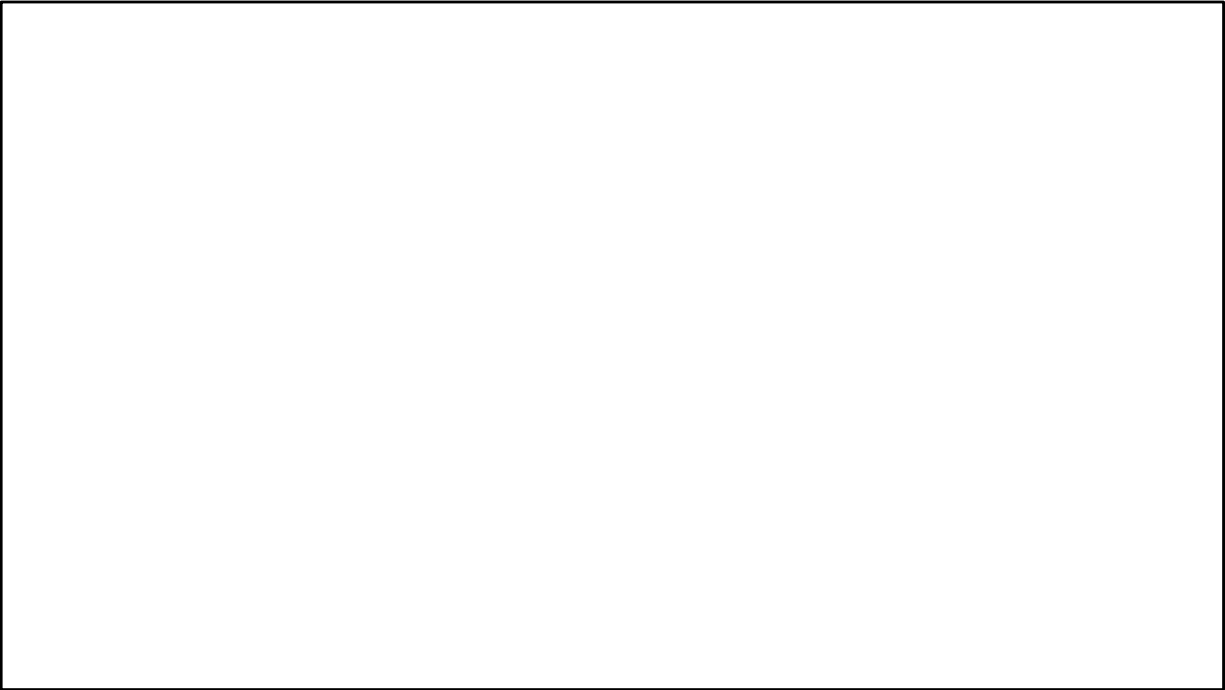
Ryan Nedrow '22

Majors: History,  
Anthropology

Minors: Civil War Era  
Studies, Public  
History

With that, I'd like to introduce our panelists for today:

- First, Dr. Alice Brawley Newlin from the Management Department will tell us a little about her experiences working in a team to adapt and adopt OER for the Introductory Business Statistics class.
- Dr. Tasha Gownaris from Environmental Studies, who has worked with OER in several different formats and contexts, will talk next about past, current, and future OER projects.
- Then, Dr. Chris Oechler in Spanish will give us some insight into how he has been able to combine content from multiple open books to create an OER that worked for his needs.
- And finally, we'll hear from Ryan Nedrow, class of '22, who was a student in Prof. Brawley Newlin's class last semester. She'll chat with him a little about the student experience in classes using OER!



I briefly highlight two topics: first, **why** we chose OER (and some reasons that it might work well in other classes with similar circumstances), and second, a brief overview of **the process** of choosing an OA text, editing it, and using it so far, with a special emphasis on some of the unexpected bumps we encountered along the way.

As a bit of background or context, I teach in our Management department, and the course that we switched to OER for was MGT 235 (Statistical Methods). My colleague, Prof. Marta Maras, and I worked very closely together on this whole process because we are the two faculty who currently teach this course.

## BUSINESS, ORGANIZATIONS, and MANAGEMENT MAJOR CHECK SHEET

Complete by end of 1st yr.	ECON 103	Principles of Microeconomics
	MGT 155	Accounting
Complete by end of sophomore yr.	MGT 235	Statistical Methods
	MGT 270	Organizational Behavior
Complete by end of junior yr.	MGT 301	Research Methods
	MGT 395	Ethics

*Students must earn a C or better in MGT 235 in order to be a BOM major; students may not repeat MGT 235 for their major*

First up, I want to discuss the “position” of the course in our major as one key reason we decided to switch to OER.

MGT 235 is an important course for the entire Business, Organizations, and Management major, so students must earn a C or higher in the course with only one attempt at it. This means that – in addition to the general bad rep that statistics courses tend to have – students are often quite nervous about doing well in this course. So making the switch to OER really helped alleviate one source of potential stress, in terms of needing the textbook for both the material and the homework assignments that we dive into right away at the beginning of the semester. All students had access to the text on Day 1, so that helped us avoid any concerns with finding, affording, or waiting on shipping a copy of the book. It’s fantastic to be able to support students’ success right off the bat in this way.

And, more broadly, considering that the course is a requirement with one attempt for each student, we really focus on keeping everything as fair as possible across students in the course. Being sure that every single student has equal access to the textbook was one more way we could enact that philosophy of fairness across students’ abilities to succeed in the course.

$$r = \frac{\Sigma Z_X Z_Y}{n} \quad \mathbf{1844}$$

$$t = \frac{\bar{X} - \mu}{s / \sqrt{n}} \quad \mathbf{1908}$$

$$F = \frac{\Sigma n_g (\bar{X}_g - \bar{X})^2}{\Sigma (n_g - 1) s_g^2} \quad \mathbf{1921}$$

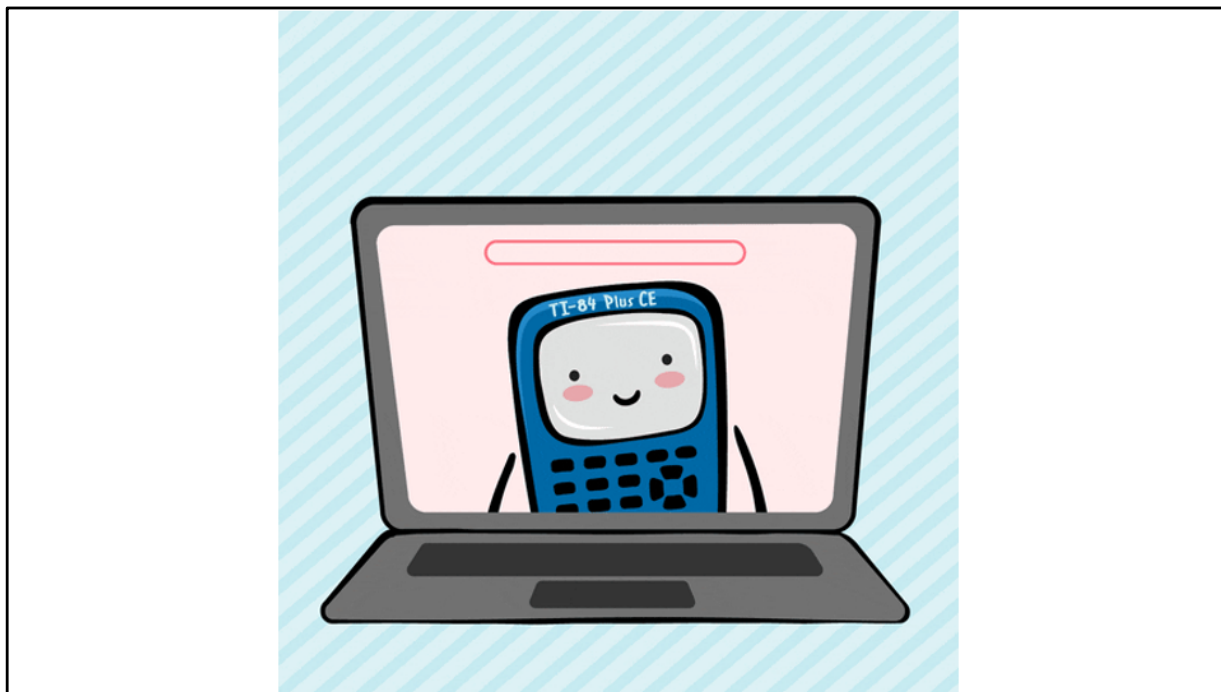
The second reason that we wanted to switch to OER was due to our course content.

These formulas are pretty much everything a student will learn in an introductory statistics course. Of course, every stats course can emphasize different variations on these, but these are generally what the whole course boils down to.

But what's really striking here is the dates that each of these formulas were published. Notice that the "newest" of these is very literally one hundred years old. With how well established these formulas are and how many times they've been explained pretty much equivalently across different sources and different disciplines, it's really difficult to justify requiring students to pay for access to that info. (And even more, to buy a new edition of a book every year or few years...)

So switching to OER for us, and maybe for folks teaching introductory-level courses where this holds true, just made sense.





Third, and this applies to us all to some degree right now, it was great to know students would have access to the text equally across in-person versus online learning, and no matter where they were learning from (their dorm, home, a friend's house, somewhere else), and no matter how quickly or unexpectedly they might have to move places depending on quarantine or de-densifying needs. Switching to OER made the textbook one less thing to worry about during a really stressful time for the world.

**1. Review books, pick a book we, like, *totally* loved**



**2. Use LibreTexts to edit the book to perfection**



**3. Share LibreTexts link to book with students**



So, let's talk about the process. Here's what we thought would happen: we'd pick a book we 100% loved, we'd make some minor tweaks to it so that we 110% loved it, and students would access the book online through LibreTexts (and be super stoked).

**1. Review books, pick a book we, like, ~~totally~~ loved**



**2. Use LibreTexts to edit the book ~~to perfection~~**



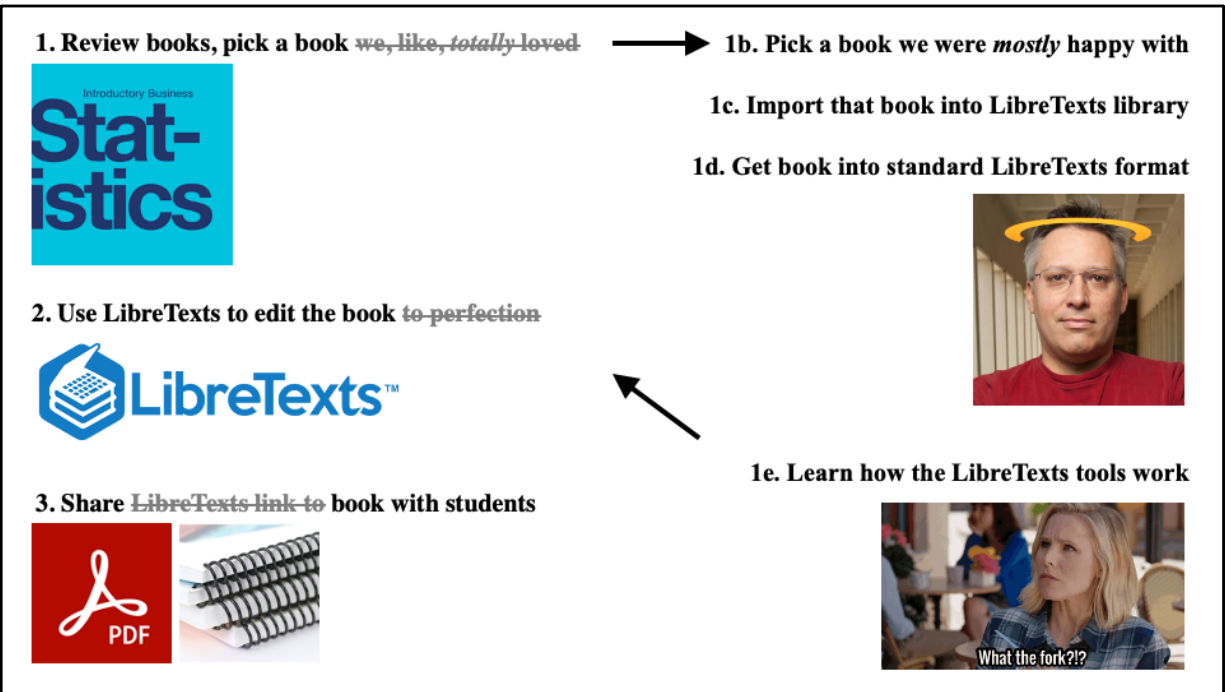
**3. Share ~~LibreTexts link to~~ book with students**



Here's what really happened, though. We found a book we were 95% happy with, and mainly wanted to make one key change to how a particular topic was explained in the book. We thought this was essentially going to be a "find and replace" sort of situation, because the change we wanted was fairly small in terms of how it could be re-phrased... I'll talk about it next, but this was definitely not quite that simple.

Second, we didn't get to edit everything totally perfectly. We got something we were happy enough with, but then ran out of time before the semester started (more on this in a minute) to really finesse everything.

Last, for a couple reasons I'll explain, we ended up sharing the book with students as a PDF, rather than a link to the "live" version on LibreTexts. Students also of course could print this PDF themselves, and they were offered the option for a printed and bound copy through our campus print shop.



OK, so on picking the book – I mentioned there was that one key edit we wanted to make throughout the book about a particular topic. But it turned out that our chosen book was not one that is already in the LibreTexts library, which meant we needed to have it imported, and then it needed to be edited to match LibreTexts’ standard formatting rules (which is so important because it makes remixing with other sources within their library more seamless).

That first picture is of Delmar Larsen, who is the founder of LibreTexts. In my opinion, Delmar deserves a halo or a gold medal or something, for how helpful and patient he was with our LOTS of emails about editing and formatting the book. Although this was an unexpected hiccup for us, Delmar and his team are amazingly supportive and responsive. But for both your own sake and Delmar’s, I would definitely try to start this process early. As you can imagine, we were not the only ones sending lots of emails and asking lots of questions right before the start of a semester.

Once we were set to edit the book content, though, there was still a big learning curve I hadn’t quite anticipated. (Remember, I thought this was going to be like, find-and-replace levels of effort.) There are some platform-specific tools (like, lots of needing to “fork” pages to edit them!) that I wasn’t familiar with, so this is another

good reason to leave yourself plenty of time to achieve what you want with the book in terms of editing.

1. Review books, pick a book ~~we, like, totally~~ loved



2. Use LibreTexts to edit the book ~~to perfection~~



3. Share ~~LibreTexts link to book~~ with students



2a. Cry while editing equations

2b. Be mad about randomly-changing font sizes

2c. Cry AND be mad while editing tables

	3	4	5	6	7	8	9	10
1	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50
2	19.00	19.00	19.25	19.50	19.75	19.50	19.25	19.00
3	8.50	8.20	8.52	8.84	9.16	8.84	8.52	8.20
4	1.71	6.80	6.30	6.20	6.20	6.10	6.00	5.90
5	4.61	5.79	5.41	5.09	4.80	4.52	4.26	4.03
6	3.00	3.44	4.20	4.52	4.84	4.52	4.20	3.84
7	5.50	4.79	4.30	4.02	3.87	3.87	3.73	3.48
8	3.62	4.40	4.07	3.84	3.60	3.36	3.14	3.02
9	3.12	4.28	3.86	3.43	3.40	3.37	3.23	3.07
10	4.06	4.94	3.71	3.46	3.30	3.20	3.07	2.94
11	4.54	3.98	3.50	3.26	3.20	3.09	2.92	2.81
12	4.75	3.80	3.40	3.26	3.11	3.00	2.85	2.80
13	4.97	3.68	3.41	3.26	3.05	2.92	2.80	2.74
14	4.80	3.79	3.34	3.11	3.06	2.85	2.76	2.53
15	4.54	3.68	3.20	3.00	2.80	2.70	2.54	2.29
16	4.40	3.60	3.24	3.01	2.80	2.74	2.58	2.34
17	4.45	3.50	3.20	2.96	2.81	2.76	2.52	2.30
18	4.41	3.35	3.18	2.93	2.77	2.68	2.51	2.34
19	4.36	3.32	3.13	2.89	2.74	2.63	2.48	2.31
20	4.30	3.20	3.00	2.87	2.71	2.60	2.45	2.28
21	4.32	3.07	3.07	2.84	2.69	2.57	2.42	2.25
22	4.30	3.00	3.00	2.82	2.66	2.53	2.40	2.23
23	4.28	3.02	3.03	2.80	2.64	2.53	2.37	2.20
24	4.30	3.00	3.01	2.78	2.62	2.50	2.36	2.19
25	4.24	3.30	2.99	2.76	2.60	2.49	2.34	2.18
26	4.21	3.37	2.96	2.74	2.59	2.47	2.32	2.15
27	4.21	3.30	2.96	2.71	2.57	2.46	2.31	2.13
28	4.20	3.30	2.95	2.71	2.56	2.45	2.29	2.12
29	4.18	3.20	2.90	2.70	2.55	2.44	2.28	2.10
30	4.17	3.30	2.92	2.69	2.53	2.42	2.27	2.09
40	4.00	3.20	2.80	2.61	2.45	2.34	2.18	2.00
50	4.00	3.15	2.78	2.51	2.37	2.25	2.08	1.90
100	3.80	3.07	2.68	2.45	2.29	2.18	2.02	1.83
...	3.64	3.00	2.60	2.37	2.21	2.10	1.94	1.75

2d. Run out of tears/time trying to edit hyperlinks to original book

Speaking of specific edits, I would keep an eye out for a few specific types of content that we found toughest to edit to our satisfaction.

First, equations, like the ones I showed toward the beginning, understandably require some pretty complex code behind the scenes in order to display in the way you want. Also, keep an eye out for font sizing to change across sections. This may be due to our source being imported into LibreTexts, but we noticed a few sections would show up in much smaller font than others. (As a font nerd, it was hard for me to not \*need\* to fix all of these.)

Tables were challenging to get to look the way we wanted, too. I know the table here looks beautiful... it looked very crazy and unreadable along the way while editing.

And one last thing you might want to check for, especially if you are making lots of or especially key edits to a book, is that the links within the text might still link back to the original version of the book (outside of LibreTexts, if you imported like us). At this point in our editing process, we were out of time to get the textbook finalized for the semester, so we ended up simply sharing the book as a PDF (without any live links) to circumvent the issue. Ideally in the next iteration of the book, we'll update the links

to take students to corresponding sections in the current version.

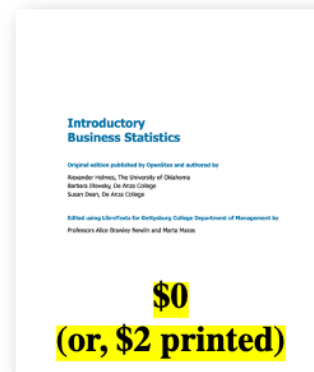
**Leave yourself plenty of time**

**Consider sources already in LibreTexts**

**Check print/PDF vs online versions**

- **Links**
- **Formulas**
- **Tables**
- **Font sizes**
- **Page numbers**
- **Fractions** ( $\frac{1}{4}$  vs. 141414141414)

**Keep a running list of second-round changes to make**



Takeaways from me for this process are listed here.

One thing I haven't mentioned yet that may help to keep in mind, is that our textbook did not have standard page numbers printed on the PDF. Of course, this is irrelevant when you're looking at an online version, but it was something we realized only after the start of the semester that would have been helpful to have, both for ourselves and for our students.

Speaking of the page numbers, which we'd like to add in the next-edit version of this book, Marta and I also started a running Google Doc where we would make notes every time we found something we'd like to change or add as we went through the semester using the book. These range from anything like fixing a small typo, to changing examples used in sample problems in the book, reorganizing sections, and adding a few entirely new sections that we'll write ourselves. Whereas in a typical textbook we wouldn't have this sort of opportunity, it's very liberating to know we're able to modify anything we want in a book to really make it suit our class and our students.

In closing, I want to note that making the switch to OER, to us, was absolutely worth



the work. We have moved from students needing to pay up to \$300 for the two previously-required textbooks, to \$0 and instant access (or just \$2 for a copy through our fantastic campus print shop, who are speedy, too). Being able to save each student that much cash, worry, and stress, and equalize their chance for success in this course, makes the move to OER a very rewarding one.

# Oceanography



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## Introduction to Oceanography

(7 reviews)

★★★★★

Paul Webb

Copyright Year: 2019

Last Update: 2020

Publisher: [Rebus Community](#)

Language: English

### Formats Available

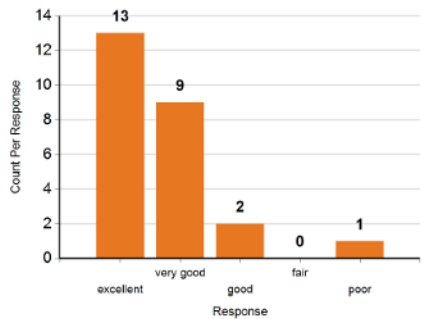
[ONLINE](#) [PDF](#) [EBOOK](#)  
[ODF](#) [XML](#)

### Table of Contents

- Chapter 1: Introduction to the Oceans
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- Chapter 10: Waves
- Chapter 11: Tides
- Chapter 12: Ocean Sediments
- Chapter 13: Coastal Oceanography
- Chapter 14: Ice

## Student Feedback

Q5 - How helpful were the course materials used by the instructor?



**“The textbook was free and easy to read, and the other materials she provided (articles, podcasts, etc.) were interesting and very helpful.”**

**“I liked all the different forms of study materials, like the readings, podcasts, and OOI activities.”**

**“I really appreciated the free textbook. Thanks for saving us that extra purchase.”**

# The Gap

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## Introduction to Oceanography



Paul Webb

## Preface

This book was originally written for my *Principles of Oceanography* course at Roger Williams University, a lower-level introductory course required for marine biology and environmental science majors. By design, this course does not go into great detail about marine biological topics, as our students will cover those topics in their other courses. For that reason, this book does not currently include sections on marine ecology, marine communities, or the diversity of marine life that are often found in other introductory texts. However, this book remains a work in progress, and it is hoped that over time, those sections may be added. I invite instructors who utilize this text to send suggestions, edits, updates, or sections you would like to see added to [pwebb@rwu.edu](mailto:pwebb@rwu.edu). I especially encourage instructors who are willing to author additional sections in their areas of expertise to submit them for inclusion in future updates to this text.

# Addressing The Gap

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## Introduction to Oceanography



Paul Webb

### Marine Ecology – ES 306

- Aim to spend at least one hour/week working on your chapter. You will have several checkpoints that you should think of as your “midterms”. Think of your final, complete chapter as your cumulative final exam.
- Deadlines
  - Sections through physical oceanography (Due 3/10)
  - Sections through marine megafauna (Due 4/7)
  - Full draft and presentations (Due 5/3)
  - Final chapter (Due 5/15)
  - Optional: Final editing over the summer for publication on LibreTexts and the Cupola

# Principles of Ecology

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OpenStaxx Biology (Clark et al. 2018)

Quantitative Ecology: A New Unified Approach (Lehman et al. 2019)

Conservation Biology in Sub-Saharan Africa (Wilson and Primack 2019)

Environmental Biology (Fisher 2018)

 [Kreb's Ecological Methods \(2017\)](#)

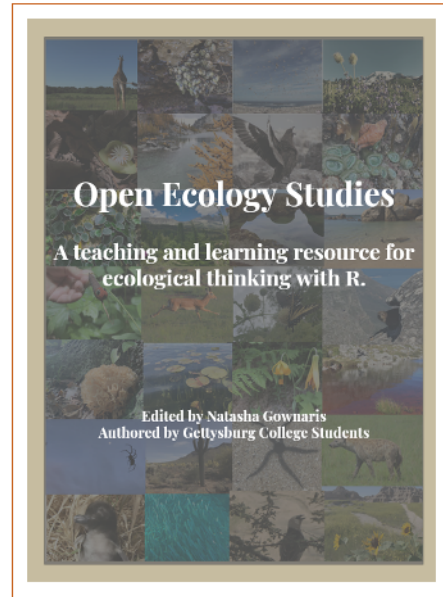
**+Open Software:**  
R Statistical Software

**+Open Data:**  
<https://datasetsearch.research.google.com/>

## Ecology Final Project

---

- Find an open dataset
- Develop a hypothesis
- Manipulate, analyze, visualize your data using R
- Publish (if you choose)





## Summary: The Maybe-Less-Obvious Stuff.

- When students don't pay for the textbook, you have more room for flexibility and integration of other types of resources
- Involving students in OER can be an excellent learning experience
- Using OER can encourage to more general discussions about equity and about open scholarship with students
- OER is not just about textbooks
  - Real (open) data are messy and more useful for teaching data literacy than the canned stuff
  - Teaching open software gives students the ability to bring their knowledge of that tool with them



# SPAN 301 – Open Textbook

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FRIDAY FORUM 5 MARCH 2021



# Why Open?

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SPAN 301

Pandemicking

## Process – Remixing on Libretexts

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Find a text or two (or more)

Pull out the chapters

Reorganize

## Snags

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- Formatting
- Accents: ¡Sí!

# Student reactions

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- Liked that we used the entire textbook
- Style mesh – teaching and book
- “The fact that I didn’t have to buy an 100\$ text book made me much more willing to take the class. It also made me feel a lot better about the class overall.”
- “It was easy to use and I could search the document to bring me right where I needed to be if I needed to quickly review a topic before a quiz.”
- “The experience did not feel too different honestly”
- “I generally prefer having hard copies of my books for class, but this made sense for the virtual setting.”
- “I liked the formatting, but I think a larger text size would be helpful.”

## Moving forward

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Different platform?

Adding new sections

H5P exercises