

# Teaching in the Open

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Keene State College  
[@karencang](#)





# Biology

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Biology is designed to cover the scope and sequence requirements of a typical two-semester biology course for science majors. The text provides comprehensive coverage of foundational research and core biology concepts through an evolutionary lens. Biology includes rich features that engage students in scientific inquiry, highlight careers in the biological sciences, and offer everyday applications. The book also includes clicker questions to help students understand—and apply—key concepts.

## Senior Contributing Authors

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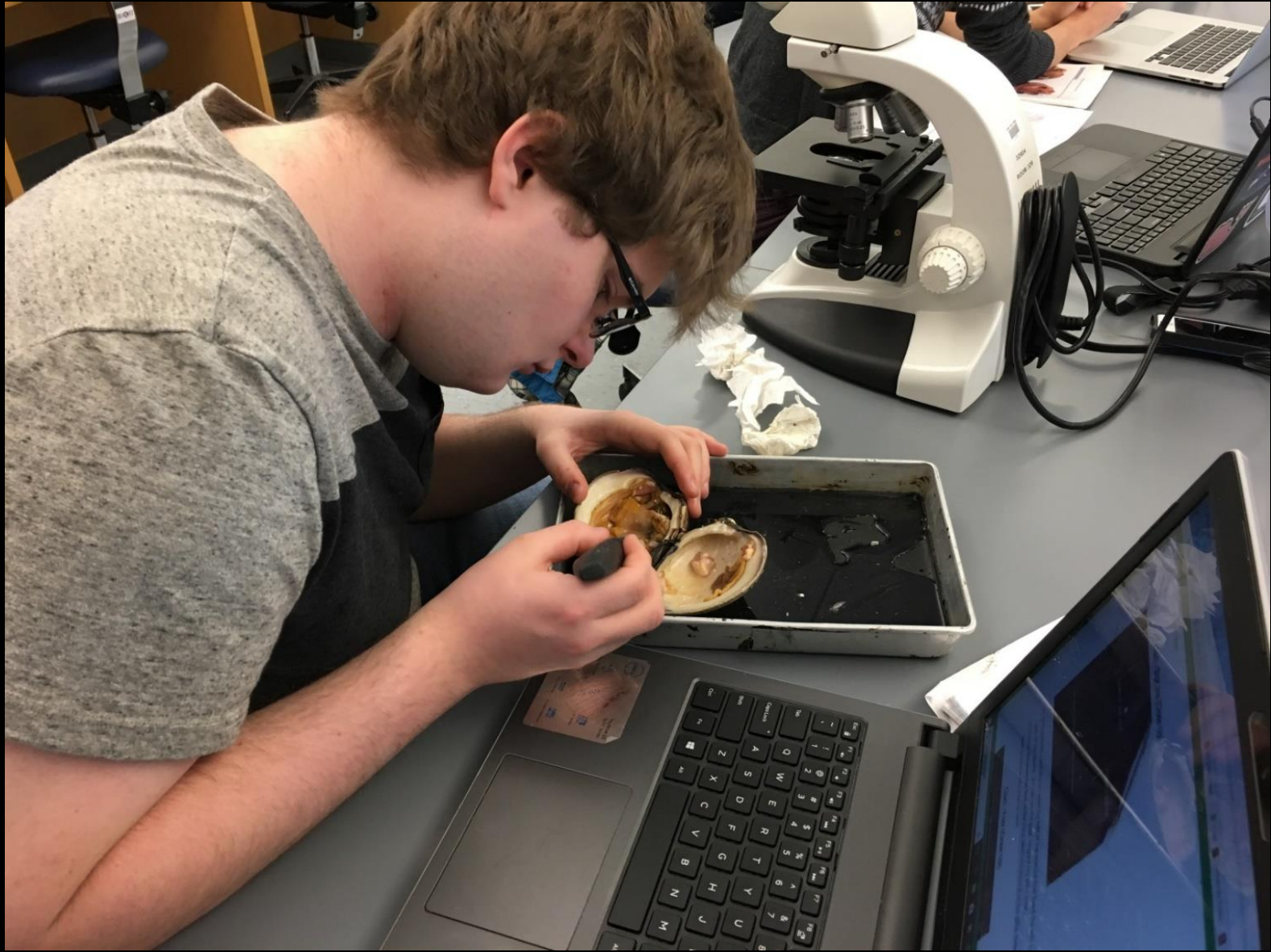
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# Student Loan Debt Statistics In 2019: A \$1.5 Trillion Crisis

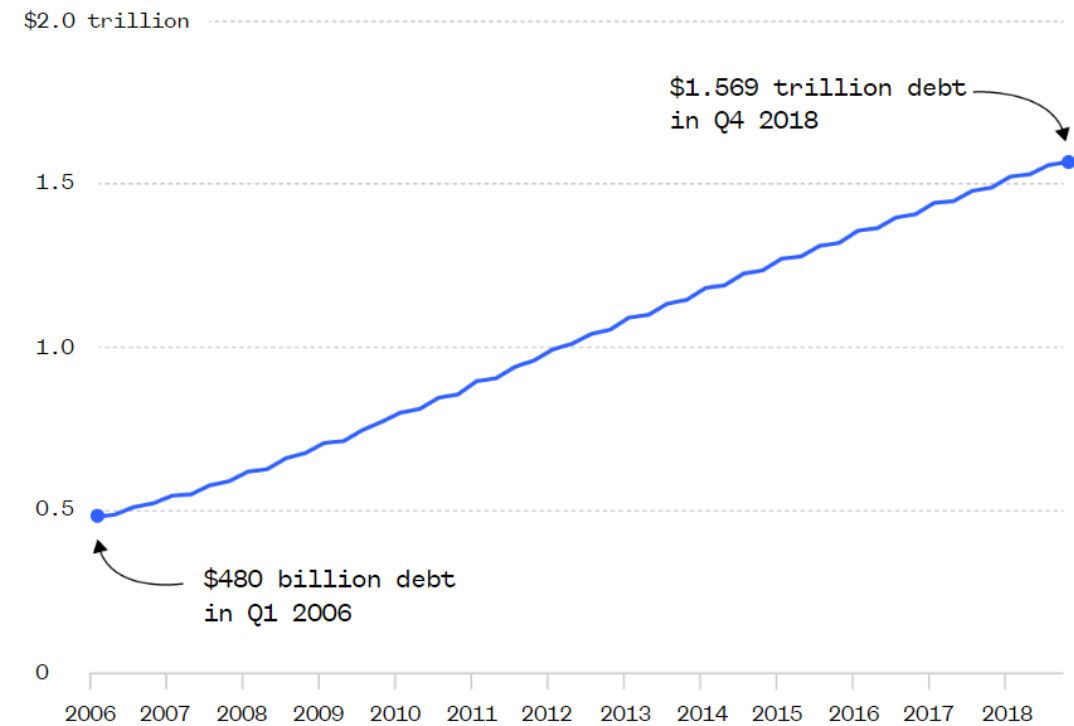


Zack Friedman Senior Contributor @  
Personal Finance



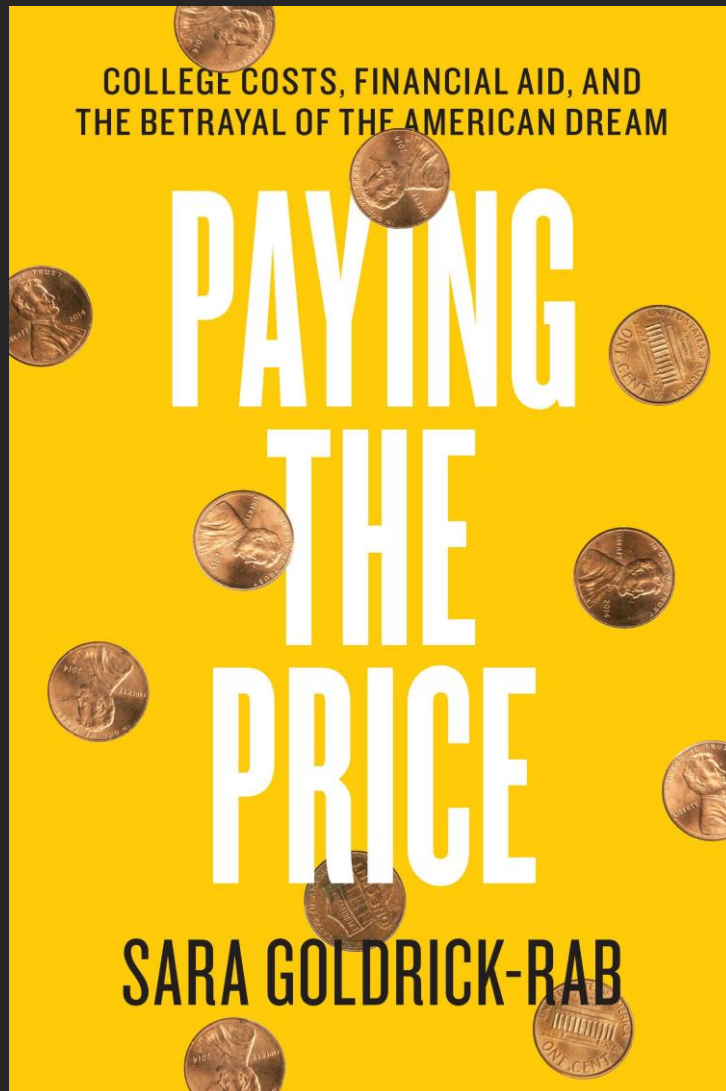
## Through the roof: Student loan debt in the U.S.

The amount of student loan debt in the United States has shot up over 200 percent since 2006.



Source: Federal Reserve

Chart: Robin Muccari / NBC News



- In a study of 3,000 public college/university students, HALF of the students left without a degree, but with crippling debt.
- 23% of low-income sophomores worked a job between the hours of 10:00pm and 8:00am.
- The average net price for a year at community college equals 40% of a low income family's annual income.
- A year at a public university ranges from 16-25% of a middle-class family's annual income.

Survey of **33,000** students at 74 community colleges in 24 states

- 67% are Food Insecure
- 50% are Housing Insecure
- 13-14% are Homeless
- Prevalent in all regions of the country



From: Hungry and Homeless in College: Results from a National Study of Basic Needs Insecurity in Higher Education, 2017, by Sara Goldrick-Rab, Jed Richardson and Anthony Hernandez, the Wisconsin HOPE lab

<http://wihopelab.com/publications/Hungry-and-Homeless-in-College-Report.pdf>



ABOUT

## THE HOPE CENTER

Too many students leave college without credentials because life, logistics, and a lack of money got in the way. These #RealCollege students are the new majority, but they are often ignored. The Hope Center for College, Community, and Justice is home to an action research team using rigorous research to drive innovative practice, evidence-based policymaking, and effective communications to support #RealCollege students.

[READ MORE](#)



WATCH OUR  
MISSION VIDEO

<https://hope4college.com/>

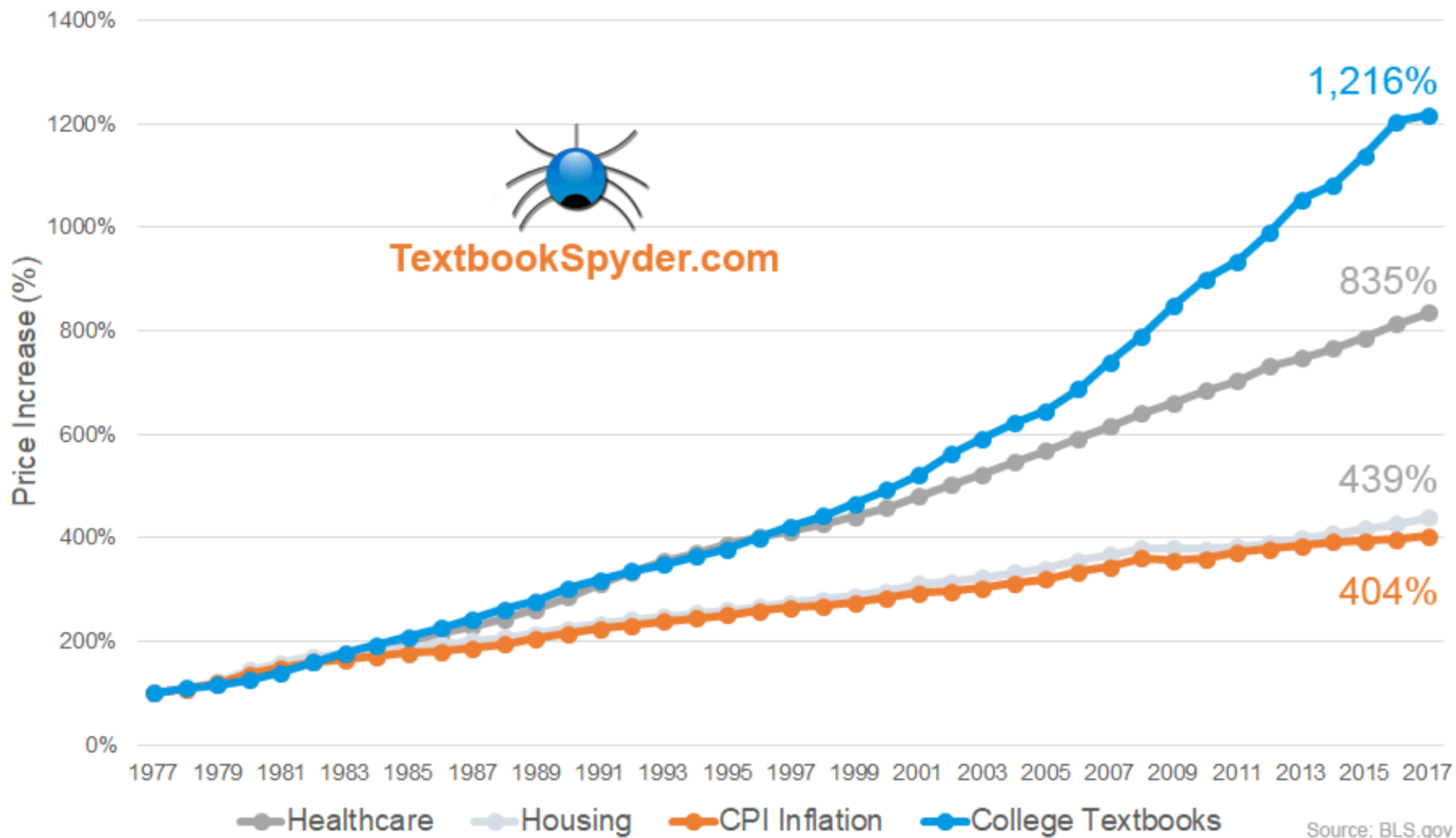


## KSC's Food Pantry – The Hungry Owl



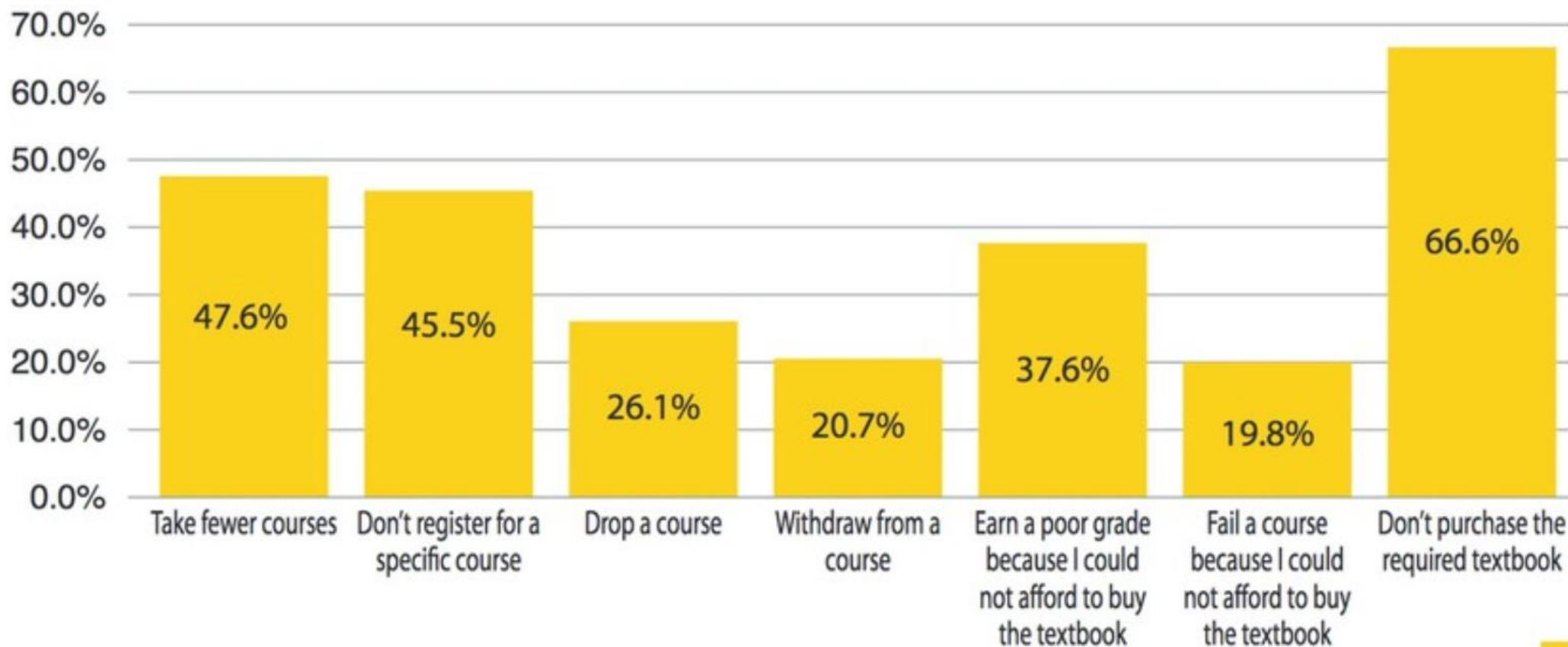


# Increases In College Textbook Prices Over 40 Years



Data from the U.S. Bureau of Labor Statistics

### Chart 1: Impact of Textbook Costs on Students



# OER



Open Educational Resources by Ron Mader [CC BY 2.0]

- Free



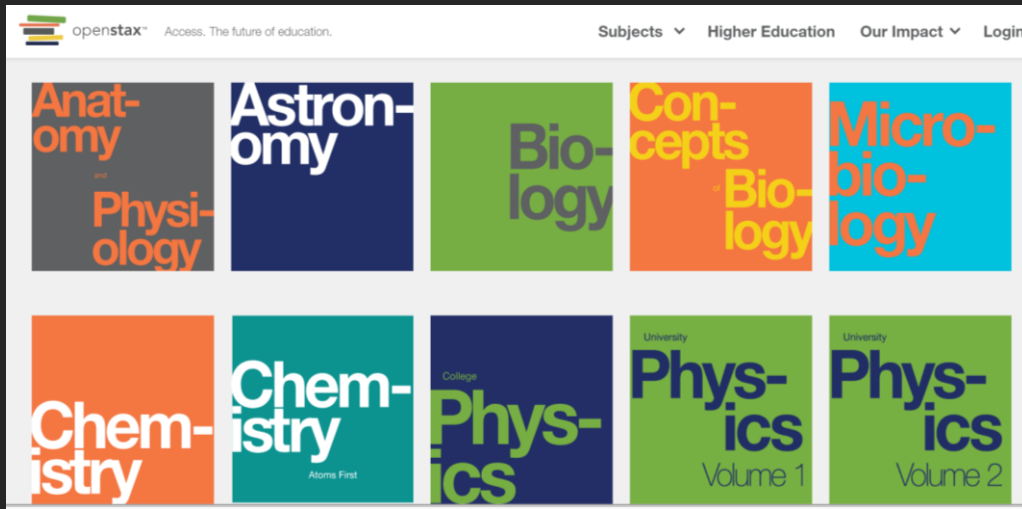
## Students in Courses using OER compared to non-OER

- Increase in course throughput rates
- Improve end-of-course grades and decrease DFW rates for all students
- Reduction in DFW rates for minority and Pell eligible students
- Lower course withdrawal rates
- Higher % of students completing course with a C or better

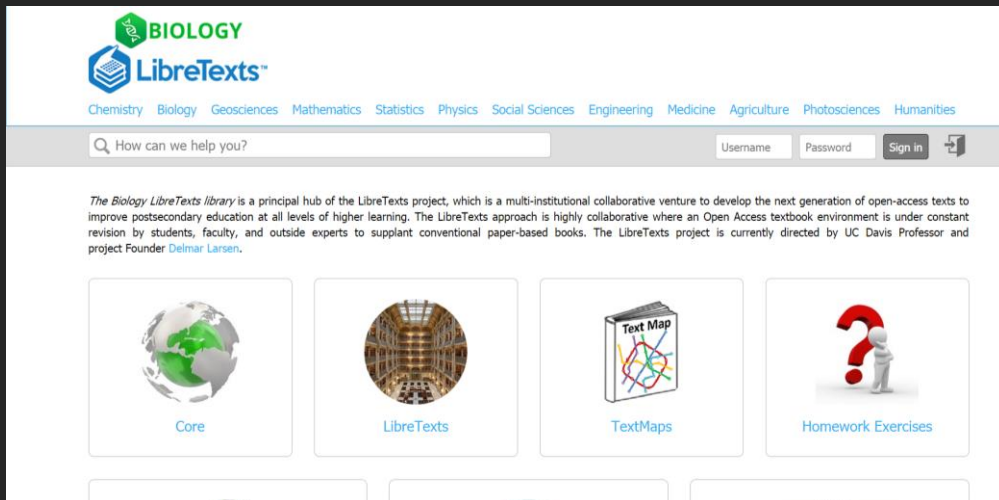
*Compilation of results from many studies from colleges/universities in the United States and Canada*

- The Keene State College Biology dept has collectively saved our students over \$250,000 over the last 4 years.
- Many Colleges and Universities in the U.S. and Canada have already saved students MILLIONS of dollars in textbooks costs.

# OpenStax.org



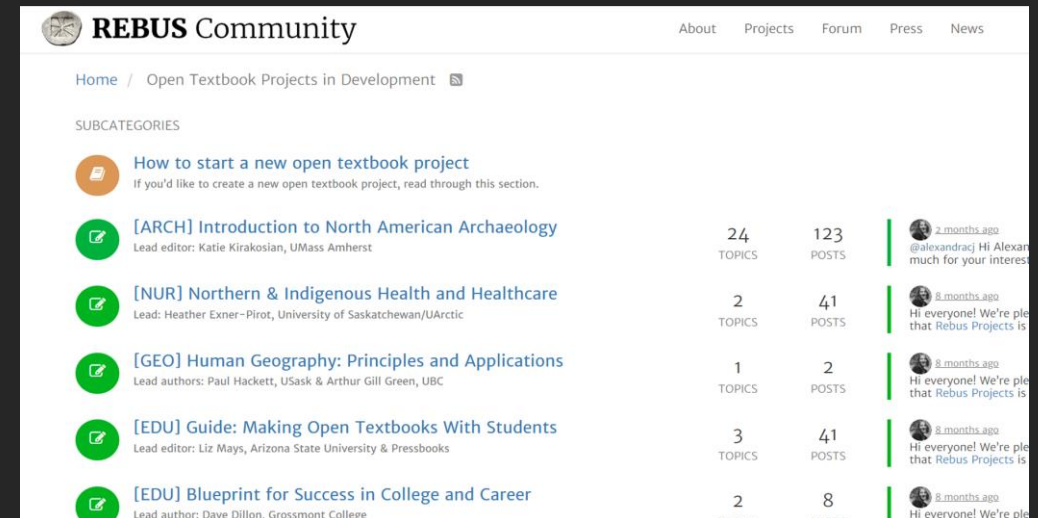
# LibreText Project



# OERcommons.org



# REBUS Community



## Map: Music Theory (Cook)

Last updated: Feb 14, 2017



This text is primarily designed to serve as a textbook for a college-level music theory fundamentals course. However, it also has the flexibility to serve equally well for a typical core curriculum college-level Music Theory I or Harmony I course. Our goal is to deliver sufficient information to enable the student to be able to evaluate and analyze select music from the literature as quickly as is practical. Secondly, we seek to provide sufficient instruction to enable a student to begin writing music as quickly as is practical. In order to develop a complete argument, it is important that the student understand that this text “assumes a blank slate.” No prior knowledge on the part of the student is assumed.



1: The Elements of Rhythm:  
Sound, Symbol, and Time



2: The Elements of Pitch:Sound,  
Symbol, and Tone



3: The Foundations Scale-Steps  
and Scales

OVER

# Open Notebook, Methods and Protocols

OVER

The screenshot shows a web browser window displaying a notebook titled "Fixation of yeast cells for RNA-FISH". The interface includes a top navigation bar with tabs for "Description", "Guidelines & Warnings", "Materials", and "Steps" (which is active). There are buttons for "+SHARE" and "VIEW", and a status indicator "All changes saved". Below the navigation is a rich text editor toolbar. The main content area lists four steps:

- Inoculation and Growth**  
1. Around 10am, start a cell culture in a 50ml tube, using 10ml of CSM.
- Inoculation and Growth**  
2. Grow for 8-10 hours in a shaker at 30 °C.  
Time: 08:00:00
- Inoculation and Growth**  
3. Measure OD in the evening and dilute into 250ml glass flasks, starting 45ml of CSM for overnight growth. Aiming for OD 0.2-0.4 around 10am the next morning.  
Time: 16:00:00  
**NOTE**  
Better to dilute more and wait till the next morning than to over-grow; don't want to fix at OD>0.5.
- Fixation**  
4. Transfer to 50ml falcon tubes.

On the right side of the notebook, there is a vertical sidebar with a list of tags: AMOUNT, [M] CONCENTRATION, TEMPERATURE, DURATION, PROTOCOL, DOCUMENT, EQUIPMENT, REAGENT, COMMAND, DATASET, SOFTWARE, NOTE, SAFETY INFORMATION, and EXPECTED RESULT.

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<https://www.protocols.io/>



# Open Data as OER

+ New 3

[Overview](#) [Contributors](#) [Discussion](#) [Activity](#) 34

## Geocoded: Incidents of Gun Violence in San Antonio (2018)



Incidents of gun violence in San Antonio in 2018, according to the Gun Violence Archive.





**SUMMARY**





Incidents of Gun Violence in San Antonio in 2018 according to the Gun Violence Archive (<http://www.gunviolencearchive.org/congress/tx>). This dataset was published by the Rivard Report in "Tierrabyte: Zoning Emerges as Contested Tool for Gun Control."

The definition of gun violence varies. The Gun Violence Archive's methodology describes their definition as "fully inclusionary of disparate elements of gun-related incidents," including accidental shootings, crimes involving guns, or drivebys.


<http://www.gunviolencearchive.org/methodology>

1 file Sort  

**GunviolenceSA\_Cleaned.xlsx**  
[Request more info](#) View   

	 incident_date	 state	 city_or_county	 address	#	latitude	▼	#	longitu
1	2018-06-24	Texas	San Antonio	NW Loop 410		29.5209			
2	2018-06-24	Texas	San Antonio	222 N New Braunfels Ave		29.4221			
3	2018-06-23	Texas	San Antonio	4553 N Loop 1604 W		29.596			
4	2018-06-22	Texas	San Antonio	I-35		31.6106			
5	2018-06-21	Texas	San Antonio	Chihuahua St and Hamilton St		29.417			

**ABOUT THIS DATASET**

SHARED WITH  Everyone

CREATED Jun 29, 2018 by @rivardreport

MODIFIED Jun 29, 2018 · All activity

VERSION bbc47082

SIZE 14.39 KB


TAGS [gun violence](#), [zoning](#), [gun control](#), [open carry](#)

LICENSE Public Domain

DICTIONARY 1 file and 11 columns  
[View data dictionary](#)

---

QUERIES (1)

 [gunviolencesa\\_cleaned](#)


---

PROJECTS USING THIS DATASET (1)

[Gun Violence San Antonio TX](#)  
@ar505 · 7 months ago

---

CONTRIBUTORS (1)

 **The Rivard Report**  
@rivardreport

# Free as in “Free Beer”



Photo by Elliot Bledsoe [CC BY 2.0]



BECOMING HUMAN BRINGS TOGETHER INTERACTIVE MULTIMEDIA, RESEARCH AND SCHOLARSHIP TO PROMOTE GREATER UNDERSTANDING OF THE COURSE OF HUMAN EVOLUTION

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- Our oldest ancestor?
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PIGEON BREEDING: GENETICS AT WORK

EPIGENETICS

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NORMAL CELLS

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“Using OER the same way we used commercial textbooks misses the point. It’s like driving an airplane down the road.” – David Wiley

# FREE as in Freedom (the 5 R's)

- Reuse
- Revise
- Remix
- Redistribute
- Retain

The image shows the letters 'O', 'E', and 'R' in a large, bold, sans-serif font. The 'O' is red, the 'E' is yellow, and the 'R' is blue. They are positioned to the right of the list of 5 R's.

# OER



Open Educational Resources by Ron Mader [CC BY 2.0]

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- Adaptable
- Current
- Public
- Openly Licensed
- Free

# OER



[CC 0] modified by K. Cangialosi



The process by K. Cangialosi CC BY 4.0



# OER

- “Traditional” OER as textbook (e.g. pressbooks)
- Ancillary materials: test banks, study guides, lesson plans, etc
- Curated links on websites
- Open Google Docs
- Open Access published articles
- Open Datasets
- Open Lab notebooks and Methods repositories
- Open Videos
- Open Lab Simulations
- Open Source software/tools
- and more...

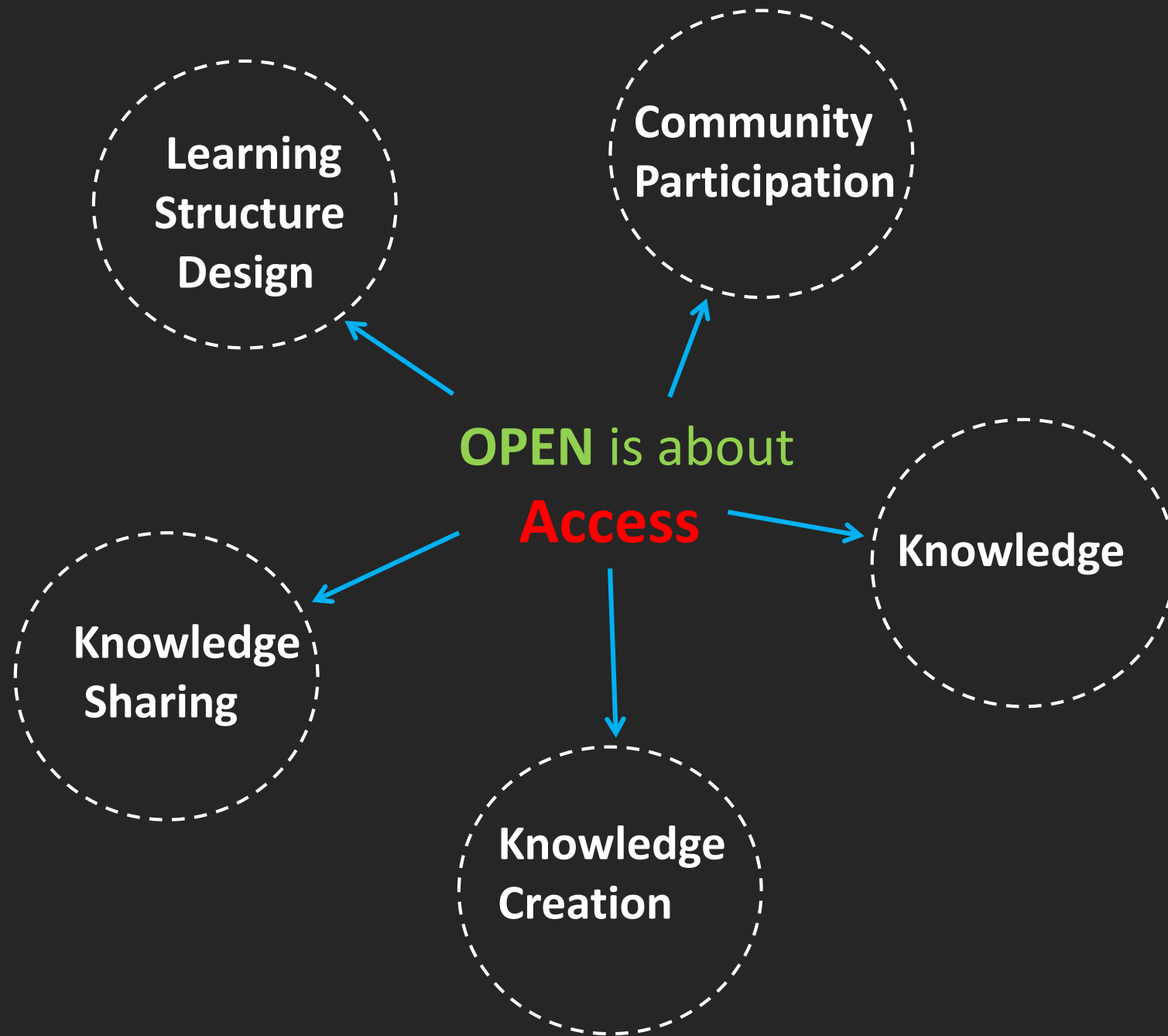


Popsicles by Colored Pencil Magazine [CC BY 2.0]

# Open Pedagogy

- Community and collaboration, sharing resources, ideas and power
- Connection to the wider public
- Learners contribute to, not just consume knowledge
- Student Agency, Learner-driven
- Critical approach to the use of tools and technology







“When my students gain access to knowledge, I want it to be part of a larger invitation: we trust that you have important lessons to teach the world, and we trust that the knowledge you access today will be changed by your perspective, that you will open doors to new ideas that we, your current teachers, never could have taught you.” – **Robin DeRosa**, *University of the Margins*

# Student-Created OER

CONTENTS ▲

TROPICAL MARINE BIOLOGY

Introduction

**I. Coral Reefs and Diversity** +

**II. Environmental Threats** -

9. Plastics in Our Oceans

10. Ocean Acidification

11. Harmful Algal Blooms

12. Coral Bleaching

13. The Warming of Our Oceans

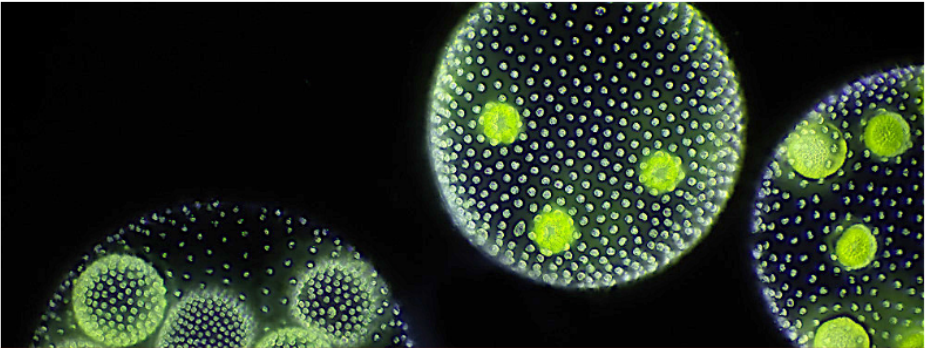
14. The Effect of Oil Spills on Marine Life

15. Unsustainable Fishing

**III. Reef Conservation** +

## II. Harmful Algal Blooms

Ever been told to only eat shellfish during the months that have the letter “R”, (September-April)? Well this rule is actually pretty important for keeping the health of people safe and to allow for many species of shellfish to repopulate. But why are the other months of the year not safe for people to eat shellfish? In short its because of the algae that grow during this time of year and as ocean temperatures rise. During these specific months of warmer weather, billions upon billions of these microorganisms start to take over our oceans and can have many consequences on us.



OER → Open Pedagogy

# Student-Created OER

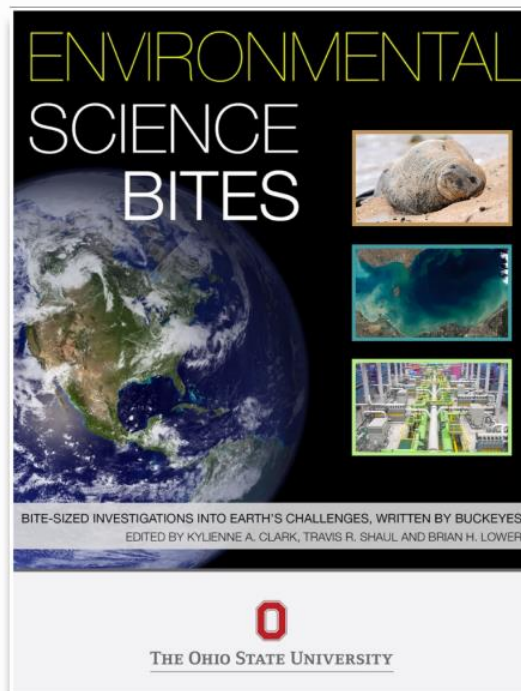
## Environmental ScienceBites

Edited by Kylieenne A. Clark, Travis R. Shaul, and Brian H. Lower

Sydney R. Morrison, Jaymes T. StClair, Levi J. Cramer, Alyssa M. Jones, Brittany L. Sulainis, Jeremie E. Beaverstock, Amanda L. Varcho, Kelly E. Peterson, Chayli T. Buenger, Wyatt T. Susich, Chris Ebersole, Brandon S. Wator, John A. Zagar, Jace A. Ball, Lee Seitz, Benjamin W. Schumann, Mason F. Ye, Alyssa M. Zearley, Cain W. Crouse, Allyson E. Loparo, Rika L. Bailey, Emily C. Mills, Andrew T. Wood, Lydia F. Bednarski, Samantha K. Runser

This book was written by undergraduate students at The Ohio State University (OSU) who were enrolled in the class Introduction to Environmental Science. The chapters describe some of Earth's major environmental challenges and discuss ways that humans are using cutting-edge science and engineering to provide sustainable solutions to these problems.

 READ



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# Students can create ancillary materials for OER textbooks

Rajiv Jhangiani, Ph.D.

Open Education, SoTL, Psychology

ABOUT ▾ SCHOLARSHIP ▾ KEYNOTES & INVITED TALKS ▾ OPEN PEDAGOGY NOTEBOOK BLOG CONTACT

🏠 > [Pedagogy](#) > Why have students answer questions when they can write them?

## Why have students answer questions when they can write them?

👤 [Rajiv Jhangiani](#) 🕒 [January 12, 2017](#) 📁 [Pedagogy, Students](#)

I recently trialled a new assignment in my Social Psychology class: During each of the 10 weeks when there was no scheduled exam I asked my students to write multiple-choice questions. That's right, they *wrote* questions instead of merely answering them.

From a pedagogical perspective, I really wanted my students to achieve a deeper level of understanding (e.g., the level it takes in order to craft three plausible distractors). However, this assignment also served a pragmatic purpose in that [the open textbook that I use for this course](#) (and that I helped revise) does not yet have a readymade question bank. By asking my students to craft and peer-review multiple-choice questions based on the concepts covered that week (and scaffolding this process over the semester), I considered I had a budding [open pedagogy](#) project on my hands.

Here's how it went:



Questions by Alan Levine

# OER doesn't have to look like a typical textbook

## Invertebrate Zoology

[HOME](#)[PHOTO ATTRIBUTIONS](#)[RESOURCES](#)[ALL BIOLOGY COURSES](#)

### Our Invert Zoo Textbook and Student Sites

Posted on [August 3, 2017](#) by [karencang](#)



Students enrolled in BIO 333 Invertebrate Zoology in the Fall 2017 semester created this resource. It is a perpetual work in progress, we all look forward to future additions and improvements.

All Fall 2017 [BIO 333 student sites and posts](#)

#### Authors:

Devon Audibert, Marisa Benjamin, Jessica Comeau, Doug Ericson, Simone McEwan, Alana Olendorf, Tia Rickard, Jennifer Rosado, Josh Stevens, Adam Teger

1. Protista
2. [Porifera](#)
3. [Cnidaria](#)
4. [Platyhelminthes](#)
5. Rotifera
6. [Nematoda](#)
7. [Mollusca](#)
8. Annelida

#### NAVIGATION

[Welcome](#)[Course Principles](#)[Tools for Open Pedagogy](#)[Schedule](#)[Learning Outcomes and Policies](#)[Our Invert Zoo Textbook and Student Sites](#)

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## **DIGITAL FLUENCY**

Use open-source platforms. Build projects using digital tools. Create portfolios, exhibits, galleries, blogs, or

## **DIGITAL CITIZENSHIP**

Engage with the community. Construct the web. Navigate, and critically question digital technologies.

# Brendan Goodwin

Brendan Goodwin | Musician – Teacher

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[CLICK TO BEGIN](#)

- Interactive
- Collaborative
- Contributory
- Dynamic
- Empowering
- Participatory

“Contribute to, not just consume from, the knowledge commons”

-Robin DeRosa

HOME

BLOG

ABOUT THE ARTIST ▾

CONTACT

PORTFOLIO ▾

## NATURE, NURTURE, MURDER?

Posted on March 27, 2017 by thechcexplored in Evolution and Human Behaviour

It has been found in many studies that male children who abused or experience violence are more likely to be violent when they grow up – but not all male children who experience violence whilst growing up turn out to be violent people. Some may ask, well what about alcohol abuse or drug abuse? Finances, education, or up-bringing? While all of these environmental factors have been linked to aggressive behavior, behaviorists are having a difficult time creating strong correlations between aggressive/violent behavior and environment alone. This has forced geneticists to ask the question that many had been hoping to avoid – is there a gene for violent behavior?

Stephen King begins his (very well-known) article *Why We Crave Horror Movies* with a very bold claim, “I think that we’re all mentally ill...”. He goes on to explain that he believes that insanity is a spectrum of control that spans from mumbling unintelligibly to yourself (when you’re frustrated) to cutting off

### TOP POSTS & PAGES

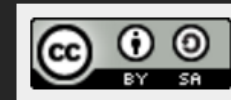
[What an Open Pedagogy Class Taught Me About Myself](#)

[Nature/ Nurture in Rhythm Zero](#)

[Nature, Nurture, Murder?](#)

[Genetics, Social Pressure, and Sexuality](#)

[Biology and Being Alone](#)



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# Bioinformatics

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[CLASS NOTES](#)



BEHAVIORS / MAY 5, 2018

### ALEX THE PARROT

"Alex the Parrot" By Blurpeace I just came out with a blog post called bird brains which covers multiple bird species and shows their intelligence [...]

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HUNTING / MAY 4, 2018

### GREAT WHITES ARE SOCIAL CREATURES

Great White Shark *Carcharodon carcharias*, commonly known as great white sharks, to most are seen as killing machines of the ocean, but in reality they [...]

[READ MORE](#)



BEHAVIORS / MAY 4, 2018

### HUMANS BEHAVING LIKE ANIMALS OR ANIMALS BEHAVING LIKE HUMANS?

This blog post is not being made to say humans behave in the same way animals behave but they aren't far off. Humans are animals, [...]

[READ MORE](#)



RESEARCHPAPER / MAY 3, 2018

### POMACEA DIFFUSA PREDATOR AVOIDANCE

Avoidance behaviors displayed by Apple Snail *Pomacea diffusa* in the presence of two different predators Josh Stevens, Alana Olendorf, Doug Ericson May 3rd, 2018 Bio [...]

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BEHAVIORS / APRIL 29, 2018

### BIRD BRAIN?

Crow Water Displacement The term bird brain stems back to the early 1900's and was commonly used to refer to someone as unintelligent. It originated [...]

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NOTES / APRIL 27, 2018

### ANIMAL BEHAVIOR NOTES

Evolution Fitness Altruism Sampling Communication Food and Predator Adaptation Predator Defense Evolution of Reproductive Behavior Proximate and Ultimate Causation Development of Behavior Human Behavior

My Hub Domain

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#### CATEGORIES

- behaviors
- Evolution
- Hunting
- Notes
- ResearchPaper
- SocialStructure
- Uncategorized

#### CHECK OUT MY TWITTER

Tweets by @JoshStevens1210

**Josh Stevens**  
@JoshStevens1210

Lab skills are very crucial, integrating a way to use research labs as teaching facilities on occasion could be really useful! Similar to the neuro course last year, we were able to use @suvwhite tadpoles to conduct our own research projects #KSCbio

Oct 29, 2018

**Josh Stevens**  
@JoshStevens1210

I feel like adding more labs to the early bio courses would be really beneficial! As bio students many of us have gone

[Embed](#) [View on Twitter](#)



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# Non-Disposable Assignments

- Students create, remix and openly license work that is shared with others.
- Student work lives on past the end of the semester (if they want it to).

“Open is not the opposite of private” Robin DeRosa

# What is NH Science for Citizens?

**We are** students and faculty at Keene State College working on community-relevant environmental issues in New Hampshire. We focus on both the science and the policy making process.

**Our goal** is to help the citizens and legislators of New Hampshire make informed policy choices. This website and corresponding social media channels are intended to provide a portal where interested parties can learn and converse.

We welcome inquiries from members of the public who might have a concern in their neighborhood or community. We also welcome other professionals to join us.



CURRENT LEGISLATION

EMERGING ISSUES

Community  
Connections

# Audience Beyond the Professor, Connecting to the Public

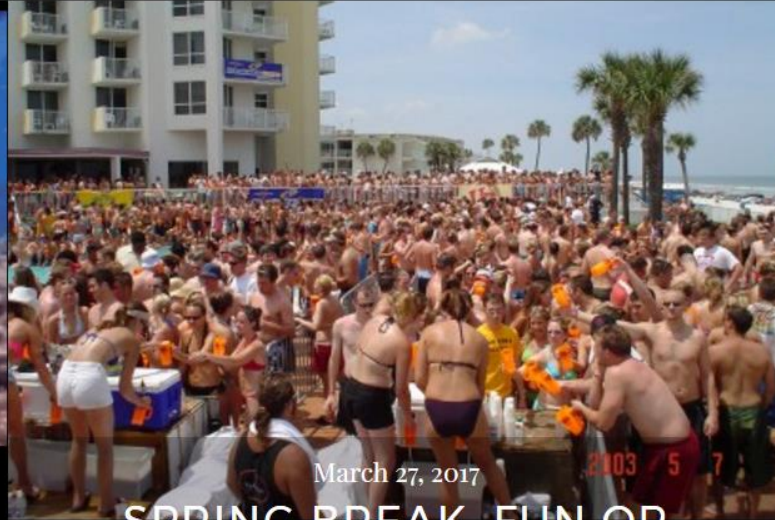
Student Domain

ALANA OLENDORF E-PORT



April 11, 2017

SCREENCAST 1: CORAL REEFS



March 27, 2017

SPRING BREAK, FUN OR HARMFUL?



March 16, 2017

THE RED TIDE



*“It was a drastic and honestly scary change going from a traditional learning course where I only have my instructor’s opinion to worry about.” - Invertebrate Zoology student*



# #SciComm

Students write about local contamination sites and potential consequences to humans and wildlife as public service

SEPTEMBER 18, 2018 / MADDIOUELLETTE / LEAVE A COMMENT

## Toxic Phthalates are in Everything...

### Why Phthalates?

Now that we know some background about phthalates and the health effects on male children how does this apply to our community? Currently all 50 states had or currently have a superfund site. The Environmental Protection Agency defines a superfund site as “any land in the United States that has been contaminated by hazardous waste and identified as a candidate for cleanup because it poses a risk to human health and/or the environment” (Environmental..., 2018). In New Hampshire the EPA identifies over twenty superfund sites in our state alone. One of those superfund sites is located in the next town over from my college. This is known as the Troy Mills and is found to contain phthalates that seemed to contaminate the nearby water supply. New Hampshire Department of Environmental Sciences regularly monitors this site and works directly with the EPA. All this information is public and can be found [here](#) to obtain more information about other superfund sites in New Hampshire.



The Troy Mills went into bankruptcy in 2003 therefore it was forced to close. The landfill was then added as a superfund site that fall. It was discovered that over eleven acres of property was used as an industrial waste disposal area from 1967 to 2001. This landfill had disposal drums of liquid waste of resins, organic solvent, and plasticizers stored underground. Within the next year the EPA removed over 7,500 buried drums and 26,000 tons of contaminated soil from the site. New soil was added, and a cap was placed over the former area. Due to the contamination of phthalates the site is required to have long-term environmental monitoring. Although, the site was cleaned up the phthalates did leak into the environmental and can be responsible for endocrine disruption in the human population around this area. Since you know phthalates are responsible for adverse reproductive development why should you NOT be concerned for this community.

How do these Phthalates effect the reproductive system of males?



On a more local note huge source of phthalate contamination in New Hampshire comes from the **Troy Mills Superfund site** located in Troy, NH. This site was once the former drum disposal area for Troy Mills Inc. **The Environmental Protection Agency (EPA)** did clean up the site. But, there was still a lot of phthalate contamination that couldn't be removed. This caused contamination of runoffs and then groundwater in the area. This threat to invertebrates population and health, as highlighted in the papers above, can be detrimental.

Tweets by @kfournierbio

**Katelyn Fournier**  
@kfournierbio

Just added a new post to my blog! Go check out the impact of noise pollution on wildlife species at: [nhwildlifeimpact.wordpress.com](http://nhwildlifeimpact.wordpress.com)



**New Hampshire Wildlife Impact**  
Scientifically detailing the human impact on the wildlife of New Hampshire  
[nhwildlifeimpact.wordpress.com](http://nhwildlifeimpact.wordpress.com)

18h



# Assignment Database

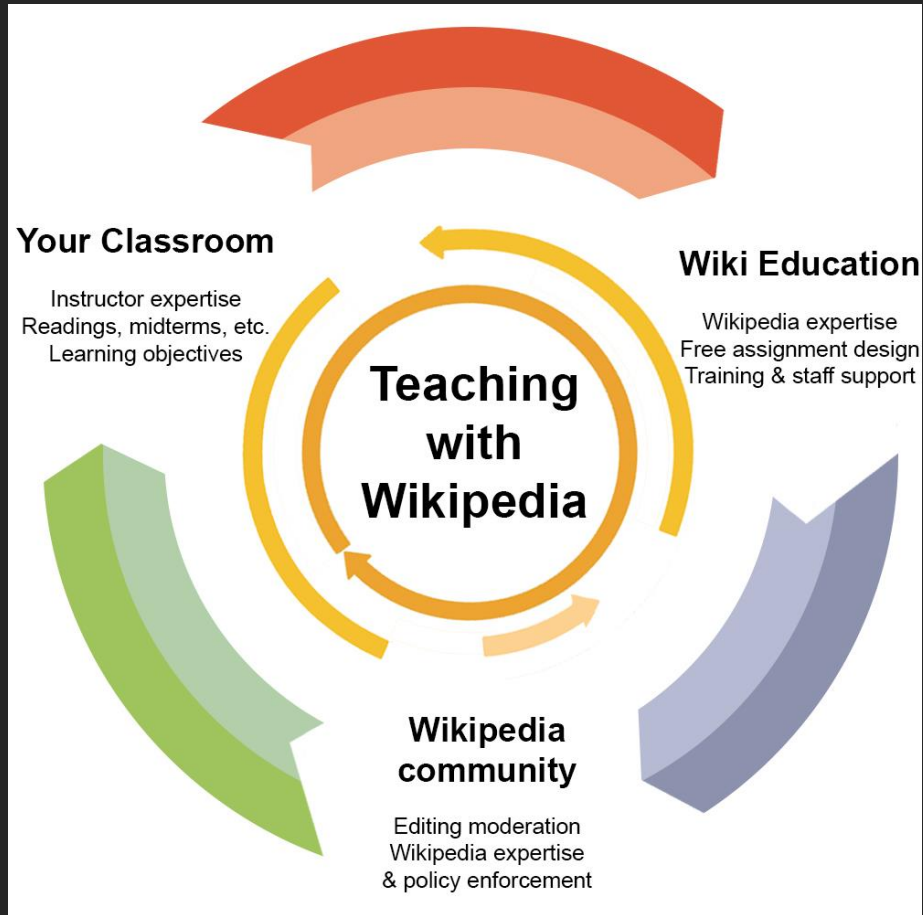
*Be aware that since you can edit this document, be careful not to accidentally delete anything. (use the undo button for mistakes).*

**Fall 2018  
Bio Seminar**

**These are assignments that you can complete this semester. Also please create your own assignments and add to this assignment database. Others may also want to do your assignments. Once you have added an assignment, let the class know by sending a tweet to the course hashtag and linking to this spreadsheet.**

Due Date	Assignment	Designed by	Description
Tues Sep 4	Beginning Thoughts Post	Karen Cangialosi	Write and post to your site, about your current concerns, fears, excitement – any feelings about your future after leaving KSC. This is not meant to be your complete after graduation plans and steps- it is just a starting point to consider where you are right now. Put the link in the class spreadsheet by Tues Sep 4.
	Mock Interviews	Anna	Meet with biology faculty and participate in a mock interview. The interview can be either focused on an interview for a job or graduate school. Share your interview experience via twitter or a blog post.
October 4th	TEDxKeene event	Max & Suki	<u>Attend the TED talk in Keene, have some fun, learn something new, write a blog post. Where, When, &amp; Ticket info at <a href="https://t.co/BZDoy9oFRi">https://t.co/BZDoy9oFRi</a></u>
	The political is personal!	Collin	How do the politics of our country and the world relate to your work? / What do you do as a scientist to contribute to the community?
October 15th	NHSTA Conference	Kaitlyn	Attend the New Hampshire Science Teacher Association conference in Meredith, NH. Write a blog post about the sessions you attended (feel free to live-Tweet, if appropriate) and the neat organizations, programs, and resources you found at the tables in-between sessions.
multiple	Career Clinic	Kaitlyn	<u>Attend one of the Career Clinics offered on campus by the ACA. Bring your resume, cover letter, and perhaps your Linked In page and blog for some advice on how to strengthen them. They are offered the following dates/times: 9/12 from 11:30 am - 2 pm, 9/25 from 2 - 4:30 pm, 10/11 from 11 am - 1:30 pm, 10/29 from 12 - 2:30 pm, and 11/14 from 11:30 am - 2 pm. Located in the Rhodes Hall Atrium. Also see <a href="http://bioseminar.cangialosi.kscopen.org/blog/academic-and-career-advising/">http://bioseminar.cangialosi.kscopen.org/blog/academic-and-career-advising/</a></u>
	Create a Vision Board	Rachel	<u>Create a vision board, either digitally or in person. Add a picture or file of it to a blog post and explain in detail why at least 3 of the goals/pictures are on your vision board, and what steps you need to take to reach the goal, if applicable. Check out this link (<a href="https://www.wikihow.com/Make-a-Vision-Board">https://www.wikihow.com/Make-a-Vision-Board</a>) if you need inspiration on how to create a vision board. Don't forget to give credit for the pictures you use!</u>
			As scientists we are bound to do research at some point in our careers. Write a blog post about

# Creating/Editing Wikipedia Articles



Wiki Education Foundation ([wikiedu.org](http://wikiedu.org))

[CC BY SA]

MOST COMMON		
<b>Create or Expand an article</b>		
Students research and write an article from scratch, or expand a shorter article	Course with fewer than 50 students	6 - 12 weeks alongside regular syllabus coursework
GREAT FIT FOR: MOST DISCIPLINES, REPLACING WRITING OR RESEARCH PROJECT		
<b>Translate an existing article</b>		
Students translate high-quality articles from language they are studying to share on Wikipedia of their native language	Course with fewer than 30 students	4 - 5 weeks alongside syllabus
GREAT FIT FOR: LANGUAGE/TRANSLATION, ESL		
<b>Create new media and upload</b>		
Students produce original media content and upload to Wikimedia Commons	Any size course	1 - 2 weeks alongside syllabus
GREAT FIT FOR FOR: JOURNALISM, ART/MULTI-MEDIA, ETC.		

## “How do you go find the other people, the other voices?” - WVU Teaching Assistant Prof. Mary Kay McFarland

### **Fixing Gender Bias Is Complicated**

This academic year, we experimented with our Introduction to Photojournalism course to see just how we might help. Here at West Virginia University, we held a [“Tackling the Gender Gap”](#) session during Spring 2015. Although I was not yet a professor at WVU, I read about it on social media and felt it was an important issue.

Once on campus in Fall 2015, I charged students with writing biographical articles on photographers to counter [Wikipedia’s gender bias](#) against not only women, but people of color, as well.

My class was shocked by the assignment, and so were other classes in the spring. “Up until now, I was told ‘stay away from Wikipedia,’” WVU student Rachel Solis said.

“It’s a big NO-NO,” classmate Aishina Shaffer added. They responded to the charge of researching and writing for the world, rather than an audience of one (me, the professor).

# Web Annotation for Community & Collaboration



hypothesis - Web & PDF Annotation | chrome-extension://bjfhmgldciegchdpefhhlphglcehbmek/content/web/viewer.html?file=https%3A%2F%2Ftropicalmarinebio. ☆

Add Post Keene State College flickr cc attribution he TD Bank Online Banki Google Press This Tropical Marine Biolog Other bookmarks

Page: 1 of 10 Automatic Zoom Public

review several ecological factors that can limit the ability of coral reefs to withstand disturbance. These include: (1) **Many species lack the adaptive capacity to cope with the unprecedented disturbances they currently face; (2) human disturbances impact vulnerable life history stages, reducing reproductive output and the supply of recruits essential for recovery; (3) reefs can be vulnerable to the loss of few species, as niche specialization or temporal and spatial segregation makes each species unique (i.e., narrow ecological redundancy); in addition, many foundation species have similar sensitivity to disturbances, suggesting that entire functions can be lost to single disturbances; and (4) feedback loops and extinction vortices may stabilize degraded states or accelerate collapses even if stressors are removed. This review suggests that the degradation of coral reefs is due to not only the severity of human stressors but also the “fragility” of coral reefs.** As such, appropriate

delivery of goods and preserved.

**Keywords** Diversity · E · loss · Conservation · Staunt

**Introduction**

Coral reefs constitute one of the most economically important and the most diverse ecosystems in the world (Wilkinson 2002; Bellwood 2011). Coral reefs harbor the world's largest and most diverse marine biodiversity (Kudla 1997; Fisher et al. 2006). They provide livelihoods for millions of people, especially in coastal populations from the tropics (Wilkinson 2002; Adger et al. 2005). Unfortunately, the world's coral reefs are declining (Wilkinson 2002; Bellwood et al. 2004) with ~19% of the total coral cover lost (Wilkinson 2002) and 60–70% of reefs degraded (Wilkinson 2002; Burdett et al. 2005). While some coral reefs have recovered from major disturbances (Gardner et al. 2015), the majority of reefs are in decline in live coral cover (30

*understanding the causes of their declineimperative*

More research funding to understand coral reefs and the factors affecting them is definitely needed.

Show replies (4)

**Sim0726** Apr 5

*The economic and ecological value of coralreefs makes understanding the causes of their declineimperative.*

What are some of the economical values of coral reefs?

**haleyzanga95** Mar 30

*The decline of coral reefs has been broadly attributed tothreats emerging from climate change*

My blog post that discusses this topic. Link: <https://haleyzanga.wordpress.com/2017/03/01/is-global-warming-real/>

**haleyzanga95** Mar 27

Communicated by Ecology Editor Dr. Stuart Sandin

✉ Camilo Mora  
cmora@hawaii.edu

<sup>1</sup> Department of Geography, University of Hawaii, Honolulu, HI 96822, USA

<sup>2</sup> ARC Centre of Excellence for Coral Reef Studies, James

# Using Digital Tools for developing a Personal Learning Network for Connecting with Peers, Professionals and Academics

## Twitter

**Mamie**  
@MamieKingBio  
Tweets 76 | Following 36 | Followers 25 | Likes 66

**UT Knoxville**  
@UTKnoxville  
The official Twitter of the University of Tennessee, Knoxville.

**Forensic Science**  
@forensicscience  
Forensic Science | Latest news, research, books and journals in forensic science, anthropology, chemistry, ecology, entomology and criminology. #Forensics

**Lynne**  
@Queen\_Conina  
AfroLatina | Filmmaker | Bisexual | 22 | #BLM | ig: Lynne4thewin

## Linked-In

**Keene State College Biology Community and Alumni**  
Standard group

82 members [See all](#)

[Invite members](#)

About this Group  
This group is for Keene State College Biology Department students, faculty, staff, alumni and anyone else interested in connecting with the people of the Keene State College Biology Dept. Read more about Keene State College in Keene, NH at [www.keene.edu](http://www.keene.edu)

Group owner  
**Loren Launen** · 1st  
Professor of Biology at Keene State College

Group manager  
Kare

**Karen Cangialosi**  
Professor of Biology, Coordinator of Faculty Enrichment, Keene State College  
1mo

The KSC biology dept just received word that Novo Nordisk is looking for two people in entry level positions. Check out the details here: <https://lnkd.in/dU8vb4v> Let me know if you are interested, we have a direct line to the supervisor ...see more

**QC Microbiologist Job**  
novonordisk-jobs.com  
QC Microbiologist Job

## Research Gate

ResearchGate [Recruit scientists](#)

## Advance your research

Discover scientific knowledge, and make your research visible.

“Revolutionizing how research is conducted and disseminated in the digital age.”

Los Angeles Times



Mamie

@MamieKingBio · Sep 11

🔄 ❤️ 6

Job Stability Matters! #KSCBio @MilliporeSigma



suki graham

@sukig\_bio · Sep 11

🔄 ❤️ 6

"Be ok with trying something you didn't think you would want to do" - great advice from former #KSCBIO student, Steven



Devon Audibert

@AudibertDevon · Sep 11

🔄 1 ❤️ 10

"Be okay with doing something you wouldn't really want to do" such comforting advice with graduation creeping up.

@MilliporeSigma #KSCBio



Mamie

@MamieKingBio · Sep 11

🔄 ❤️ 5

You never know who your connections are! Put yourself out there! Confidence is key! #KSCBio



Spencer Lynch

@SpencerLynch15 · Sep 11

🔄 ❤️ 5

#KSCBio millipore says they're building a new lab space, and that means job opportunities!



Jennifer Rosado

@JenniferARosado · Sep 11

🔄 2 ❤️ 8

"The best way to get a job is networking", Sounds like the open pedagogy format is already pointing us in that direction! #KscBio #kscollab



Rachel Graves

@RachelGravesBio · Sep 11

🔄 1 ❤️ 8

I still want to be a teacher 😊.... but the visit from Millipore Sigma was informative tonight! Check out my blog post if you missed the panel or are interested in the company [rachelgravesbiology.wordpress.com/2018/09/12/mil...](http://rachelgravesbiology.wordpress.com/2018/09/12/mil...) #KSCBio



Karen Cangialosi

@karencang · Sep 11

🔄 1 ❤️ 7

Hearing from @KeeneState\_ #KSCBio alum who just graduated in May, talking about @LorenLaunen and @RoyChowdhuryLab. Now loving her job as a microbiologist @MilliporeSigma

**Millipore Sigma Career Panel 9/11/18**

Tonight I attended an event in the Career Speaker Series on campus. Millipore Sigma, [rachelgravesbiology.wordpress.com](http://rachelgravesbiology.wordpress.com)

Open provides tangible pathways from the classroom to future jobs and careers

Live Tweets from Career Speaker Panel, Sep 11, 2018



## Students can work with faculty to:

- Create Content
- Write the syllabus
- Determine what goes on during class
- Write the attendance policy
- Determine how they will be graded
- Create learning outcomes
- Design assignments
- Decide what they want to make public
- Decide whether or not to openly license their work



**Trust, Power, and Agency**



"Anxiety" by ASweeneyPhoto CC (BY-NC)

More than 60% of college students (in a study of 88,000) said they had experienced “overwhelming anxiety” in the past year, according to a 2018 report from the American College Health Association.

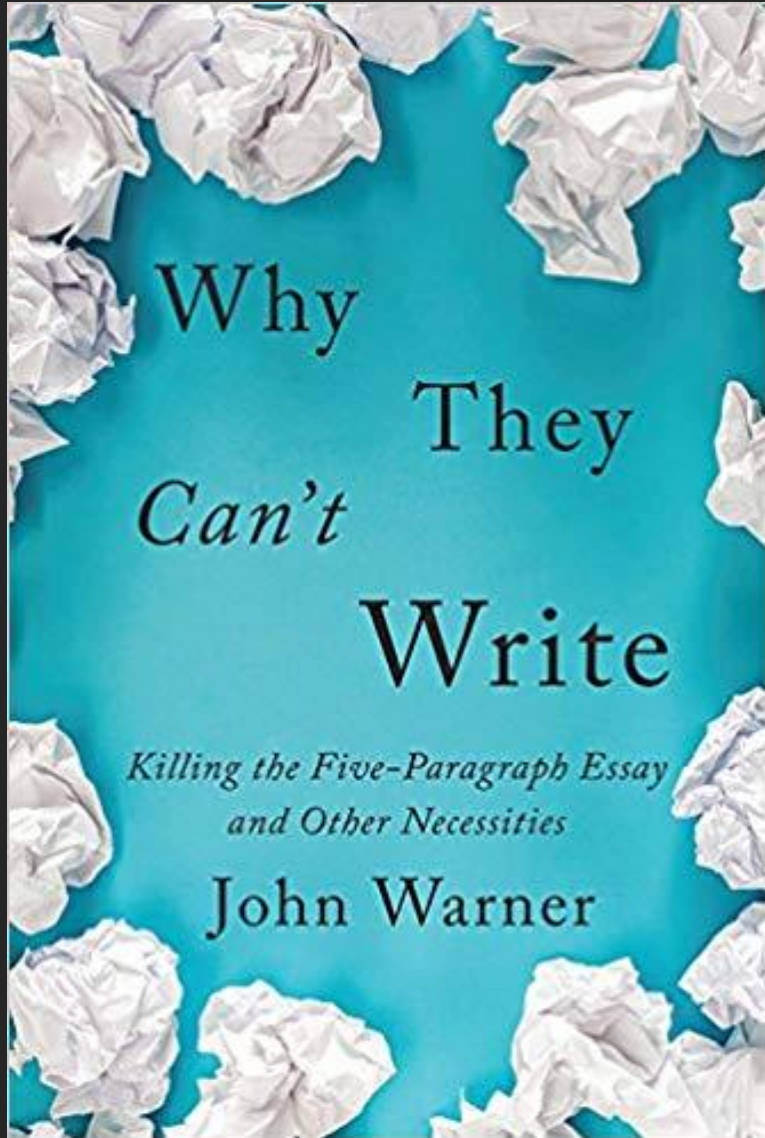
Over 40% said they felt so depressed they had difficulty functioning.

Source: <https://www.nytimes.com/2019/02/21/education/learning/mental-health-counseling-on-campus.html>

In 1985, 18% of college-bound seniors said they “frequently” felt “overwhelmed by all I had to do” during senior year of high school.

That number had increased to 41% by 2016.

Source: <https://willowresearch.com/gen-z/>



An atmosphere that places greater value on “achievement” than on learning

Standardized tests and assessments that suck the life out of learning

Surveillance systems that track, monitor, punish, and insist on compliance

“a stay of execution”

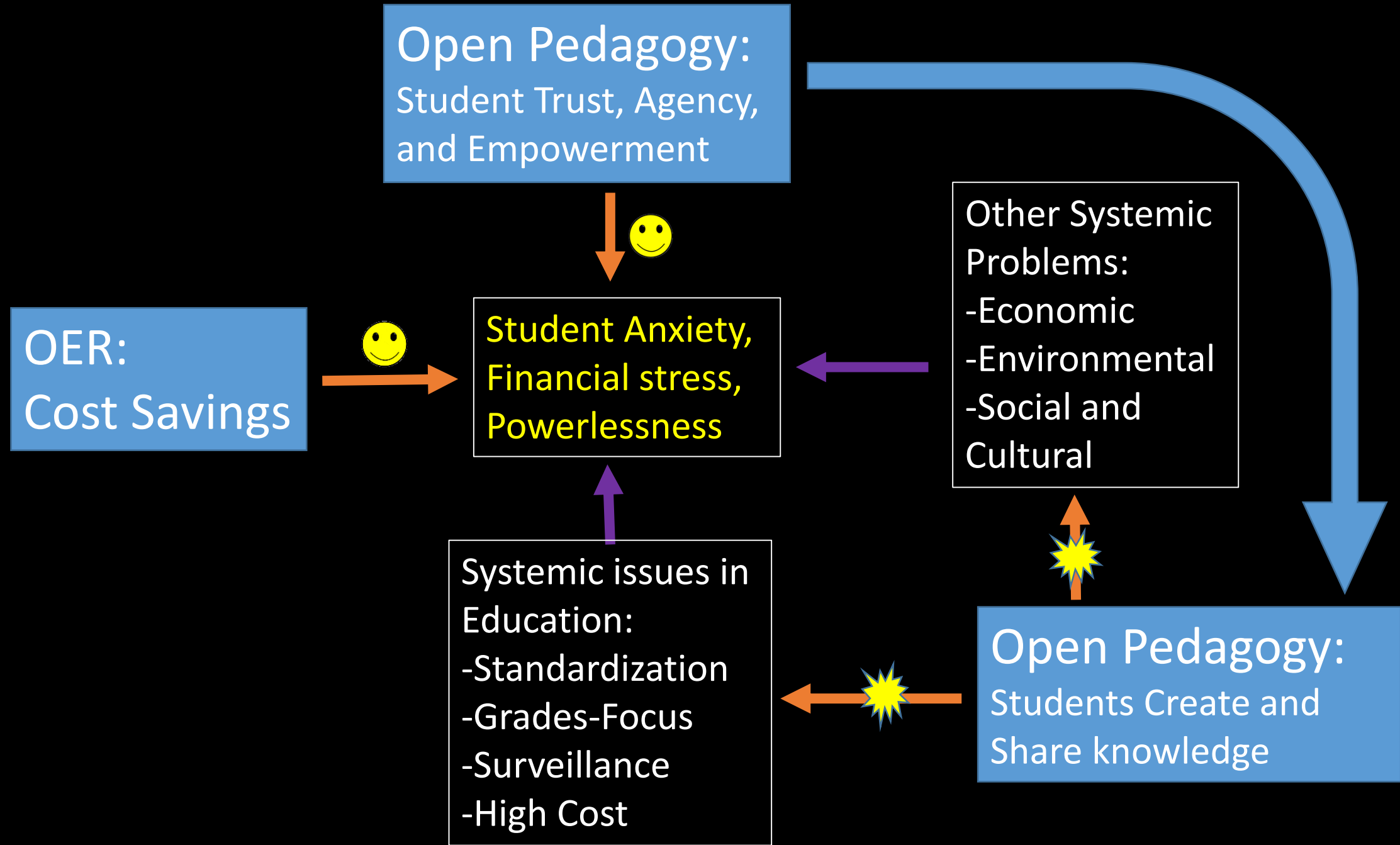
“students just know how to work the system”

“students will cheat if they can get away with it”

“they are grade-grubbers”

“they don’t know anything we taught them at the 100 level”

**Stop Blaming Students**



## CONSERVATION WITHIN PUBLIC SCHOOL

March 25, 2019

1 Comment

In class, we had a conversation about the role that public schools have in teaching students about conservation. Many of the students within the class and responding to my twitter talked about how they only learned about climate change and its effects within their AP courses in high school. As an education major, I was a little bit upset by this fact. Mainly because of something that we have learned within my education class that AP courses are unavailable to so many different student populations. This includes students that live in a low-income household, and students with disabilities. Every student should have equal access to this content. The only way to ensure that is providing all students information about climate change and conservation.

However, another thing I have learned throughout my time here at Keene State College teachers have so many responsibilities. They are required to teach their content based on district expectations. Some teachers are even given directions on what to teach when and how. Teachers are also required to teach with national standards. For science teachers these are known as the Next Generation Science Standards. They outline the topics at that students should be able to demonstrate at certain grade levels. Teachers are also

March 28, 2019

Leave a comment

## RESOURCES FOR TEACHERS

In my first blog post I began writing about the challenges that effect both teachers and students with conservation and learning about climate change. It then made me interested in what free and available resources for teachers to use. I was also interested if there were any resources available that teachers could give students as an opportunity to learn on their own. I was pleasantly surprised by the free access content.

I began my research on resources by looking at the [National Science Teacher Association](#). I officially became a member in the fall of 2018. When you open the website and you go under books, journals, and resources one of the first specific-focus sites is [climate science resources](#). NSTA states that they have made a position statement they want "greater support for science educators in teaching evidence-based science, including climate science and climate change". On this site, they include eBooks and books that provide resources for climate change education. However I want to provide information for teachers and others that are free. One thing I will make note of is that these lessons and information is a great starting place however, you should and will have to make adjustments to the materials to meet the needs of all your students.

One of the first websites I saw was the [National Oceanic and Atmospheric Association](#). This is a resource that includes literacy and data interpretations for students to look at. It provides students to look videos, worksheets, and labs to learn more about climate change.

**"As an education major, I was a little upset by this fact... every student should have equal access to this content."**

# Kwantlen Polytechnic University (KPU) and Montgomery College, International Partnership

## United Nations Sustainable Development Goals Open Pedagogy Fellowship

### SUSTAINABLE DEVELOPMENT GOALS



“Open is a process, not a panacea”

-Robin DeRosa



Trolls!

Fake News!



Stuff that's wrong!

Stuff that's irrelevant!  
(Who cares what you had for dinner?)

Students will go online **ANYWAY**; they will have a digital presence **WITH** or **WITHOUT** your guidance.

Is it responsible to “just say no” to:

- Smartphone use?
- Using social media?
- Reading, posting and interacting on the web?

If faculty and staff in higher education don't guide students to think about digital citizenship and their digital footprint – who will?

Don't start with  
the tools



- What are some ways to make education more accessible and equitable for all students? (Open for whom?)
- How do we authentically give our students voice and power in the design of learning structures?
- How do we help the public see the value in what our students are achieving?
- How can we provide transformational (not just transactional) experiences for our students?
- How might we inspire students to become agents of social change?

*“Education is vital to the creation of individuals capable of becoming critical social agents willing to struggle against injustices and develop the institutions that are crucial to the functioning of a substantive democracy.”* -Henry Giroux



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Follow me on twitter [@karencang](https://twitter.com/karencang)