How Creative Commons Licensing Can Promote Equity and Innovation

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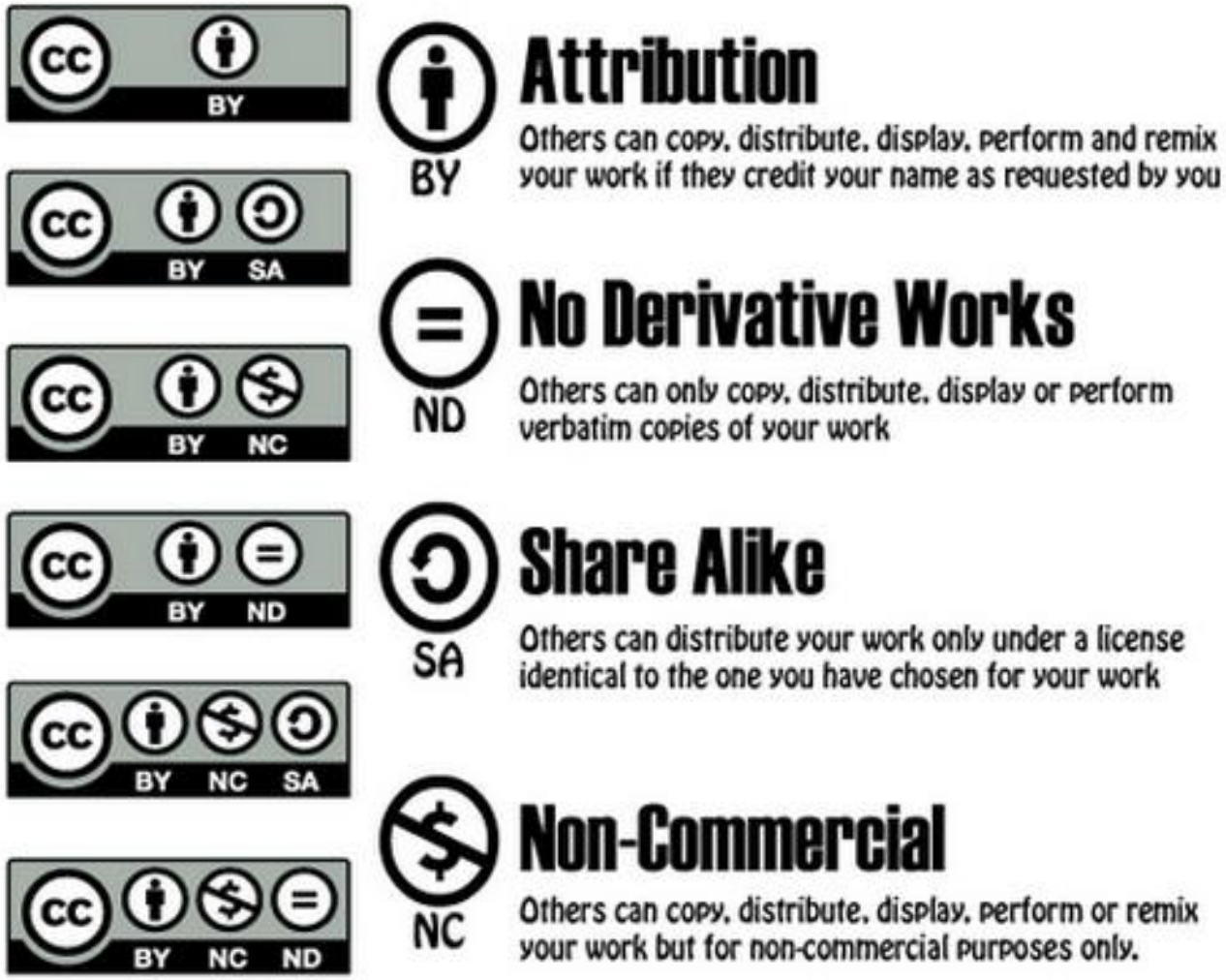
Open Education Group Primary Researcher

Agenda

- What makes open education different?
- Come for the finances….
- ….Stay for the pedagogy
- SCOPE Framework
- Revising textbooks
- Renewable assignments
  - Community of practice
  - Social annotation
  - Creating memes or social media shareworthy content
  - Photographs
  - Creating textbooks

Licensing defines open education

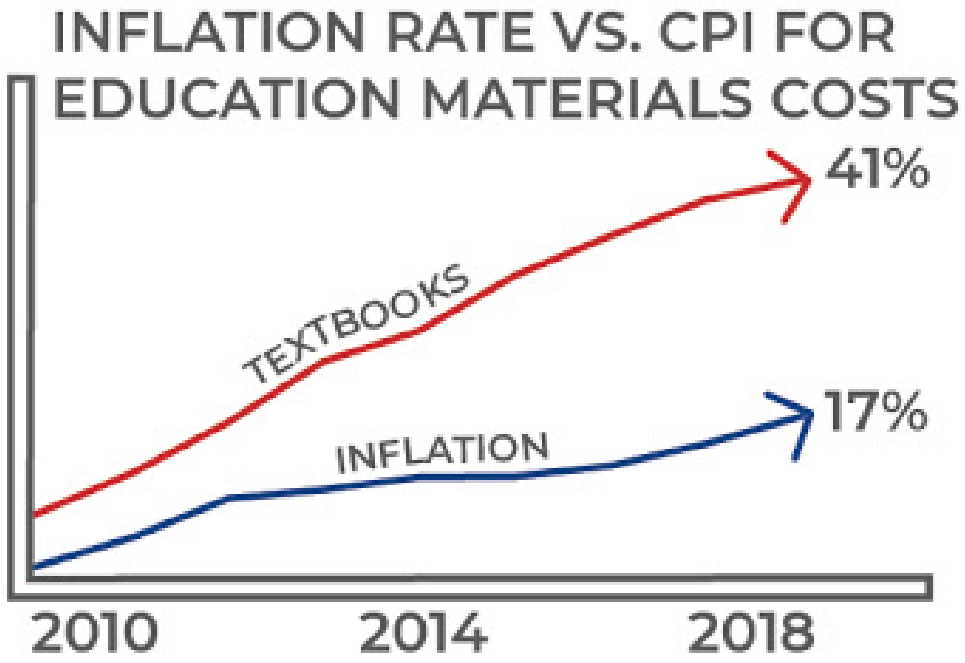
- Creative Commons
- Allows for sharing without access fees
- Creator maintains rights
- Variations allow for revising and redistributing



Financial cost savings matter

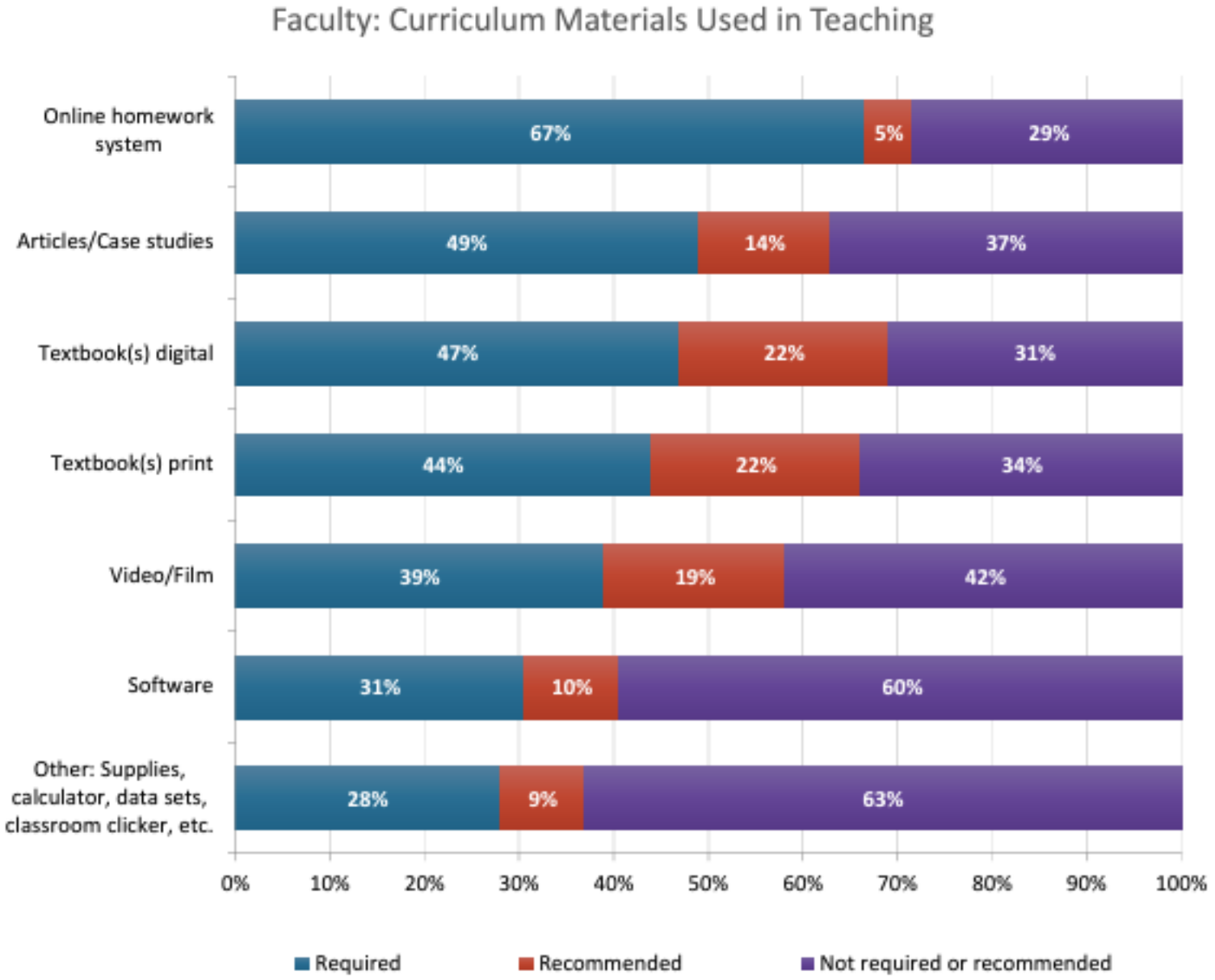
- Commercial materials are often expensive
- Burdensome for students, especially historically underserved groups (Jenkins et al., 2020; Nusbaum et al. 2020)
- Time spent searching for cheaper materials (Katz, 2019)
- Stress due to costs (Brandle et al., 2019)

Education costs are rising; OERs can help reduce student expenses.



FRED Economic Data. (2019). Economic Research, Consumer Price Index for All Urban Consumers: Educational books and supplies. Retrieved from: https://fred.stlouisfed.org/series/CUUR0000SEEA Federal Reserve Bank of St. Louis, St. Louis, MO.

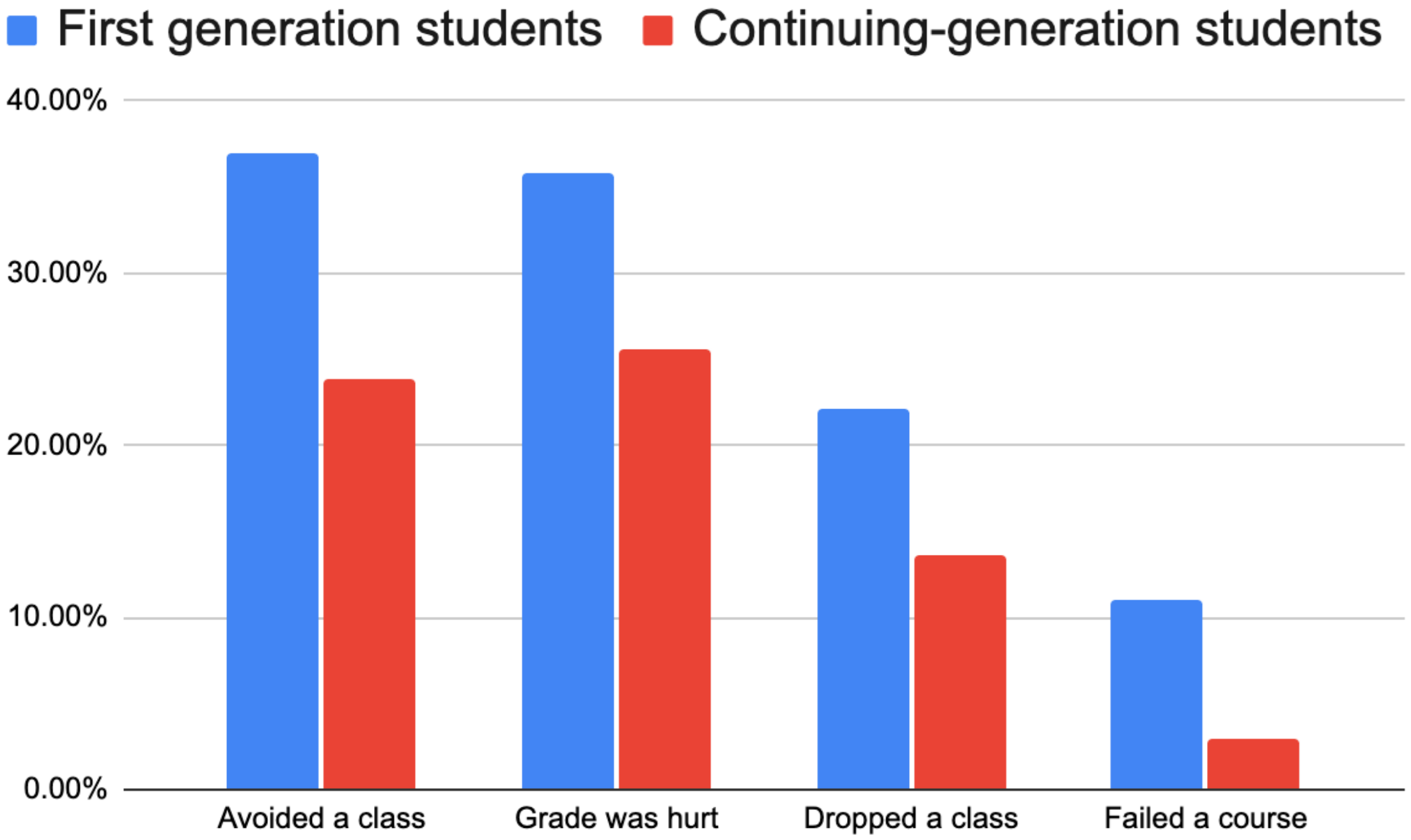
US Inflation Calculator. (2019). Retrieved calculations from: https://www.usinflationcalculator.com


Faculty: Curriculum Materials Used in Teaching
Online homework system
67%
5%
29%
Articles/Case studies
49%
14%
37%
Textbook(s) digital
47%
22%
31%
Textbook(s) print
44%
22%
34%
Video/Film
39%
19%
42%
Software
31%
10%
60%
Other: Supplies, calculator, data sets, classroom clicker, etc.
28%
9%
63%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Required
Recommended
Not required or recommended

Turning Point for Digital Curricula:
OPEN
Bay View Analytics

Paying for homework

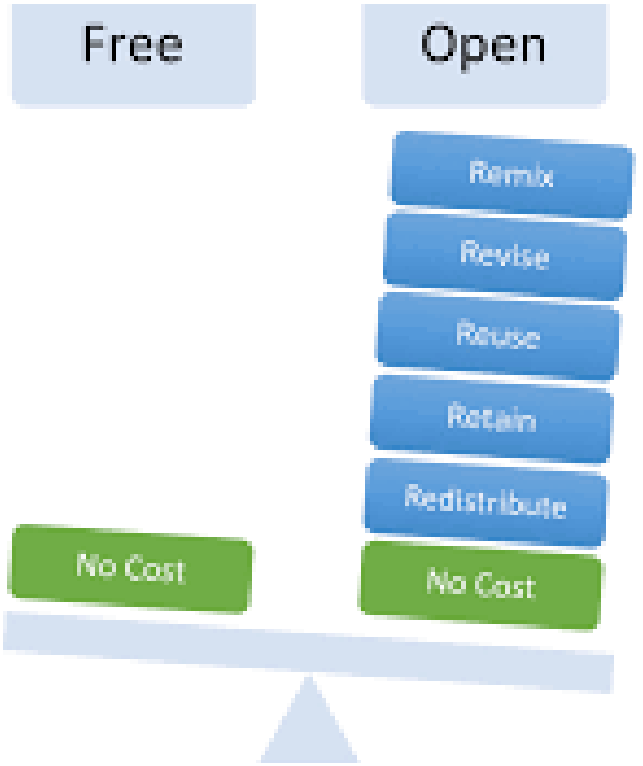
- 79.5% have been required to pay for homework
- 28.0% have avoided classes that require paying for homework
- 29.4% grade was hurt because of not affording an access code
- 16.1% dropped/withdrew from a class because of the cost of the homework
- 6.2% failed a class because of access code costs
-


First generation students
Continuing-generation students
40.00%
30.00%
20.00%
10.00%
0.00%
Avoided a class
Grade was hurt
Dropped a class
Failed a course

But open is more than just free!

The 5R Permissions of OER

Retain	• Make and own copies
Reuse	• Use in a wide range of ways
Revise	• Adapt, modify, and improve
Remix	• Combine two or more
Redistribute	• Share with others



Emancipatory Pedagogies

Photo by Chona Kasinger is licensed CC-BY 4.0

- *Freire*
- *hooks*
- *Shore*
- *Giroux*
- *McLaren*

Disposable assignment

- “A Disposable Assignment is any assignment about which students and faculty understand the following:
  - Students will do the work
  - Faculty will grade the work
  - Students will throw away the work”

- David Wiley, CEO of Lumen Learning

Renewable assignment definition

"A Renewable Assignment is any assignment where:

- Students will do the work
- Faculty will grade the work
- The work is inherently valuable to someone beyond the class
- The work is openly published so those other people can find and use (5R) it"

David Wiley, CEO of Lumen Learning

Renewable assignments are key to open pedagogy

A NEW FRAMEWORK FOR OPEN EDUCATION RESEARCH

	Definition	Examples of Inquiry
S SOCIAL JUSTICE	A corrective and liberatory practice; Equitable distribution of resources and opportunities, and attainment of full rights for all.	Inequities of open ed. infrastructure and funding across regions globally
C COSTS	Losses assumed to be either due to or avoided by open education.	Financial expenses and savings; emotional costs, cognitive load
O OUTCOMES	Presumed effects due to open education.	Grades, K-12, achievement, Teaching practices, promotion, and tenure
P PERCEPTION	Impressions and opinions of open education.	Quality measures by students and faculty
E ENGAGEMENT	Fully participating and being actively involved in open education	Learning analytics and strategies

So how can open education help with social justice?

"A process and also a goal to achieve a fairer society which involves actions guided by the principles of redistributive justice, recognitive justice or representational justice."

(Lambert, 2018)

Clinton-Lisell, V., Legerski, E., Rhodes, B., & Gilpin, S. (2021). Open Educational Resources as tools to foster equity. In C. Ozaki & L. Parson (Eds.) *Teaching & learning for social justice and equity in higher education, Volume 2* (pp. 317-337). Palgrave MacMillan.

Social Justice Framework for Open Education (Lambert 2018)

Social Justice Principle	What Does It Address?
Redistributive Justice	Equitable access to course materials, affordability
Recognitive Justice	Socio-cultural diversity in materials, diversity of perspectives and the centering of marginalized experiences
Representational Justice	Power/authority in authorship, co-construction of materials, (marginalized communities tell their own stories)

Redistributive justice

- Students historically underserved in higher education are more adversely affected by expensive commercial materials (Jenkins et al., 2019; Nusbaum et al., 2019)
- Meta-analyses and systematic reviews indicate that course grades are similar and withdrawal rates are lower with OER (Clinton & Khan, 2019; Hilton, 2016, 2019)
- First generation and low-income college students benefit more from OER (Colvard et al., 2018; Hardin et al., 2019)
  - Access hypothesis (Grimaldi et al., 2019)

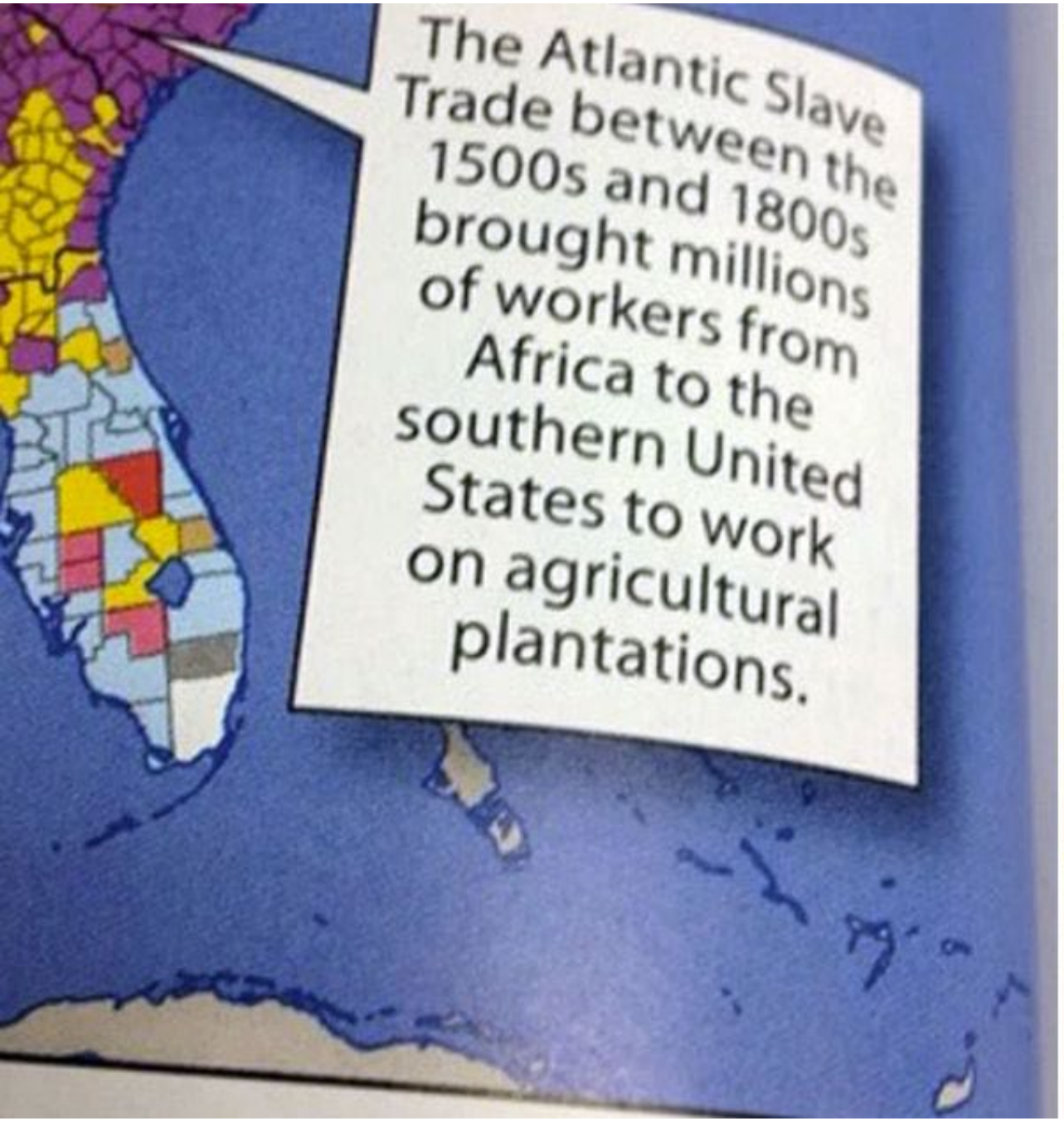
But open education is more than just free…here's how

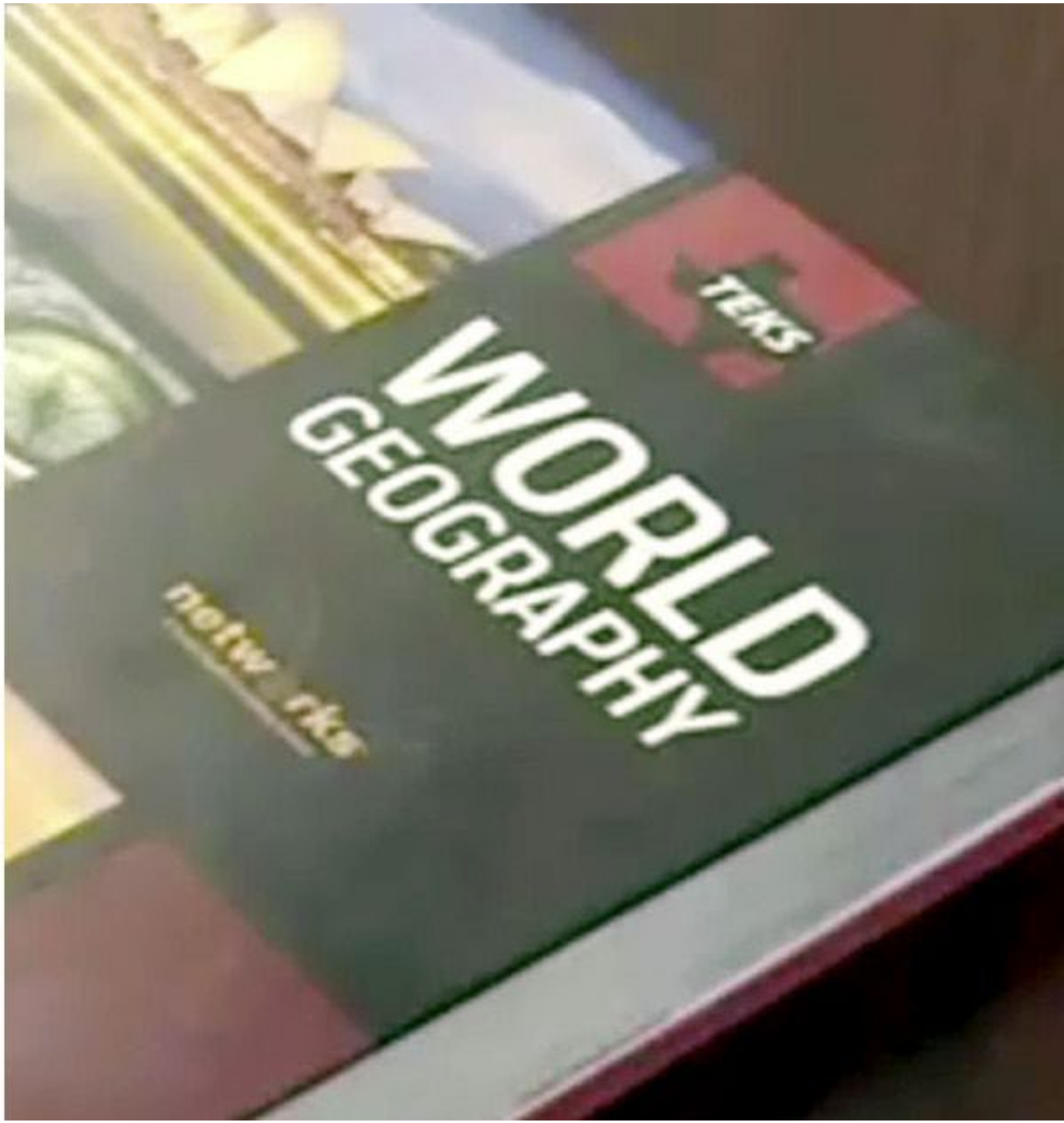
Recognitive justice

Lack of diverse representations in textbooks (Deckman et al., 2018; Parker et al., 2017; Rosa et al., 2016)

OER are editable—so you can fix this problem yourself!

Increased visibility → recognition


The Atlantic Slave Trade between the 1500s and 1800s brought millions of workers from Africa to the southern United States to work on agricultural plantations.


TEKS
WORLD GEOGRAPHY

Focus on Diversity and Culture Cultural Differences in Response to Pain

A clients' culture influences their response to and beliefs about pain. Some common cultural differences related to pain are listed here.

Arabs/Muslims

- May not request pain medicine but instead thank Allah for pain if it is the result of a healing medical procedure.
- Pain is considered a test of faith. Therefore Muslim clients must endure pain as a sign of faith in return for forgiveness and mercy. However, Muslims must seek pain relief when necessary because needless pain and suffering are frowned upon.
- Arabs and Muslims prefer to be with family when in pain and may express pain more freely around family.

Asians

- Chinese clients may not ask for medication because they do not want to take the nurse away from a more important task.
- Clients from Asian cultures often value stoicism as a response to pain. A client who complains openly about pain is thought to have poor social skills.
- Filipino clients may not take pain medication because they view pain as being the will of God.
- Indians who follow Hindu practices believe that pain must be endured in preparation for a better life in the next cycle.

Blacks

- Blacks often report higher pain intensity than other cultures.
- They believe suffering and pain are inevitable.
- They believe in prayer and laying on of hands to heal pain and believe that relief is proportional to faith.

Jews

- Jews may be vocal and demanding of assistance.
- They believe that pain must be shared and validated by others.

Hispanics

- Hispanics may believe that pain is a form of punishment and that suffering must be endured if they are to enter heaven.
- They vary widely in their expression of pain: Some are stoic and some are expressive.
- Catholic Hispanics may turn to religious practices to help them endure the pain.

Native Americans

- Native Americans may prefer to receive medications that have been blessed by a tribal shaman They believe such a blessing allows the client to be more at peace with the creator and makes the medicine stronger.
- They tend to be less expressive both verbally and nonverbally.
- They usually tolerate a high level of pain without requesting pain medication.
- They may pick a sacred number when asked to rate pain on a numerical pain scale.

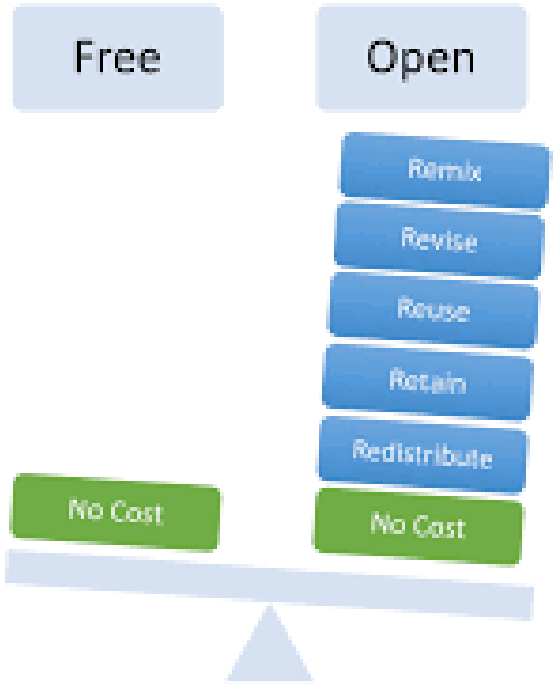
Sources: Based on Munoz, C., & Luckmann, J. (2005). *Transcultural communication in nursing* (2nd ed.). Clifton Park, NY: Delmar Learning; Andrews, M. M., & Boyle, J. S. (2003). *Transcultural concepts in nursing care* (4th ed.). Philadelphia, PA: Lippincott Williams & Wilkins; Al-Atiyyat, N. M. H. (2009). Cultural diversity and cancer pain. *Journal of Hospice and Palliative Nursing, 11*(3), 154–164; Davidhizar, R., & Giger, J. N. (2004). A review of the literature on care of clients in pain who are culturally diverse. *International Nursing Review, 51*(1), 47–55

Ms. Caldron: This poor, single-parent was concerned about discrimination in the school. She was a recovering drug addict receiving welfare. She did not discuss her concerns with other parents because she did not know the other parents and did not monitor her child's progress or get involved with the school. She felt that her concerns would not receive attention. She requested spelling lists from the teacher on several occasions but did not receive them. The teacher complained that Ms. Caldron did not sign forms that were sent home for her signature.

tests

- **consumer tribe:** a group of people who share a lifestyle & who can identify with each other because of their shared allegiance to an activity or a product
    - often unstable & short lived
    - shared emotions, moral beliefs, styles of life & of course the products they jointly consume as part of their tribal affiliation
- **Tribal marketing:** is to link ones products to the needs of a group as a whole. Many tribes devoted to activities such as skateboarding is youth oriented

- Open and commercial materials both lack diverse representation (Brandle, 2020; Nusbaum, 2020)
- Open education licensing is a tool for recognitive justice
- Instructors and students can work together to improve materials

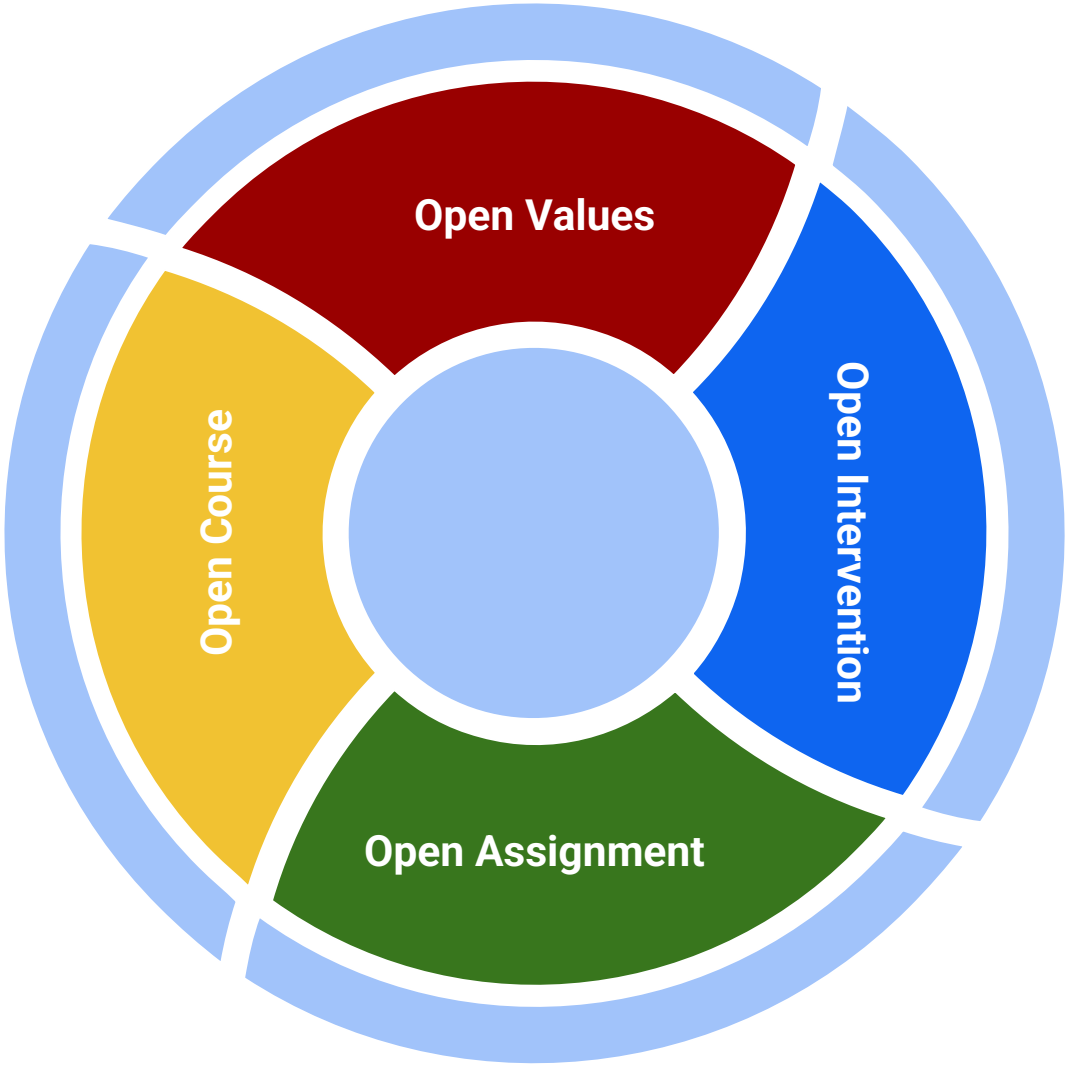


Faculty guide to renewable assignments/open pedagogy

- Links to resources
- Examples
- Research evidence (when available)
- https://tinyurl.com/mu7ap2k3

SCAN ME

“As open as possible, as closed as necessary”



Renewable assignments study: multiple instantiations

- 8 faculty members were in a community of practice to convert an existing assignment into a renewable assignment
- Renewable assignments included making webpages, creating brochures for local organizations, and transcribing historical works
- Students were encouraged, but not required to Creative Commons license and publicly share their work for reuse
- Students were surveyed and asked to compare their experiences

Clinton-Lisell, V., & Gwozdz, L. (2023). Understanding student experiences of renewable and traditional assignments. *College Teaching*. https://doi.org/10.1080/87567555.2023.2179591

Vaccines

- Home
- The History of Vaccines
- Existing Vaccines
- Availability Disparities
  - Health Coverage Disparities
  - **Racial Disparities**
  - Other Disparities
- The Anti-Vaccine Movement
- COVID-19
- Animal Vaccines
- Myths Versus Facts
- What If We Stopped Vaccinating...
- Glossary

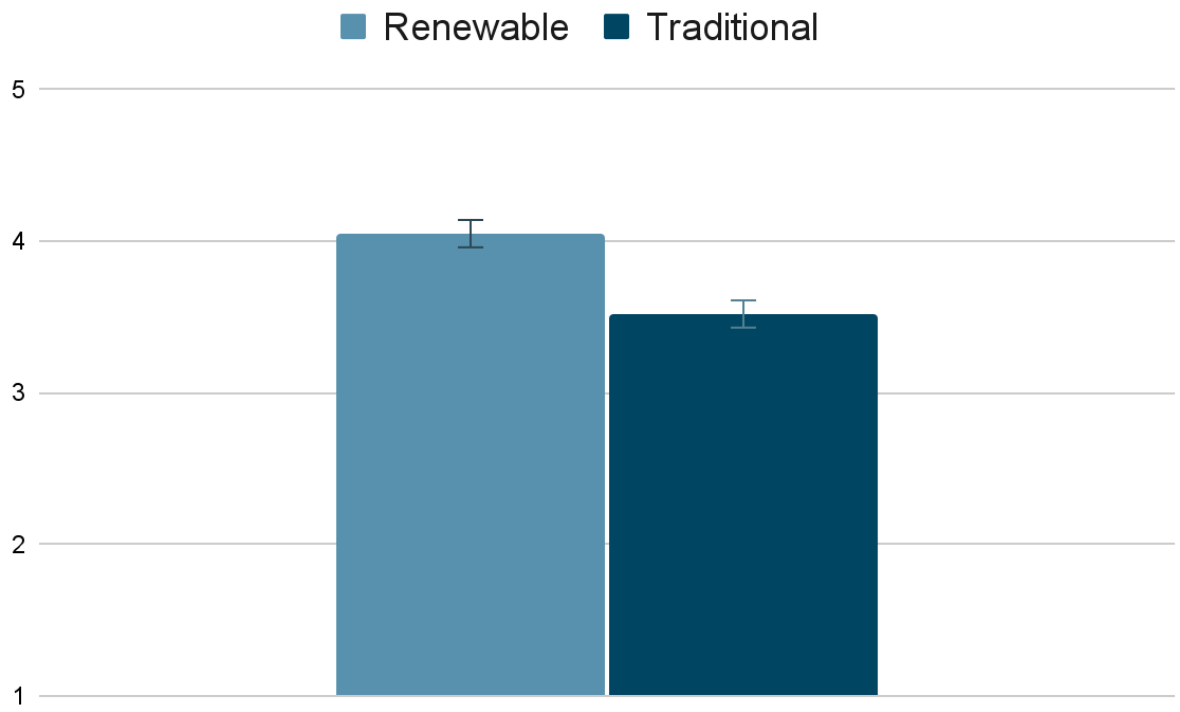
RACIAL DISPARITIES

THE TUSKEGEE SYPHILIS STUDY

In 1932, there was no known treatment for syphilis. The Tuskegee Study of Untreated Syphilis in the Negro Male, or the Tuskegee Syphilis Study, was conducted by the U.S. Public Health Service and the Tuskegee Institute. The purpose of the study was to record the natural history of syphilis in hopes of justifying treatment programs for Black people (CDC, 2020). The study involved 600 black men—399 with syphilis. The men were told by the researchers that they were being treated for "bad blood," which was a local term used to describe several ailments. The information of the study, or its real purpose, was not told to the men; they were misled and had not been given all the facts required to provide informed consent (Nix, 2019). Even though there was a treatment of choice for syphilis, the researchers never gave adequate treatment to the subjects. Instead, the subjects were given periodic physical assessments and told they were being treated (CDC, 2020). The men were not provided effective care because the researchers wanted to track the disease's full progression and the study went on as the men died, went blind, insane, or experienced other severe health problems due to their untreated syphilis. The study was supposed to go on for 6 months, but it went on for 40 years (Nix, 2019).

Issues of Social Justice/Student Interests

Representational justice



My voice mattered in the renewable assignment.

People like me could see themselves in my work on the renewable assignment.

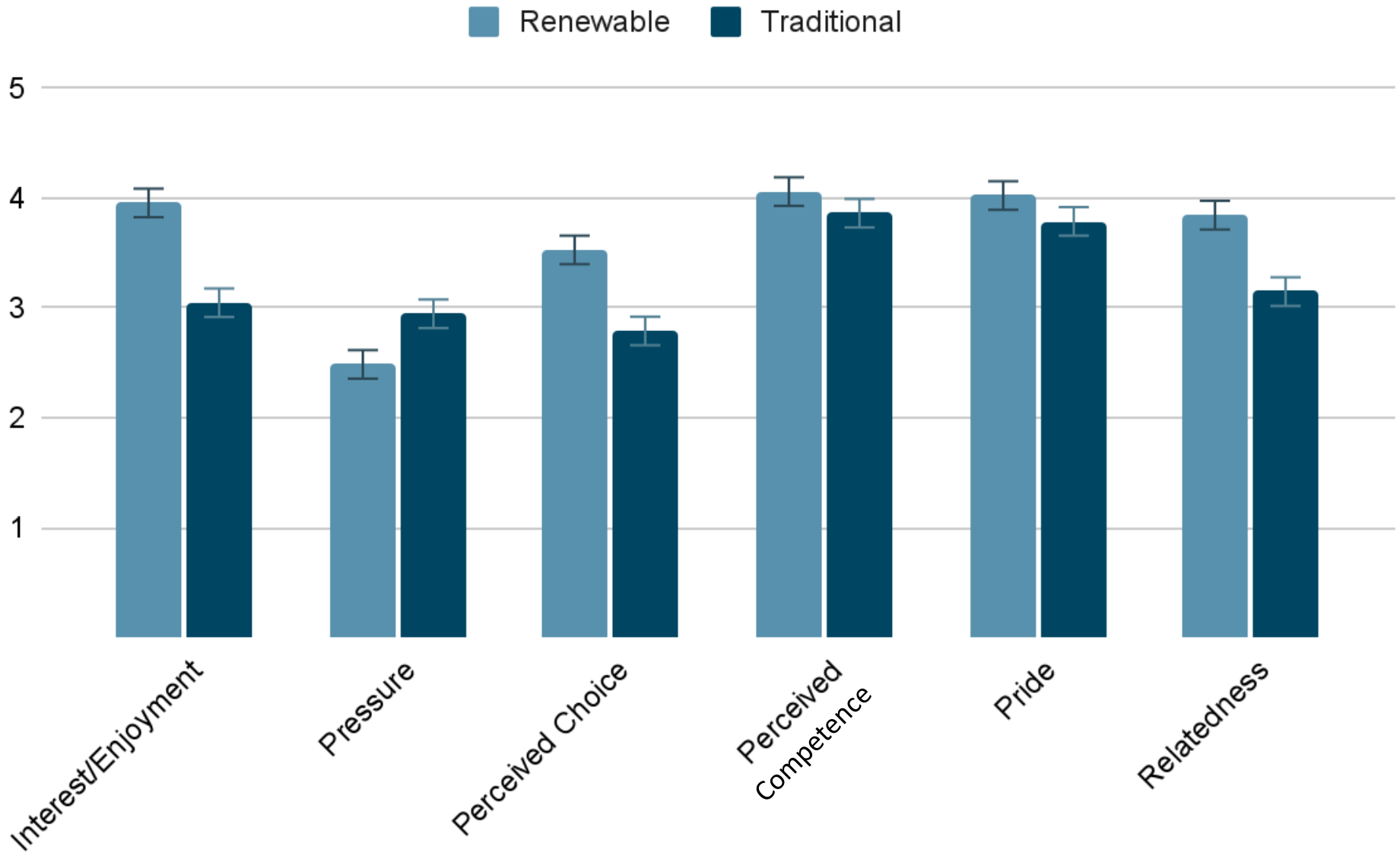
I could share ideas from my unique perspective in the renewable assignment.

I could speak from my experience in the renewable assignment.

I felt my work had value in the renewable assignment.

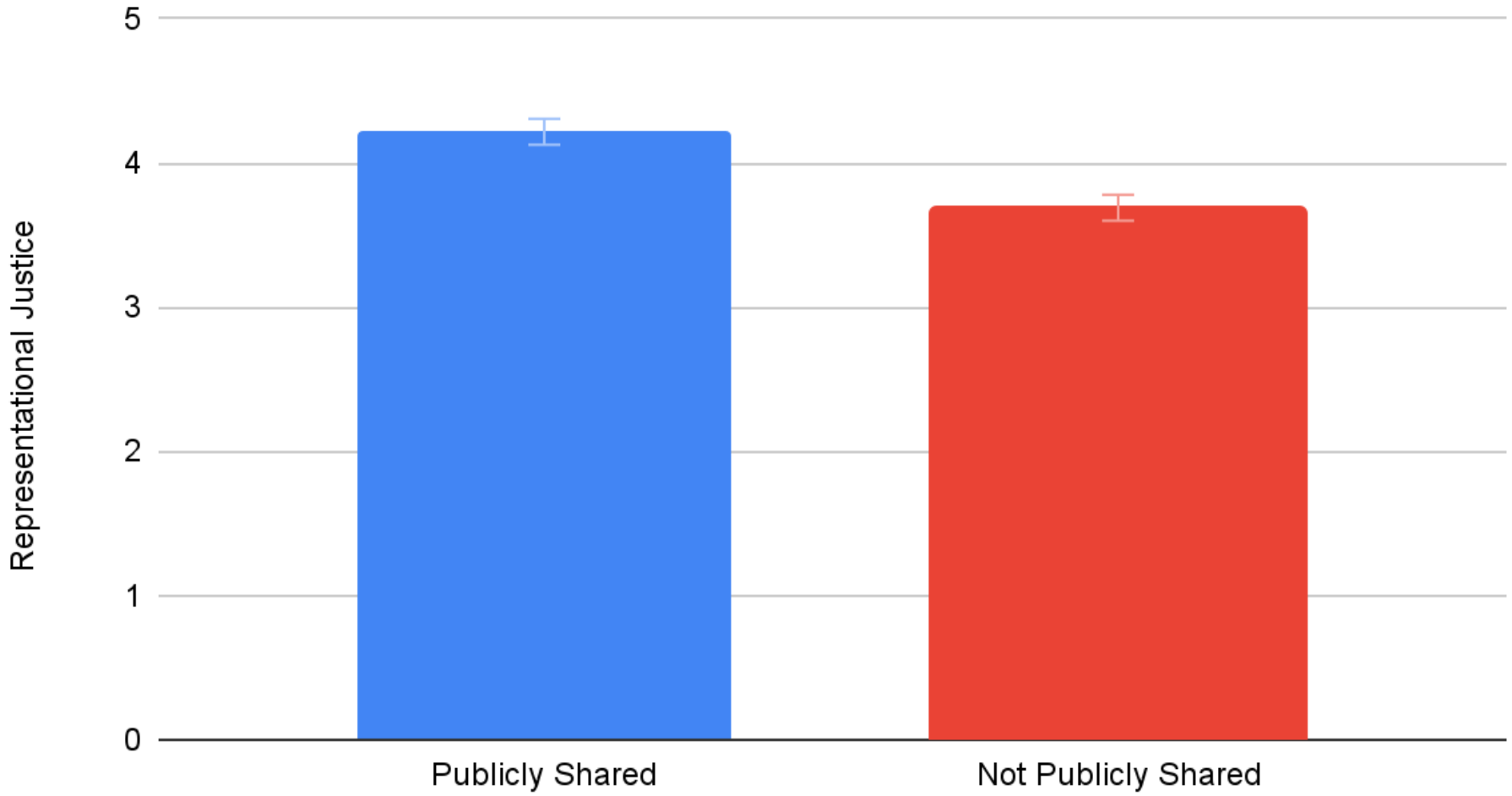
I was able to express myself in the renewable assignment.

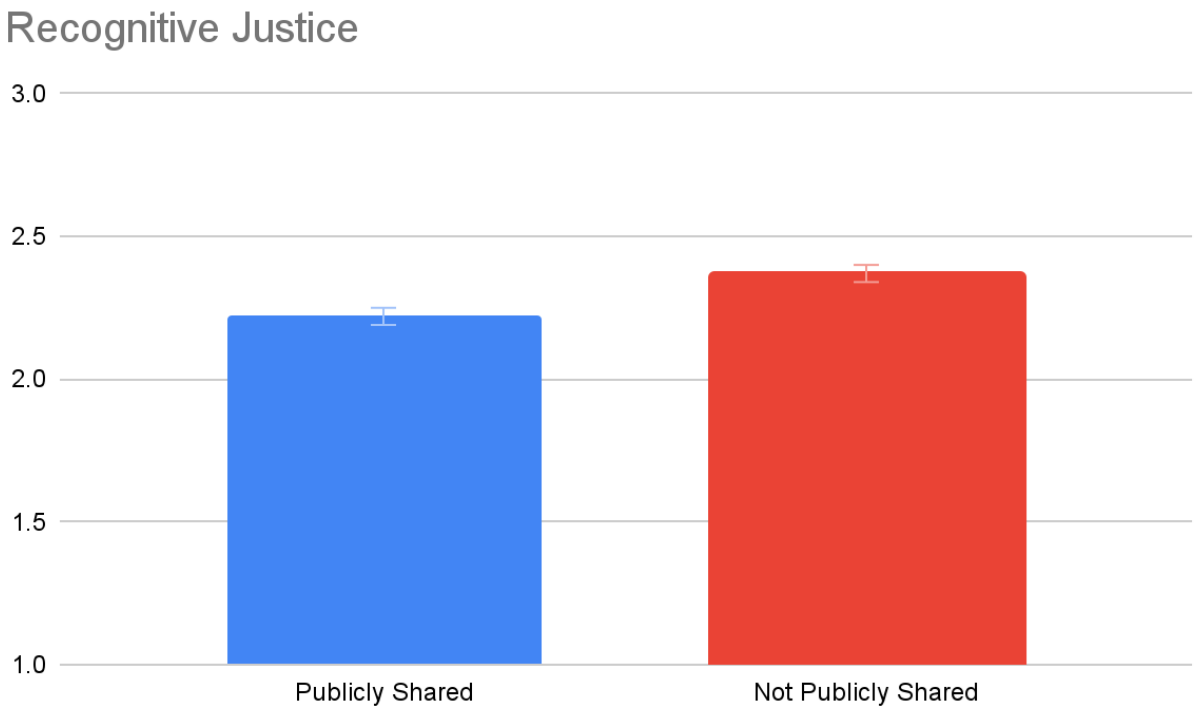
N = 68


Renewable
Traditional
5
4
3
2
1
Interest/Enjoyment
Pressure
Perceived Choice
Perceived Competence
Pride
Relatedness

N = 68

Representational Justice





How I view myself in terms of gender was represented in the course materials.

Functional diversity in terms of disabilities and abilities was shown in the course materials.

The contributions of minoritized individuals were apparent in the course materials.

My identities are visible in the course materials.

I feel that the course materials are inclusive of my classmates' identities.

The course materials represented people a non-sexist manner.

Reasons for public sharing

“I decided to publicly share my assignment because I wanted people to see my work. I did not want to do work for an assignment just for it to virtually disappear. My group and I worked very hard on the project and I wanted to share our work.”

“It was a requirement for the class.”

“I would like to share this because it could lead to long lasting impacts on campus. everyday students and faculty will be able to see and appreciate our work.”

“Because it could be worked on and further developed.”

“It is valuable information that others should be able to use when needed!”

“I think we did well and that it would be a good educational purpose in the future.”

Reasons for not publicly sharing

“I don't want other people to look at my assignments because always worried what people think about my thoughts through the assignments.”

“I am still kind of shy to put my work out there for people to see.”

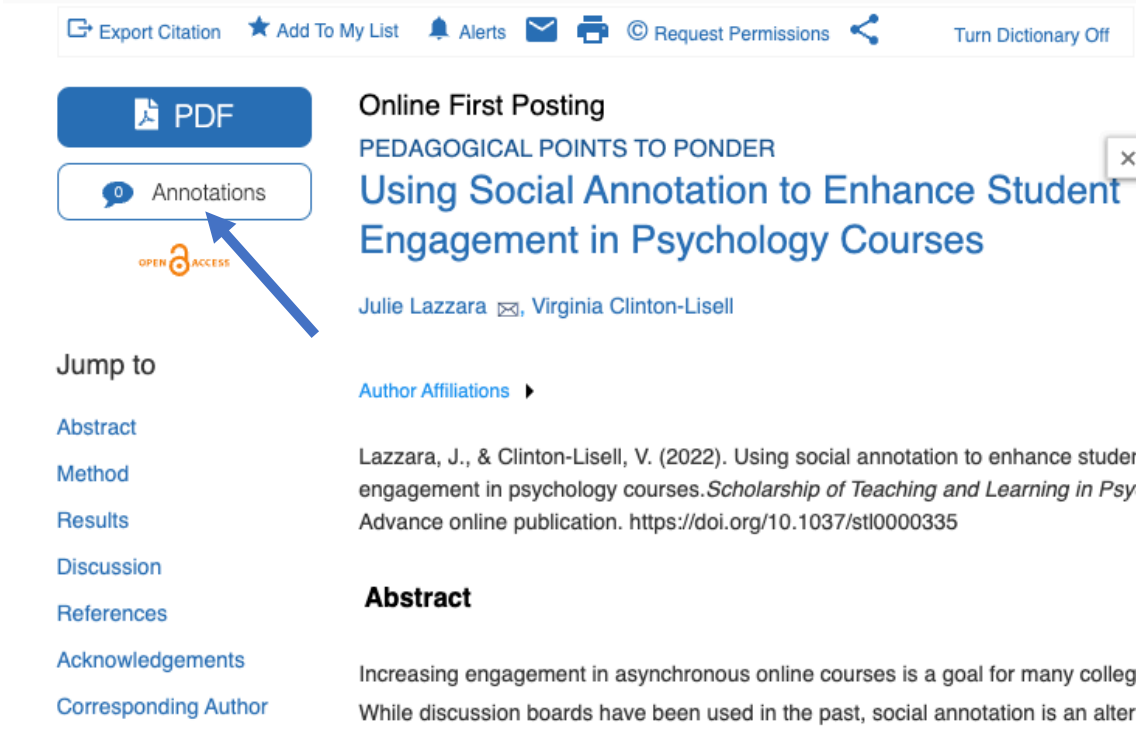
“I worked on my assignment with multiple other peers and did not get their consent to share it.”

“It feels a bit personal for me to share the assignment with a large group.”

“It wasn’t something I was comfortable sharing.”

Social annotation

- Students share notes on electronic documents/files
  - Perusall
  - Hypothes.is
  - Google docs
- Hypothes.is allows for public sharing of comments
- Some journals allow for sharing annotations



Perusall

Perusall physic...

- Course home
- My scores
- Add to my calendar

Readings

Documents

- College E&M Textbook

Assignments

- Feb 12: Assignment 1: ...

Chats

Groups

- Announcements
- General discussion

One-on-One

- Describe how a lightning rod works.
- Explain how a metal car may protect passengers inside from the dangerous electric fields caused by a downed line touching the car.

18.8. Applications of Electrostatics

- Name several real-world applications of the study of electrostatics.

Introduction to Electric Charge and Electric Field

The image of American politician and scientist Benjamin Franklin (1706–1790) flying a kite in a thunderstorm is familiar to every schoolchild. (See Figure 18.2.) In this experiment, Franklin demonstrated a connection between lightning and **static electricity**. Sparks were drawn from a key hung on a kite string during an electrical storm. These sparks were like those produced by static electricity, such as the spark that jumps from your finger to a metal doorknob after you walk across a wool carpet. What Franklin demonstrated in his dangerous experiment was a connection between phenomena on two different scales: one the grand power of an electrical storm, the other an effect of more human proportions. Connections like this one reveal the underlying unity of the laws of nature, an aspect we humans find particularly appealing.

Figure 18.2 When Benjamin Franklin demonstrated that lightning was related to static electricity, he made a connection that is now part of the evidence that all directly experienced forces except the gravitational force are manifestations of the electromagnetic force.

Much has been written about Franklin. His experiments were only part of the life of a man who was a scientist, inventor, revolutionary, statesman, and writer. Franklin's experiments were not performed in isolation, nor were they the only ones to reveal connections.

For example, the Italian scientist Luigi Galvani (1737–1798) performed a series of experiments in which static electricity was used to stimulate contractions of leg muscles of dead frogs, an effect already known in humans subjected to static discharges. But Galvani also found that if he joined two metal wires (say copper and zinc) end to end and touched the other ends to muscles, he produced the same effect in frogs as static discharge. Alessandro Volta (1745–1827), partly inspired by Galvani's work, experimented with various combinations of metals and developed the battery.

During the same era, other scientists made progress in discovering fundamental connections. The periodic table was developed as the systematic properties of the elements were discovered. This influenced the development and refinement of the concept of atoms as the basis of matter. Such submicroscopic descriptions of matter also help explain a great deal more.

Atomic and molecular interactions, such as the forces of friction, cohesion, and adhesion, are now known to be manifestations of the **electromagnetic force**. Static electricity is just one aspect of the electromagnetic force, which also includes moving electricity and magnetism.

All the macroscopic forces that we experience directly, such as the sensations of touch and the tension in a rope, are due to the electromagnetic force, one of the four fundamental forces in nature. The gravitational force, another fundamental force, is actually sensed through the electromagnetic interaction of molecules, such as between those in our feet and those on the top of a bathroom scale. (The other two fundamental forces, the strong nuclear force and the weak nuclear force, cannot be sensed on the human scale.)

This chapter begins the study of electromagnetic phenomena at a fundamental level. The next several chapters will cover static electricity, moving electricity, and magnetism—collectively known as electromagnetism. In this chapter, we begin with the study of electric phenomena due to charges that are at least temporarily stationary, called electrostatics, or static electricity.

This OpenStax book is available for free at http://cnx.org/content/col11406/1.9

Current conversation

+18 I didn't realize that lightning was due to static electricity - is this true? I thought static electricity means electrons that are still -with lightning - the electrons are clearly moving quickly as the lightning strikes. Lightning travels 2.8 x 10^8 m/s - that's almost as fast as the speed of light - clearly not static!

Jun 28 10:21 pm

+15 good question! lightning itself is not static (as it is moving). however - lightning strikes when there is enough of a build-up on charge (in the clouds - compared to the ground) that there is a breakdown of the air that separates the clouds from the air. Lightning doesn't happen without enough of a build-up of static charge.

Jun 28 10:39 pm

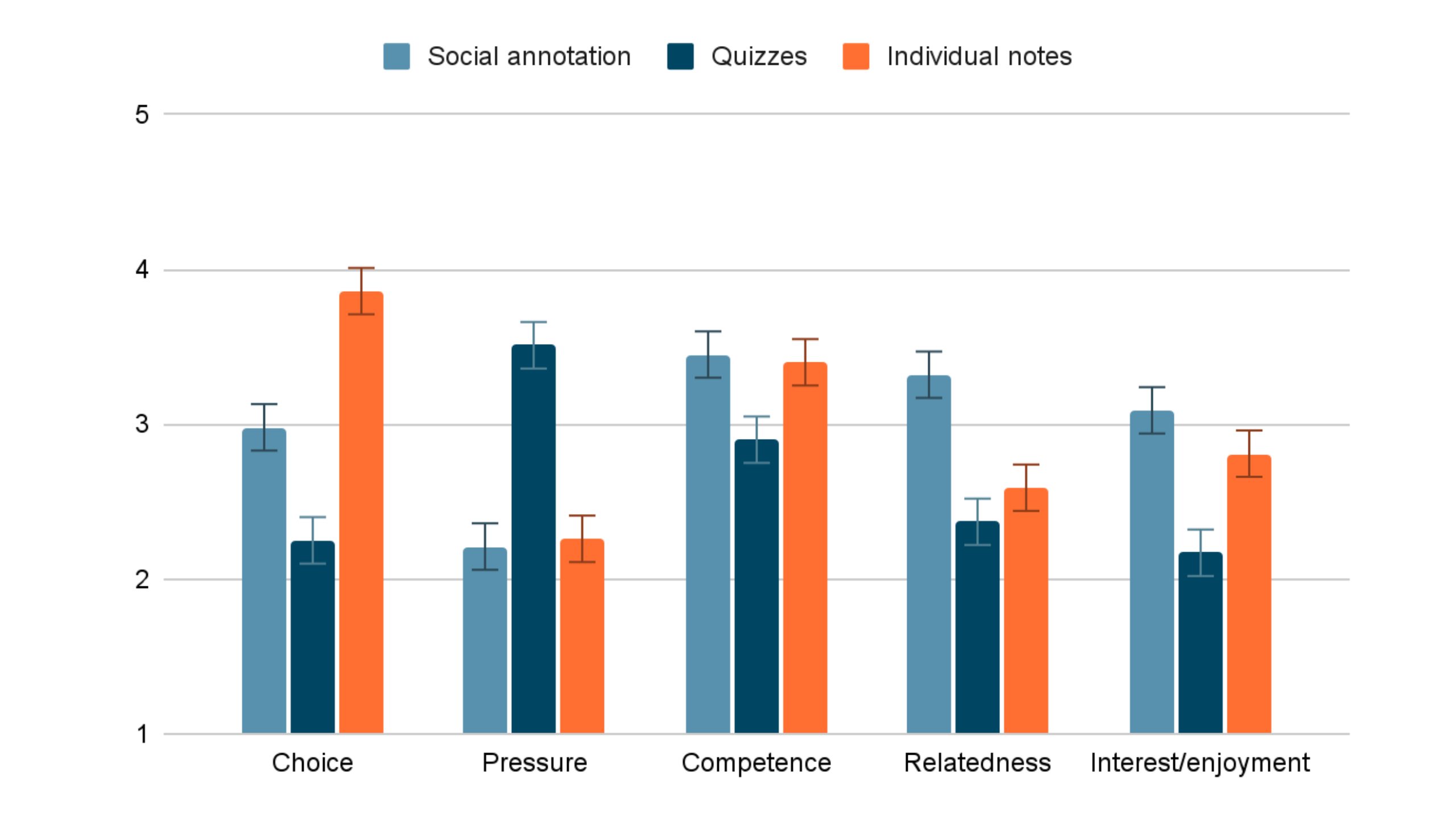
Enter your comment or question and press Enter. Mention a friend by

Representational justice

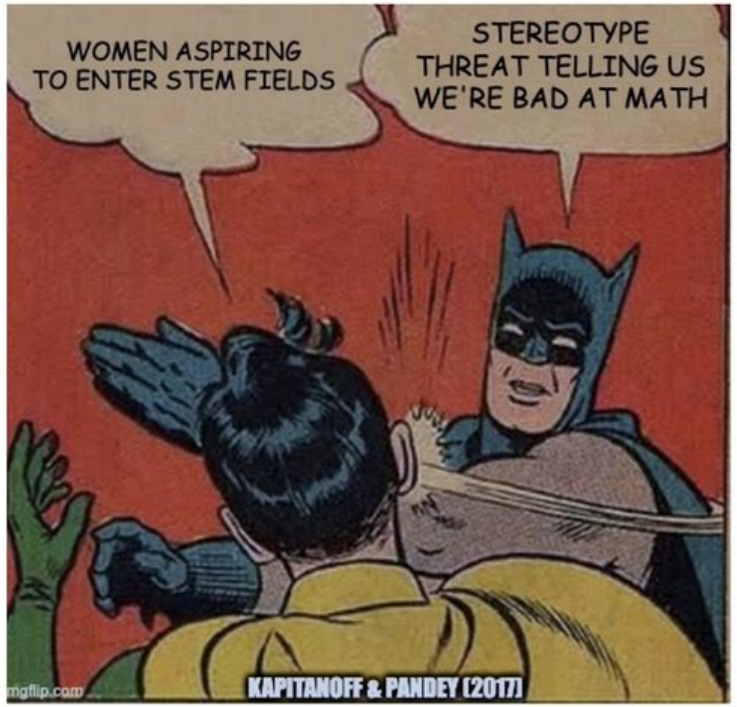
	M(SD)	Observed minimum	Observed maximum
Rep. Justice	3.87(.68)	1.67	4.83

- My voice mattered in social annotation
- People like me could see themselves in my work on the social annotations
- I could share ideas from my unique perspective in the social annotations.
- I could speak from my experience in the social annotations.
- I felt my work had value in the social annotations.
- I was able to express myself in the social annotations.

Clinton-Lisell, V. (2023). Social annotation: What are student perceptions and how does social annotation relate to grades? *Research in Learning Technology.* https://doi.org/10.25304/rlt.v31.3050


Social annotation
Quizzes
Individual notes
5
4
3
2
1
Choice
Pressure
Competence
Relatedness
Interest/enjoyment

Making Memes or Other Visuals



Kapitanoff, S. & Pandey, C. (2017). Stereotype threat, anxiety, instructor gender, and underperformance in women. *Active Learning in Higher Education*, *18*(3), 213–229. https://doi.org/10.1177/1469787417715202

Scientific Memes: Students communicate research findings using memes and brief amounts of text.

These are shared on social media to disseminate accurate information and allow others to use them.

Search Twitter @drclintonlisell #scientificmemes for examples

Scan here:

Clinton-Lisell, V., & Kelly, A. E. (in-press). Are Scientific Memes Motivating and Does Public Sharing Affect Motivation? *Psychology Learning & Teaching*

Methods

Students randomly assigned to public sharing/not sharing

Students create research memes

Peer review of memes

Submission of final memes

Questionnaire on motivation (74 completed)

Types of value

Intrinsic

The meme project was interesting for me.

The meme project was boring for me. (R)

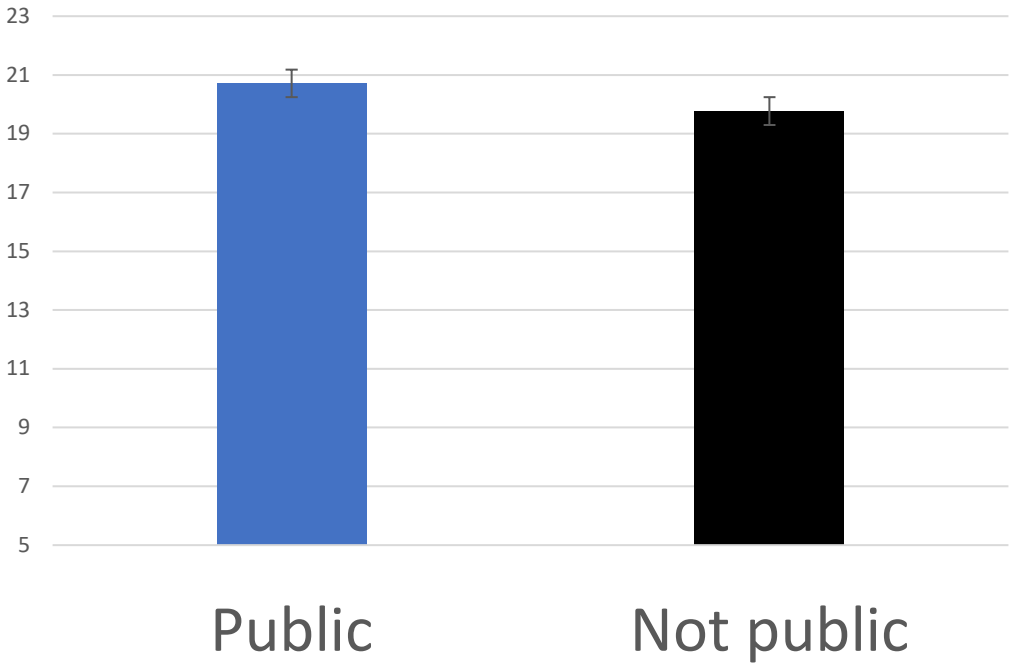
I would like more meme projects in my classes.

Utility

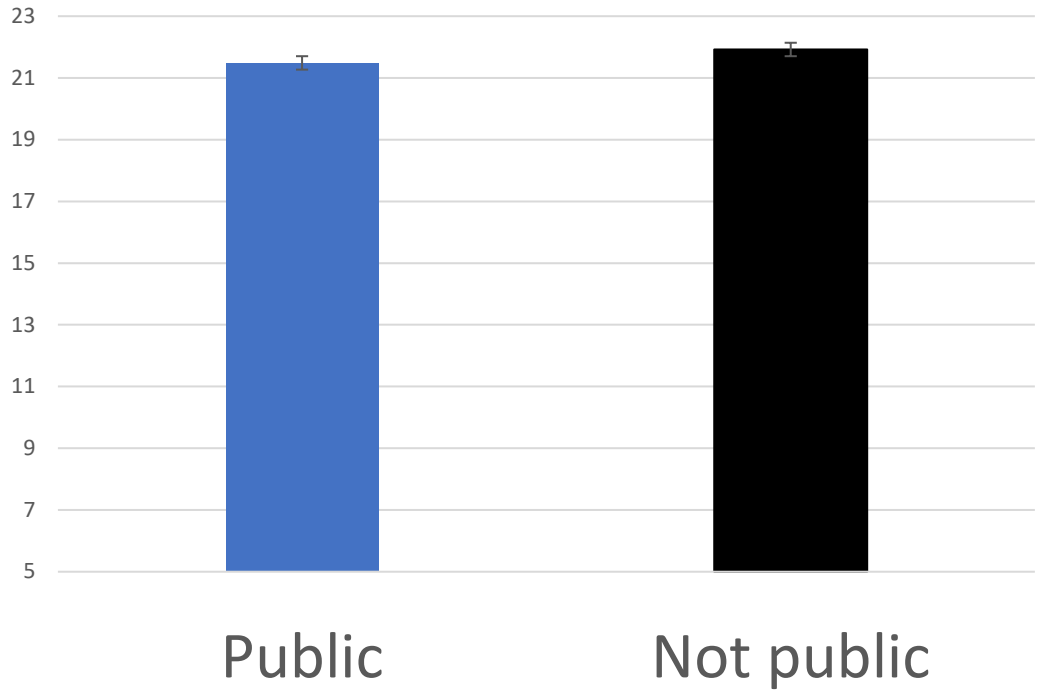
- The skills I learned through the meme project was relevant to my life
- The skills I learned through the meme project were important for my career.
- In general, the meme project was pointless.

Results

Intrinsic value

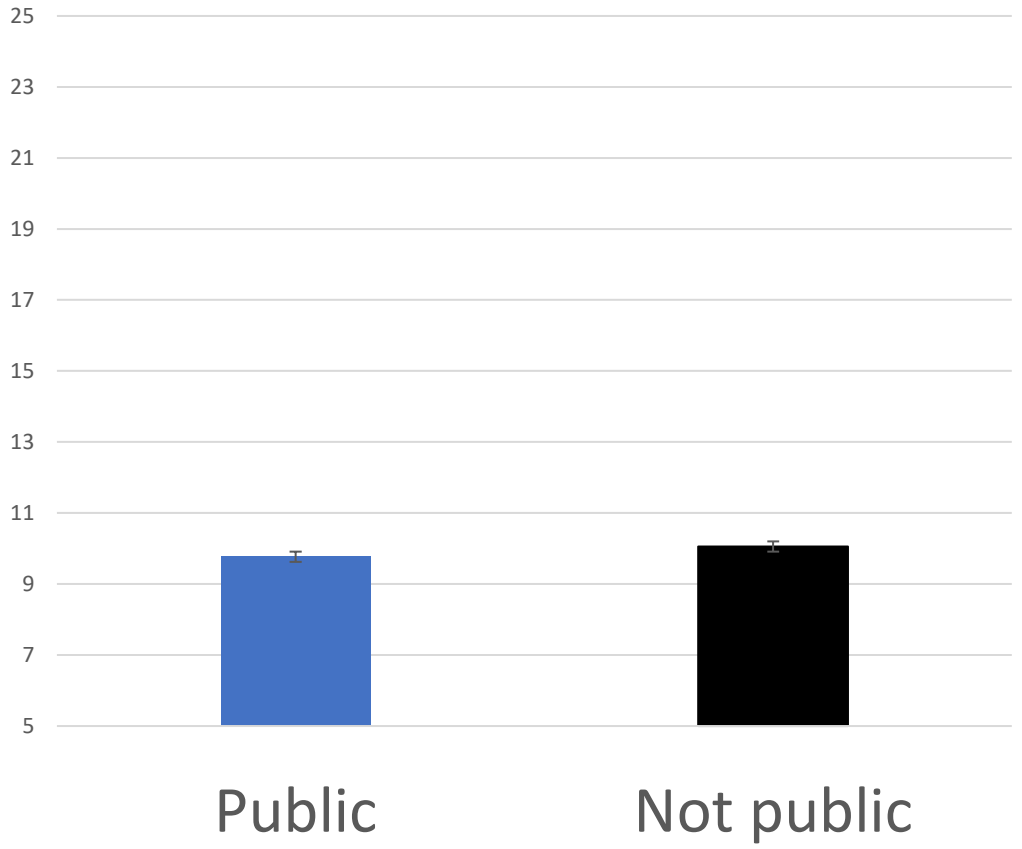


Utility value



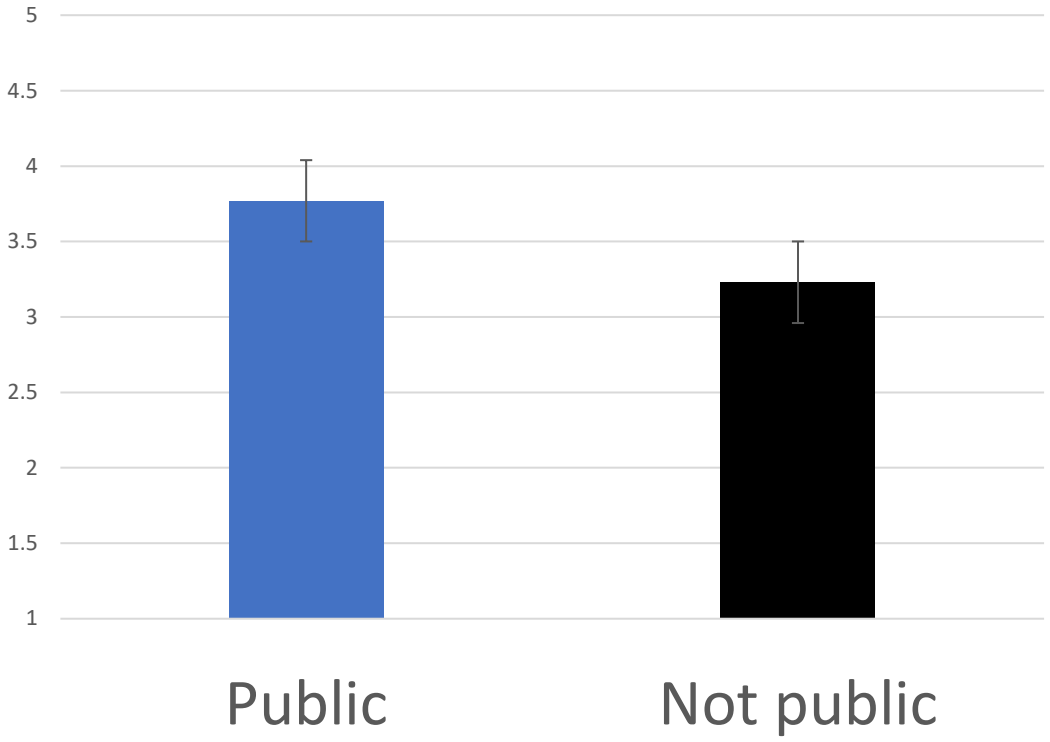
Emotional Cost

- I worried about this meme project.
- The meme project was emotionally draining.
- The meme project was frustrating.
- The meme project was stressful.
- The meme project made me feel anxious.

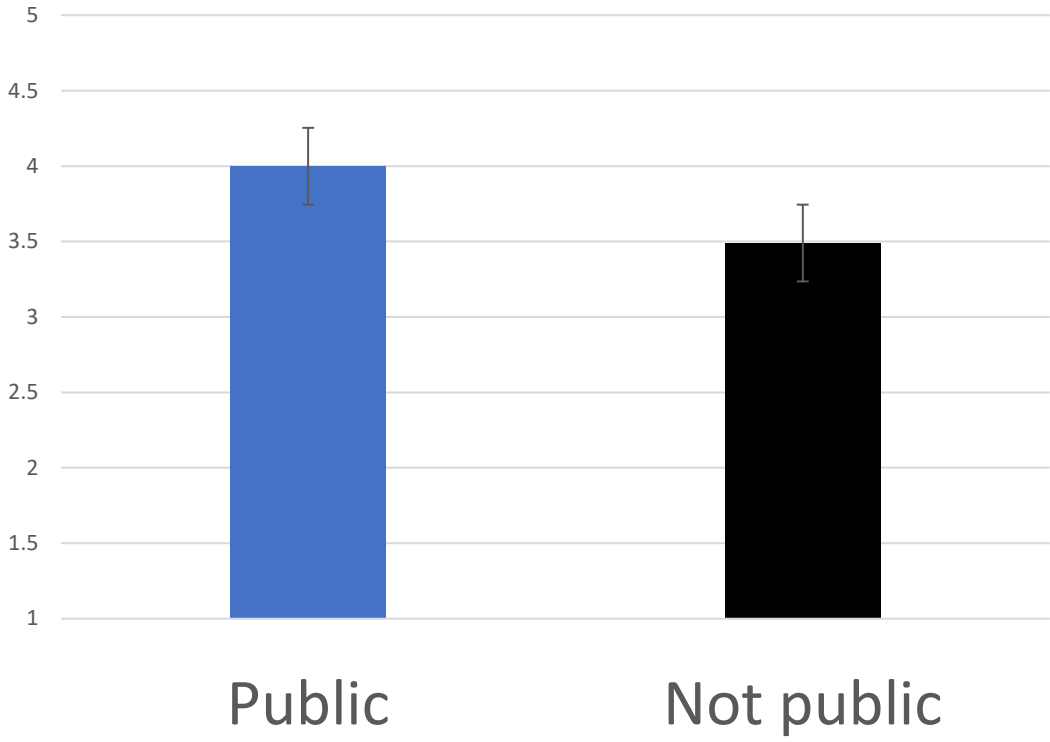


Self-evaluation of skills

Communication skills

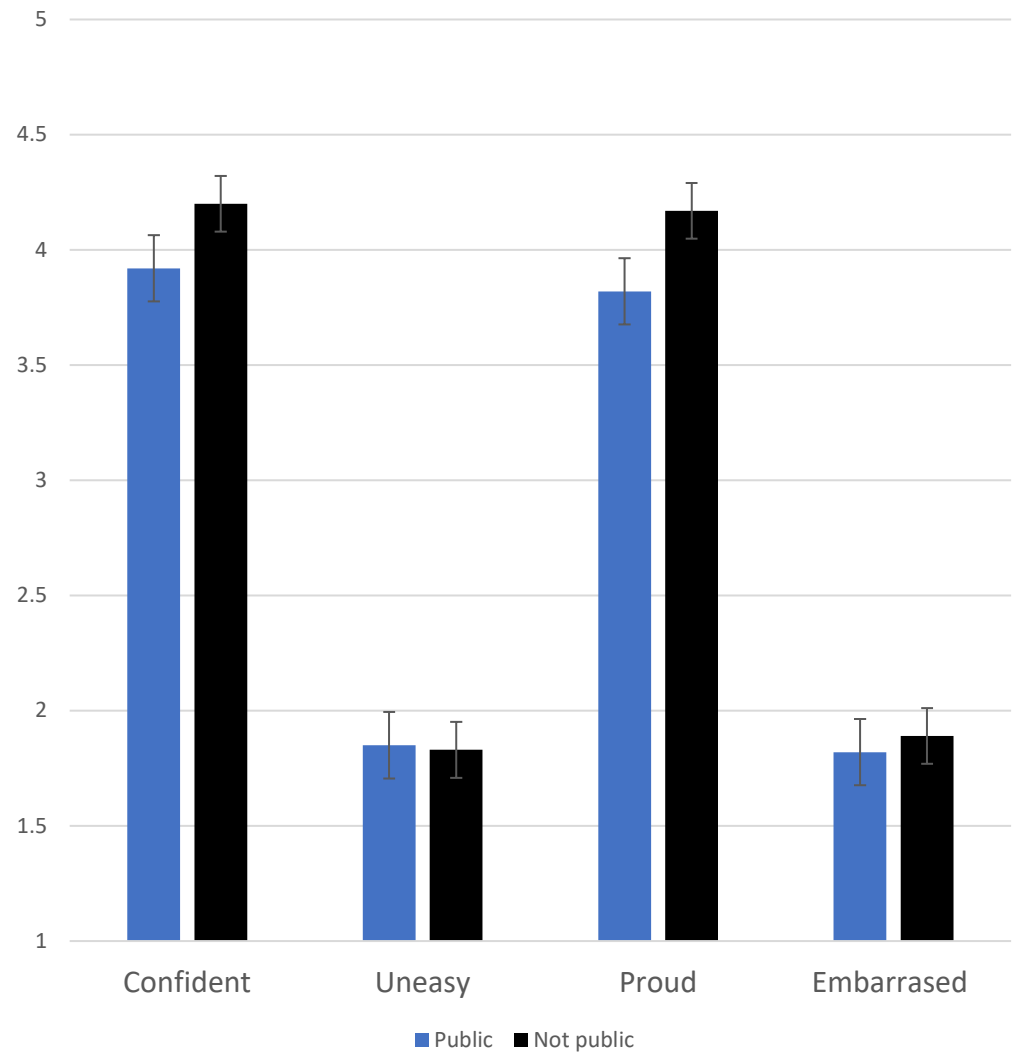


Scientific knowledge development



Academic emotions

- I feel confident about the meme project.
- Thinking about the meme project makes me uneasy.
- I am proud of my meme project.
- I feel embarrassed about my meme project.



Take home points

Overall, students found making memes enjoyable and valuable

Low emotional costs

More pride reported without public sharing (????)

Public sharing may have benefited communication skills and scientific knowledge development

Having students take photos

- Photographs in course textbooks lack diverse representation (Biddle et al., 2022)
- Students take photographs related to course content
- Creatively Commons and share
- Edit/update textbook with the photographs

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PSY 100 through photos

Student experience with photo sharing

- Based on survey responses…
  - Motivated to contribute to an open textbook
  - Somewhat concerned about public availability
  - Project made the course more engaging
  - High perceived educational value
  - Belief that their photos added to the diversity of publicly available materials

Biddle, A., & Clinton-Lisell, V. (accepted). "The Pictures Allowed Me to Connect to the Material More": Student Perceptions of a Diversity-Focused Open Pedagogy Assignment. *Scholarship of Teaching and Learning in Psychology.*

Student comments about the purpose of the photo project

“Since we‘ve been sharing our photos, I have been observing photos differently and really taking the time to look at each picture I take or observe. “

“I think that this project connects to the content analysis textbook because we basically reflect upon and explore the reasons, emotions and experiences that have guided their chosen images.”

“I think that as a class we did a great job submitting diverse pictures. The textbook felt more academic and less personal. The pictures allowed me to connect to the material more.”

“It's correlated because we are using pictures to increase the diversity of images throughout the textbook. In the initial content analysis, we recognized that representation in our textbook was lacking for certain cultures/races. In our pictures for this project, we are attempting to increase that diversity in various sections [of] our textbook.”

Students create multiple-choice questions

Why have students answer questions when they can write them?

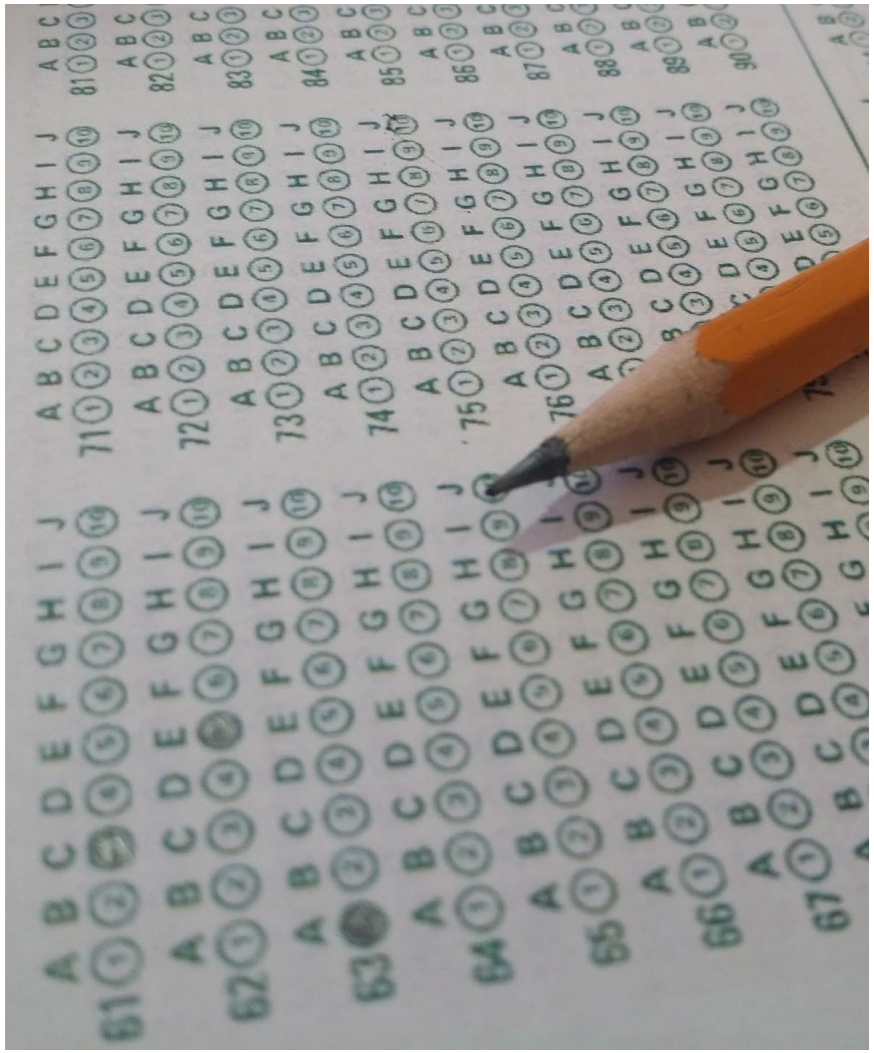
I recently trialled a new assignment in my Social Psychology class: During each of the 10 weeks when there was no scheduled exam I asked my students to write multiple-choice questions. That's right, they *wrote* questions instead of merely answering them.

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:

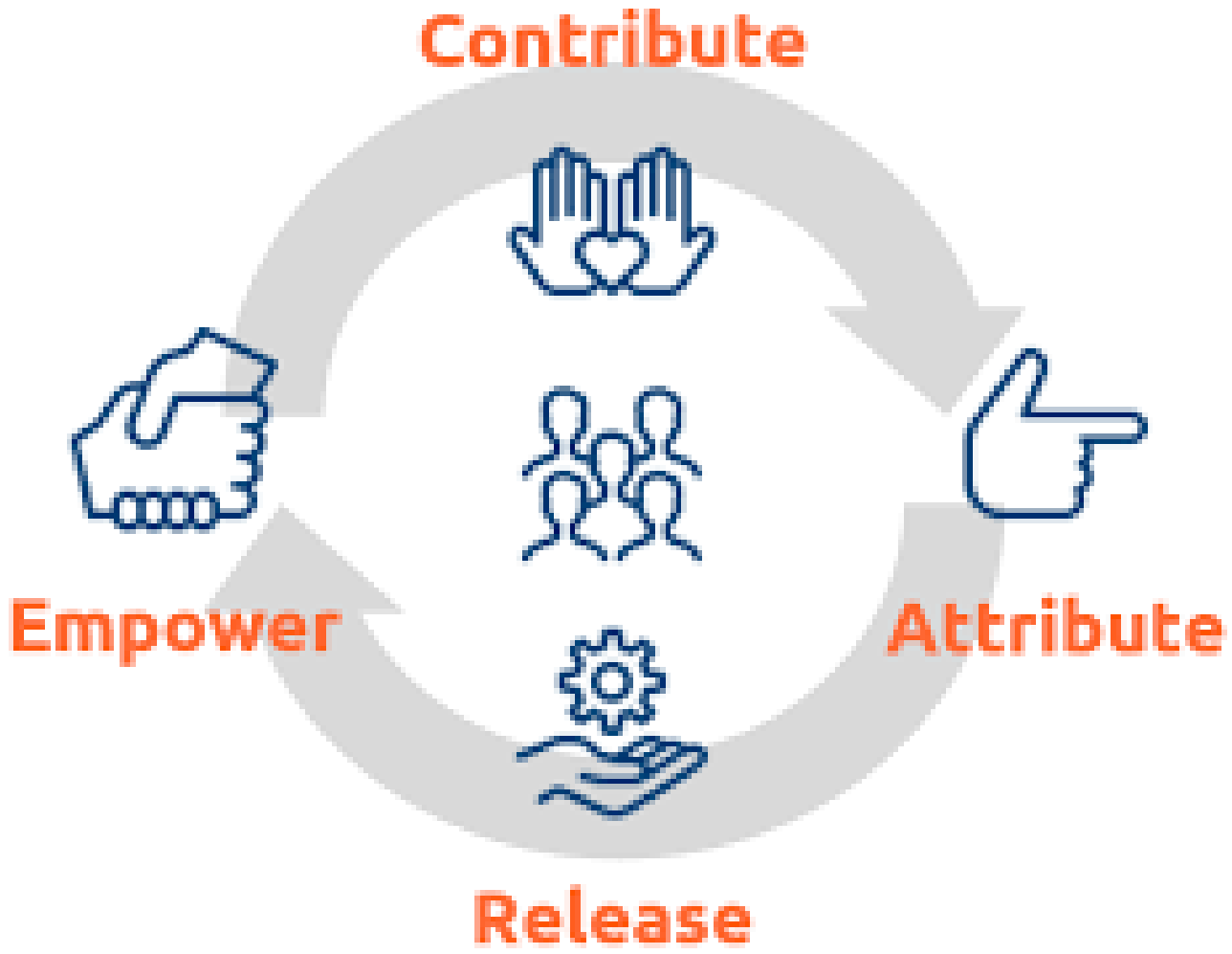
1. The students were asked to write 4 questions each week, 2 factual (e.g., a definition or evidence-based prediction) and 2 applied (e.g., scenario-type).

http://openpedagogy.org/assignment/why-have-students-answer-questions-when-they-can-write-them-by-rajiv-jhangiani/



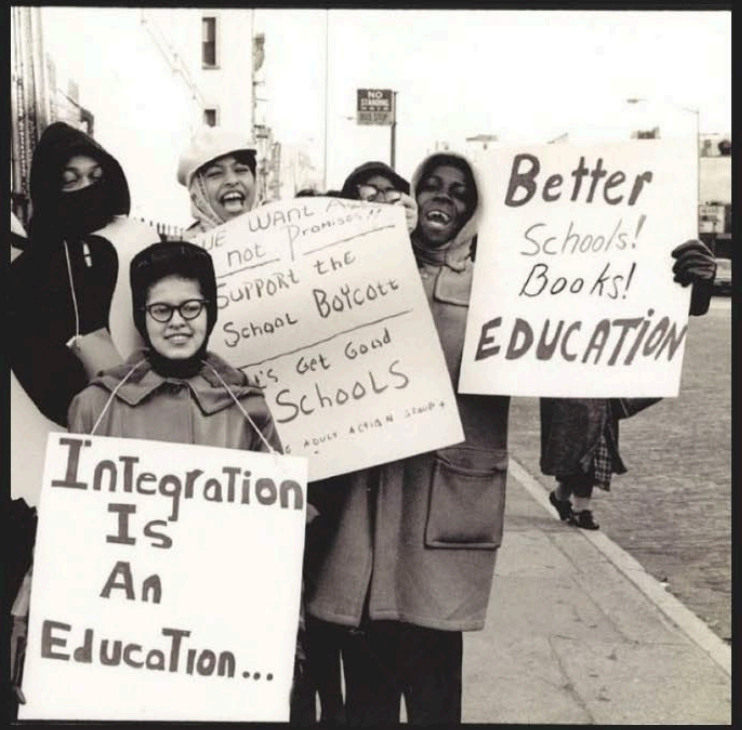
"Test" by lecroitg is licensed CC0

Sustainable OER Ecosystem



Open History of Psychology: The Lives and Contributions of Marginalized Psychology Pioneers

Alison E. Kelly and Brittany N. Avila



This is an open educational resource (OER) co-created by students in undergraduate History and Systems of Psychology courses. Each chapter focuses on the life and contributions of a marginalized pioneering psychologist. [Image Attribution: Penn State Special Collection, https://goo.gl/WP7Dgc, CC BY-NC-SA 2.0, https://goo.gl/Toc0ZF]

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A NEW FRAMEWORK FOR OPEN EDUCATION RESEARCH

	Definition	Examples of Inquiry
S SOCIAL JUSTICE	A corrective and liberatory practice; Equitable distribution of resources and opportunities, and attainment of full rights for all.	Inequities of open ed. infrastructure and funding across regions globally
C COSTS	Losses assumed to be either due to or avoided by open education.	Financial expenses and savings; emotional costs, cognitive load
O OUTCOMES	Presumed effects due to open education.	Grades, K-12, achievement, Teaching practices, promotion, and tenure
P PERCEPTION	Impressions and opinions of open education.	Quality measures by students and faculty
E ENGAGEMENT	Fully participating and being actively involved in open education	Learning analytics and strategies

Questions?

Virginia.Clinton@und.edu
Follow on TikTok and YouTube @learningcast
Follow on Threads @drclintonlisell

Faculty guide to renewable assignments

- Links to resources
- Examples
- Research evidence (when available)
- https://tinyurl.com/mu7ap2k3

SCAN ME

Special thanks and credit to Lindsey Gwozdz, Heather Miceli, and Will Cross for sharing examples and materials

Open-access, peer-reviewed journal articles

Clinton-Lisell, V. E., Roberts-Crews, J., & Gwozdz, L. (2023). SCOPE of Open Education: A New Framework for Research. *The International Review of Research in Open and Distributed Learning*, *24*(4), 135–153. https://doi.org/10.19173/irrodl.v24i4.7356

Biddle, A., & Clinton-Lisell, V. (in-press). "The pictures allowed me to connect to the material more": Student perceptions of a diversity-focused open pedagogy assignment. *Scholarship of Teaching and Learning in Psychology.* https:doi.org/10.1037/stl0000385

Clinton-Lisell, V. (2023). Social annotation: What are students' perceptions and how does social annotation relate to grades? *Research in Learning Technology, 31*, http://dx.doi.org/10.25304/rlt.v31.3050

Clinton-Lisell, V., & Kelly, A.E. (in-press). Are scientific memes motivating and does public sharing affect motivation? *Psychology Learning & Teaching*. https://doi.org/10.1177/14757257231197359

Clinton-Lisell, V., & Gwozdz, L. (in-press). Understanding student experiences of renewable and traditional assignments. *College Teaching.* https://doi.org/10.1080/87567555.2023.2179591

Clinton-Lisell, V. (2021). Open pedagogy: A systematic review of empirical findings. *Journal of Learning for Development*, *8*(2), 255-268. https://jl4d.org/index.php/ejl4d/article/view/511

Clinton, V., & Khan, S. (2019). Efficacy of open textbook adoption on learning performance and course withdrawal rates: A meta-analysis. *AERA Open, 5*(3), 1-20. https://doi.org/10.1177/2332858419872212

Kelly, A. E., Laurin, J. N., & Clinton-Lisell, V. (2022). Making Psychology's Hidden Figures Visible Using Open Educational Resources: A Replication and Extension Study. *Teaching of Psychology*, 009862832211081 29.