

# Can goal-based scenarios enhance understanding of diversity and inclusion in GEOL 1313, Communication for Environmental Professionals?

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## Abstract

Course diversification is fast becoming a meaningful way to address diversity in the college classroom. For this project, I propose to use a goal-based scenario approach in GEOL 1313 (Communication for Environmental Professionals). This approach argues that learning can be enhanced if the learning outcomes are reflective of real-life situations rather than those that are artificially created. Scenarios developed will focus on current, local [yet globally relevant] socio-environmental issues. This approach will give a measurable assessment of student understanding and communication of diversity and inclusion concepts in the environmental field.



**Course Description:**

As the gap between science and society continues to widen, the demand for professional skills in effective communication of science continues to grow. GEOL 1313, Communication for Environmental Professionals, is a 3-credit writing course required for Environmental Studies students. The goal of the course is to introduce students to a diversity of strategies and tools of communication and how these tools change based on audience, purpose and message.

# Project

**Background:**

Communication by nature is trans-disciplinary and is central to the success of all environmental professionals. This project strives to use a goal-based scenario approach to incorporate diversity and inclusion concepts into GEOL 1313. This approach argues that learning can be enhanced if the learning outcomes are reflective of real-life situations rather than those that are artificially created to fit the format of a class. Students will be provided with tools to communicate complex issues to diverse audiences in ways that are inclusive and considerate of the different ways in which people engage with the environment especially in today's society where questions centered on environmental justice are bubbling to the surface.



- ❖ Learning goals - skills that students should learn
- ❖ Cover story - a motivating story that will create and explain the need for the project
- ❖ Mission - motivational and realistic objective students will pursue
- ❖ Student Role - the role a student will play with their group
- ❖ Scenario operations - all activities students will perform to complete the project
- ❖ Resources - well organized and accessible information sources students will need
- ❖ Feedback - to be provided throughout the project time

**Objectives:**




I propose to incorporate goal-based scenarios in GEOL 1313 as an assessment strategy for course diversification. Scenarios will be developed based on an overarching theme of environmental justice. Environmental justice embodies the principles that communities and populations should not be disproportionately exposed to adverse environmental impacts. Goals of the course diversification are:

1. Increased recognition of the importance of current, local [yet globally relevant] socio-environmental issues in daily life.
2. Critical assessment and articulation of diverse perspectives associated with socio-environmental issues.

**Outcomes:**

Students having a measurable understanding of the prevalence of diversity challenges in the environmental field and are able to appropriately communicate these challenges to diverse audiences.

## Lessons Learned

-  Diversity content can be made relevant based on how the information is presented.
-  Unpacking environmental justice issues may enhance student understanding of diversity challenges in the environmental field.
-  Conservative perspectives on socio-environmental issues are difficult to incorporate in a meaningful way.

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# We Hold Up Half the Sky: Global and US Women's Rhetoric

Extended Diversity Experience  
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Dietrich School of Arts and Sciences  
University of Pittsburgh



"If your dreams don't scare you, they are not big enough."

- Ellen Johnson Sirleaf, Nobel Peace Prize Winner and the first female president of Liberia

## ABSTRACT

This course, adopts a rhetorical approach to examine how women's discourse responds to and is constituted in idioms, systems and traditions. Newly modified, it endeavors to address the exigencies of contemporary times and meet diverse student expectations.

## ACKNOWLEDGEMENTS

This work is supported by the Office of the Provost and the University Center for Teaching and Learning at the University of Pittsburgh.



## COURSE DESIGN

### Historical Perspective

Students will read feminist foremothers' writings as ideological underpinnings for contemporary feminist movements and discourse.

### Contemporary Perspective

Students will do close readings of testimonial narratives to discover how US women, particularly in professions in which gender inequality is prevalent, negotiate gender equality.

### Global Perspective

Students will critique the rhetoric of global women in non-Western countries to uncover how they rise up, make waves, and challenge the gender power dynamic in many parts of the world.

## INTERDISCIPLINARY APPROACH

A wide range of materials including scholarly texts, testimonial narratives, theater, poetry, fiction and documentary films will be drawn on to examine various facets of the interface among gender, equality, empowerment, democratization, and globalization.

This course is cross-listed with Gender, Sexuality and Women's Studies Program (GSWS).



## Selective Bibliography

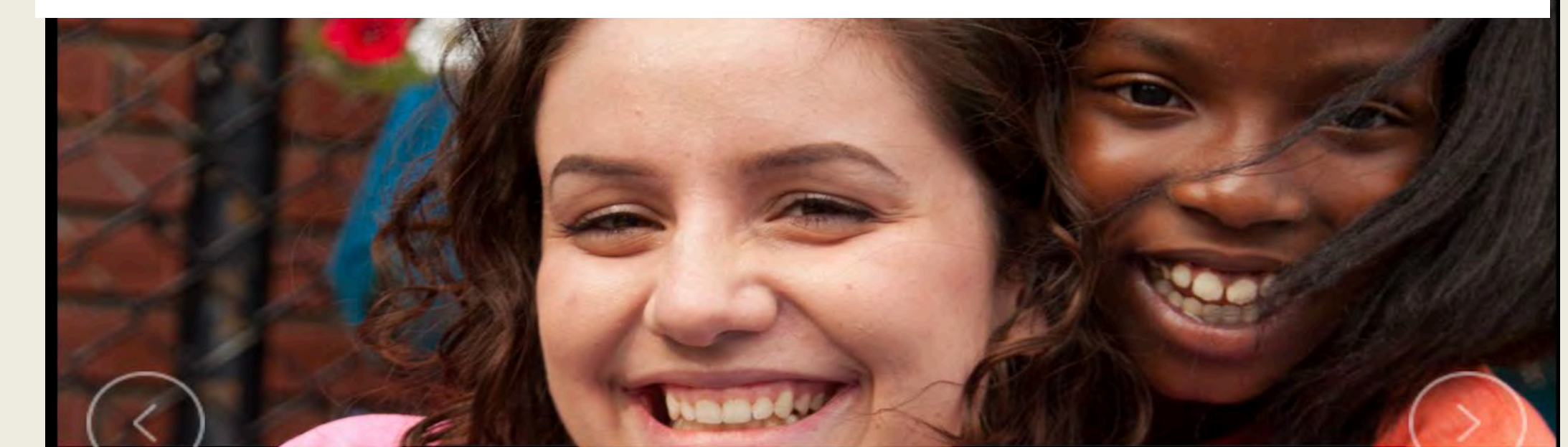
Glenn, Cheryl. *Rhetorical Feminism And This Thing Called Hope*. Carbondale: Southern Illinois University, 2018.

Zahidi, Saadia., *Fifty Million Rising: The New Generation of Working Women Transforming the Muslim World*. New York: Bold Type Book, 2018.

## COMMUNITY ENGAGEMENT



My students will have the opportunity to work as mentors for Strong Women and Strong Girls (SWSG) to support girls in grade 3 to 5 from disadvantaged backgrounds to learn leadership roles. Empowered, they attend universities, including Pitt, and become mentors for the next generation.



## A PITT SWSG MENTOR TESTIMONY

"It gives me hope the girls we mentor will grow up to become strong women and pass on the torch to the next generation. We need powerful women able and willing to affect change. I am proud to say I am part of it."

- Rachel White, University of Pittsburgh 2019





# Developing Culturally Competent Group Counselors

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Clinical Rehabilitation and Mental Health Counseling



## Abstract

Counselors have an ethical responsibility to advocate for, foster, and support the promotion of diversity, equity, inclusion, and acceptance. This is more important now than ever, given the sociopolitical climate in the United States. The focus of this diversity teaching project was to revise HRS 2739: Group Counseling to promote diversity, equity, and inclusion. The course was updated in three primary areas:

- 1) The syllabus, including incorporation of readings from diverse authors
- 2) Increased class time devoted to group counseling cultural competency, and
- 3) Implementation of classroom techniques designed to highlight cultural competent group counseling across classes.

**“Every human is, at the same time, like all other humans, like some humans, and like no other human.”**  
-Clyde Kluckhohn, *American Anthropologist*



## HRS 2739: Group Counseling

### Course Description

- 3-credit course
- Required for students in the MS in Clinical Rehabilitation and Mental Health Counseling (CRMHC) program
- Students learn the basic issues and key concepts of group process.
- Addresses CACREP standards including ethical and culturally relevant strategies for designing and facilitating groups.
- Using evidence-based practice techniques, students research a group intervention of their choice and develop a group proposal.
- Participation in a 10-week experiential group is required.

### Student Learning Objectives

By the end of the course, students will be able to:

1. Demonstrate effective group leadership skills.
2. Create a comprehensive group counseling proposal based in evidence.
3. Understand the experience of a member of a counseling group.

### DIVERSITY STATEMENT

Students, faculty, and guests represent diverse perspectives, backgrounds, and experiences which enrich our educational environment. Individuals of all races, colors, ancestries, genders, marital status, familial status, ages, backgrounds, beliefs, ethnicities, gender identities and expressions, national origins, religious or political affiliations, sexual orientations, abilities, and other visible and nonvisible differences are welcomed in this course. I urge all to be mindful in this classroom and to feel responsible for creating a space that is intellectually rigorous and is a respectful, welcoming, and inclusive environment for everyone. I will endeavor to use gender-inclusive and nondiscriminatory language in all course communication and materials. No demeaning or discriminatory behavior will be permitted. Your suggestions for how to improve the effectiveness of the course for you personally or other student groups are encouraged and appreciated. If you feel uncomfortable, please feel free to approach me during or after class to discuss the situation.

Figure 1. Diversity statement in HRS 2739 Syllabus.

## 1. Syllabus

### Diversity Statement (See figure 1.)

### Diversifying Readings

- KEPT:
  - ASGW *Multicultural and Social Justice Competence Principles for Group Workers* (Singh et al., 2012)
  - Corey, Corey, & Corey, 2014, *Groups: Process and Practice*
    - Chapters 6-9, cover the 4 stages of a group.
- Literature review resulted in NEW readings designed to incorporate diverse perspectives:
  - Atramovich, 2004, *Critical incident: Respecting diversity: “We’re really all the same.”*
  - Berg, 2018, *Working effectively with resistance in groups.*
  - Chen, Kakkad, & Balzano, 2008, *Multicultural competence and evidence-based practice in group therapy.*
  - Johnson et al., 2006, *Measuring group processes: A comparison of the GCQ and CCI.*
  - Ohrt et al., 2014, *An exploration of group member development in experiential groups.*
  - Zaharopoulos & Chen, 2018, *Racial-cultural events in group therapy as perceived by group therapists.*
- PLAN is to continue to incorporate articles by diverse voices into assigned readings, eventually eliminating the requirement to purchase an expensive textbook.

## 2. Diversity-Specific Instruction

- Doubled in-class time focused on diversity/culturally competent counseling.
- Multicultural Awareness, Knowledge, and Skills Survey – Counselor Edition (see figure 2.)
  - 33 item instrument, designed by D’Andrea, Daniels, and Heck, University of Hawaii, revised in 2003.
  - Following completion, students participated in small group discussion.
    - *Choose one question from each area (awareness, knowledge, and skills) and share your responses and reasons for them with your partner. Were your answers similar or different? If different, why? If similar, discuss potential alternative responses and reasons others may feel differently from you.*
    - *In which category (awareness, knowledge, or skills) did you have the most difficulty responding? What did you notice as you responded to the more difficult areas?*
    - *How did you determine the level of your multicultural skills? Do you think you tend to over- or underreport your strengths and weaknesses?*
- Led to some resistance.

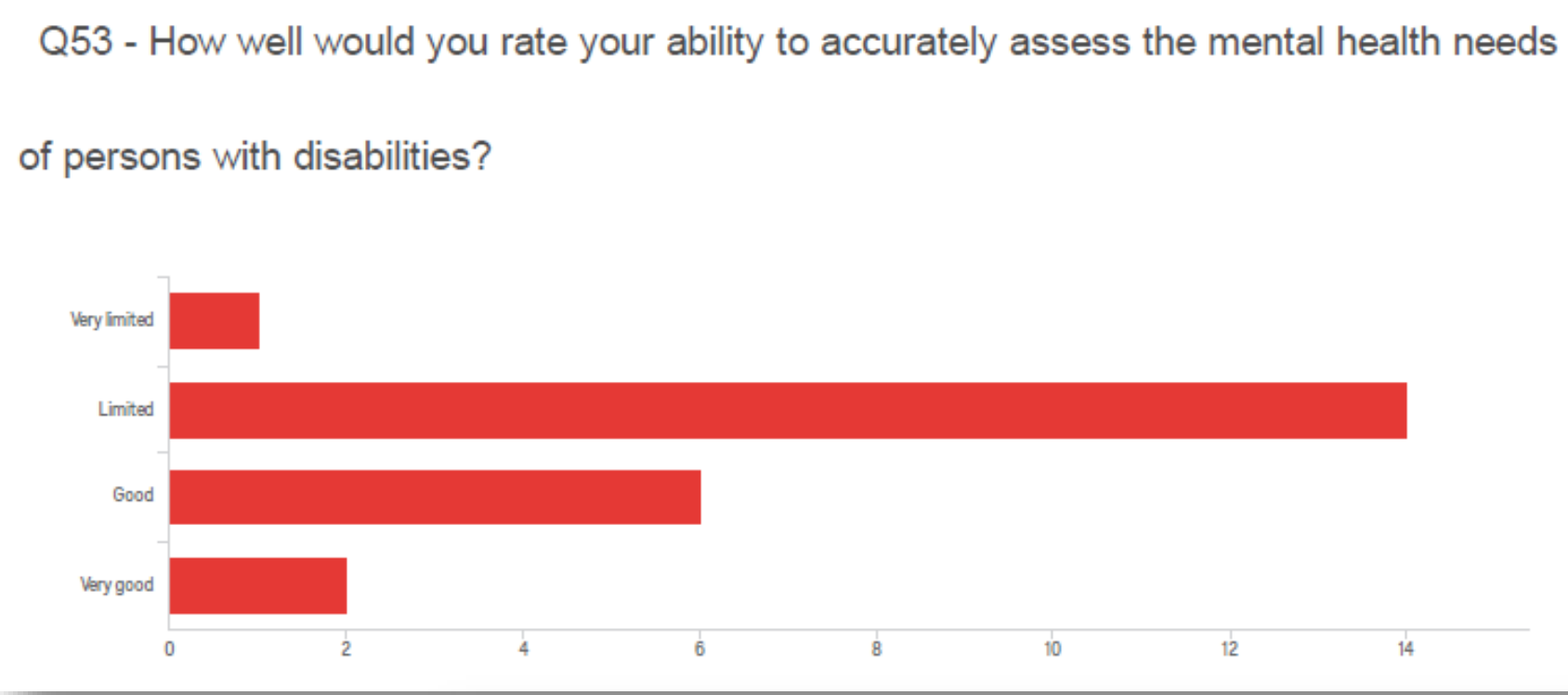
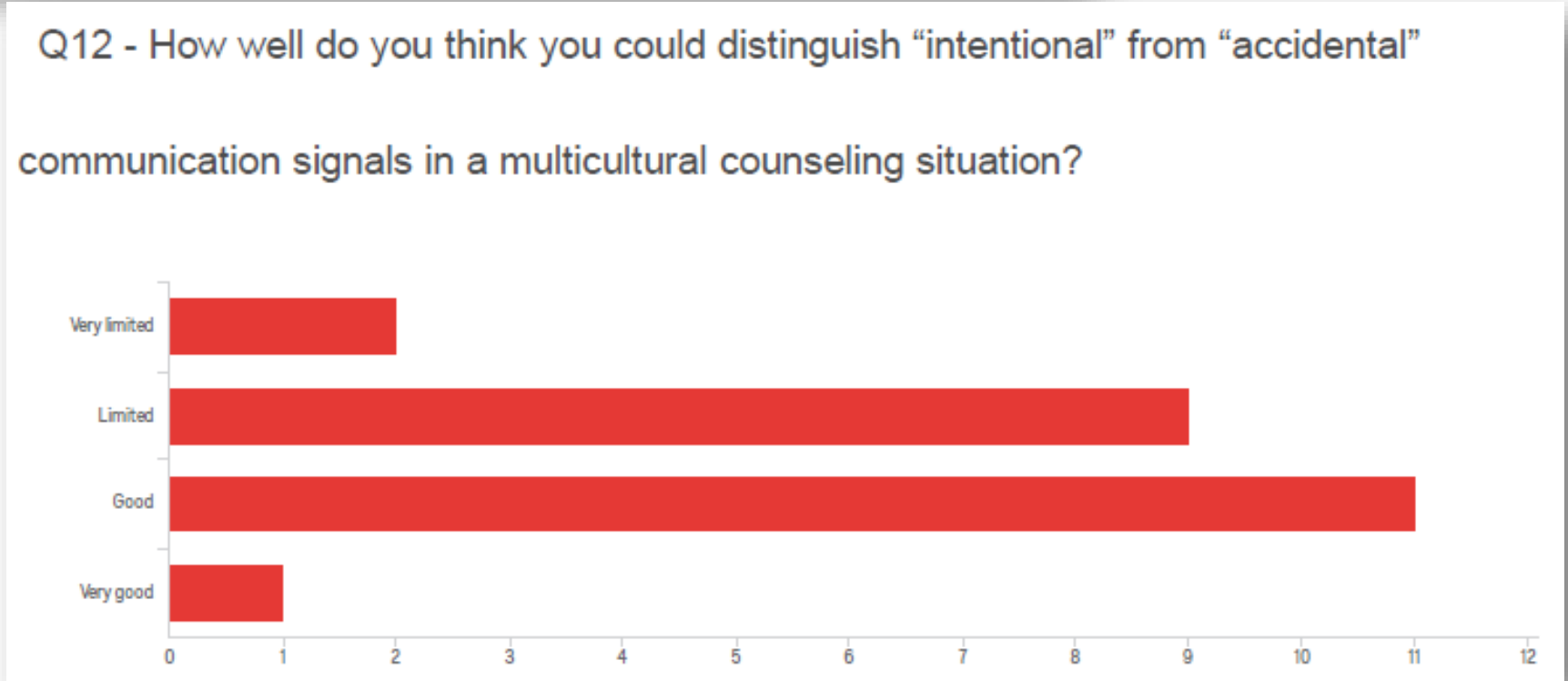
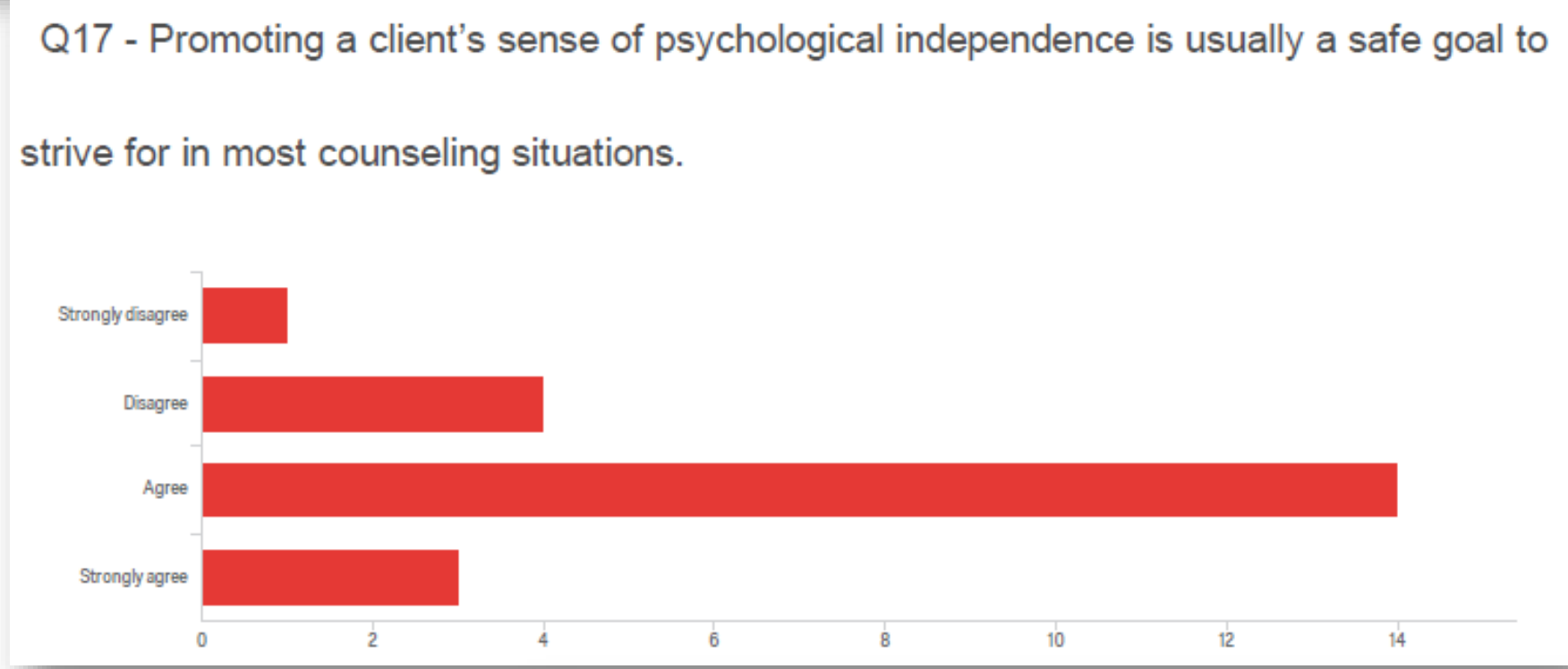


Figure 2. Selected results of MAKSS Survey, conducted in class, February 4, 2019. Top question relates to skills; middle question relates to awareness, bottom question relates to knowledge.



## 3. Incorporating Culturally-Competent Counseling Across the Course

- Discussion questions following group counseling demonstrations (live role-plays or videos)
  - *What cultural considerations need to be considered?*
  - BINGO →
- Mid-semester satisfaction survey
- Require students to incorporate “Cultural Considerations” into group counseling proposal.

BINGO			
Demonstrate multicultural awareness	Empathy	Encourage member-to-member interaction	Provide structure
Help members to develop specific, measurable goals	Listen to group members who are expressing fears	Check-in	Demonstrate multicultural knowledge
Demonstrate multicultural skills	Develop ground rules & set norms	Review role of the leader	Here-and-now focus
Appropriate self-disclosure	Review purpose of group	Review rights and responsibilities of the members	Encourage group members to fully express concerns

## Lessons Learned

1. Syllabi consisting overwhelmingly of white men are problematic because they deter members of underrepresented groups and they present a particular perspective as universal (Anderson & Erlenbusch, 2017).
2. Student resistance is a state, not a trait, and is a signal to the instructor to assess the systematic variables that are contributing to this outcome to intervene effectively and enhance student learning.
3. Students can be taught to acknowledge and respond to the dynamics of both culture and power that are inherent in any group setting.

## Contact

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## Acknowledgement

This work was supported by the Office of the Provost (2018-19 Extended Diversity Experience Program) and the University Center of Teaching and Learning at the University of Pittsburgh.

## References

1. Association for Specialists in Group Work (ASGW). Ten strategies to intentionally use group work to transform hate, facilitate courageous conversations, and enhance community building. Retrieved from [https://docs.wixstatic.com/ugd/513c96\\_fe59b76c04b040f8bb17f653b3092b10.pdf](https://docs.wixstatic.com/ugd/513c96_fe59b76c04b040f8bb17f653b3092b10.pdf)
2. Kim, B. S. K., Cartwright, B. Y., Asay, P. A., D’Andrea, M. J. (2003). A revision of the Multicultural Awareness, Knowledge, and Skills Survey – Counselor edition. *Measurement and Evaluation in Counseling and Development*, 36 (3), 161-180.
3. Zaharopoulos, M., & Chen, E. C. (2018). Racial-cultural events in group therapy as perceived by group therapists. *International Journal of Group Psychotherapy*, 68, 629-653.





# INTRODUCTION TO LGBTQIA+ STUDIES

Matthew Thomas Lovett, Ph.D.  
Gender, Sexuality, and Women's Studies Program  
University of Pittsburgh

## ABSTRACT

This is the first time Pitt has ever offered (and I have ever taught) Intro to LGBTQIA+ Studies. I wanted the class to be able to speak, as much as possible, to the wide variety of students who identify under this moniker. I also wanted the class to be available, accessible, and relevant to the lives of as many students as possible. I tried to construct a class that included a diverse set of texts inclusive of gender identity, race, geographic location, and sexual affinity. I also included non-academic materials, and I facilitated a panel of representatives of local queer organizations to teach my students about local queer outreach. I also utilized open education resources (OER) in order to make all course materials free for all students. This structure emphasizes and enhances the diversity of source material, of student composition, and of student background.

## CONTACT

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## TYPES OF DIVERSITY

### ❖ DIVERSITY OF SOURCE MATERIALS

- ♦ Articles
- ♦ eBooks
- ♦ Documentaries
- ♦ Instagram
- ♦ Oral Histories
- ♦ Websites
- ♦ Ethnographies
- ♦ Diaries
- ♦ Music Videos

### ❖ DIVERSITY IN REPRESENTATION

- ♦ Trans\* Folx
- ♦ Lesbians
- ♦ Radical Faeries
- ♦ Gay Men
- ♦ Bisexuals
- ♦ Authors of Color
- ♦ Academics and Non-Academics
- ♦ Scientists, Historians, Sexologists

### ❖ DIVERSITY IN LEARNING ACTIVITIES

- ♦ Student Led Discussion
- ♦ Library Special Collections Visit
- ♦ In-Class Guest Speaker
- ♦ Off-Campus Community Knowledge Café

### ❖ DIVERSITY IN ASSIGNMENTS

- ♦ Reflection Papers
- ♦ Discussion Board
- ♦ Discussion Leading
- ♦ Group Advocacy Projects
- ♦ Research Literature Review

## LEARNING OBJECTIVES

- ❖ Identify different modalities of queer kinship
- ❖ Critique normative understandings of sex, gender, and sexual orientation
- ❖ Recognize the history of the construction of categories of sexuality
- ❖ Evaluate personal and historical accounts of sexuality
- ❖ Become apprised of local organizations and possible LGBTQIA+ outreach opportunities
- ❖ Identify major historical trends in queer world-making
- ❖ Incite each other to think about sexuality as a political and personal domain
- ❖ Recognize the role of the LGBTQIA+ population in HIV activism and research
- ❖ Bring an intersectional approach to the study of sexuality and its history
- ❖ Identify and critique current and local LGBTQIA+ issues
- ❖ Respect the significance of ballroom, drag, and club cultures



## LESSONS LEARNED

- ❖ LGBTQIA+ Studies is a multidisciplinary field, so it requires multidisciplinary sources
- ❖ Students approach the field from personal interest, so respecting and acknowledging their personal interests is integral
- ❖ LGBTQIA+ culture spans multiple different media, so representing that diversity in source materials is appropriate
- ❖ LGBTQIA+ Studies is based first and foremost in lived experience, so the course needs to speak to and reflect our own lives
- ❖ Assigning too much reading sometimes hinders learning

## ACKNOWLEDGEMENTS

This work was supported by the Office of the Provost (2018-19 Extended Diversity Experience Program) and the University Center of Teaching and Learning at the University of Pittsburgh.

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2. Buckland, Fiona. *Impossible Dance: Club Culture and Queer Worldmaking*. Middleton, CT: Wesleyan University Press, 2002
3. Bullough, Vern L. *Science in the Bedroom: A History of Sex Research*. New York, NY: Basic Books, 1994.
4. Faderman, Lillian. *Odd Girls and Twilight Lovers: A History of Lesbian Life in 20<sup>th</sup> Century America*. New York, NY: Columbia, 2011
5. Halberstam, Jack. *Trans\*: A Quick and Quirky Account of Gender Variability*. Oakland, CA: University of California Press, 2018.
6. Moore, Madison. *Fabulous: The Rise of the Beautiful Eccentric*. New Haven, CT: Yale University Press, 2018
7. Newton, Esther. *Mother Camp: Female Impersonators in America*. Chicago, IL: University of Chicago Press, 1979



HOW  
TO

# Increase Faculty and Student Diversity at Pitt Public Health

Noble Maseru Ph.D., MPH  
Associate Dean, Diversity & Inclusion  
Pitt Public Health

MEASUREABLE NUMERIC  
GOALS

PIPELINE  
COLLABORATIONS

## ADMISSIONS

BASELINE NUMBERS

TARGET POPULATIONS

MEASUREABLE  
QUALITATIVE GOALS

## ENROLLMENT

STRATEGIES; EXPECTED  
OUTCOMES

MENTORING

RESOURCES

ADMINISTRATIVE  
SUPPORT

## RETENTION

SEARCH COMMITTEES

PARTNER  
COLLABORATIONS

FACULTY & STUDENT  
EXCHANGE

RESOURCES

NIH DIVERSITY  
SUPPLEMENTS

## RECRUITMENT



## RETURN ON INVESTMENT

SOCIAL EQUITY

ACCREDITATION

ACADEMIC QUALITATIVE  
IMPROVEMENT & RELEVANCE

FUNDING & RESOURCES

## SURVEILLANCE

&

## ACCOUNTABILITY

DIVERSITY,  
INCLUSION & EQUITY  
BENCHMARKS

PERFORMANCE  
OUTCOMES &  
PROCESS DATA

## ORIENTATION

&

## RATIONALE

FACULTY DEVELOPMENT  
AND RETREAT; FACULTY  
DIVERSITY COMMITTEE  
SYLLABI; CLIMATE

## HISTORY

UNIVERSITY WIDE & PITT  
PUBLIC HEALTH

OPERATIONAL  
COOPERATION,  
COLLABORATION &  
PARTNERSHIPS

REPORTS, STRATEGIC  
PLANS

## MISSION

CHANCELLOR AND  
DEAN'S VISION

PHILOSOPHY,  
EXPERIENCE

COMMUNITY  
ENGAGEMENT,  
EXTERNAL RELATIONS



# Teaching Client-Centered Legal Research

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Law Librarian  
University of Pittsburgh  
School of Law

Author of *Family Guide to Mental Illness and the Law: A Practical Handbook* (Oxford, 2019).

This work was supported by the Office of the Provost (2018-19 Extended Diversity Experience Program) and the University Center of Teaching and Learning at the University of Pittsburgh.

Intersectionality when somebody with limited language, memory, concentration, attentiveness, vision, or hearing is treated only as a litigant, exclusive of these other characteristics, the legal system's speed, rigidity, and vocabulary can make them feel disenfranchised in attempting to resolve their legal trouble. If the legal researcher finds and shares information about alternative forums for resolving the problem, the client will be empowered to select the most comfortable communication setting and feel less disenfranchised.

## A challenge in legal research classes:

Law students, and many other people, believe that the law is neutral. The language of the law may appear to be neutral, but to identify the most applicable laws and legal exceptions, understand a client's dispute resolution priorities, and best help each client understand the legal perspective of a situation, law students should learn to incorporate diversity principles into their legal research.

In-class practice scenarios can feature clients' demographic characteristics and the research process can begin with discussing or investigating those.

Homework can combine research with client communications so that students have to synthesize legal information with client characteristics.

## Cultural Responsiveness

When research involves standing in the client's shoes, students investigate the client's circumstances in addition to primary law.

### Scenario #1

Your neighbor's adult son has anxiety and due to panic could not get out of bed to go to work this morning. Your neighbor is worried that the son will lose his job and not be able to pay rent. He has already used all of his sick days.

Can neighbor call today and get him on FMLA leave?

Engage the class in a discussion about whether an episode of serious anxiety fits the law's "unforeseeable" exception or have them investigate this via <https://www.nimh.nih.gov>.

Permission to use this lease form was granted by the Landlord Association of Pennsylvania.

### Scenario #3

A New American business owner who has been here for five years ran into tax trouble and mistakenly hired a fraudulent service to reduce his tax debt. Instead, the service cheated him. The IRS is after him, but he thinks the service should pay the back taxes.

How can you help him resolve his current tax problem, decide what to do about the crooked company and avoid future tax trouble?

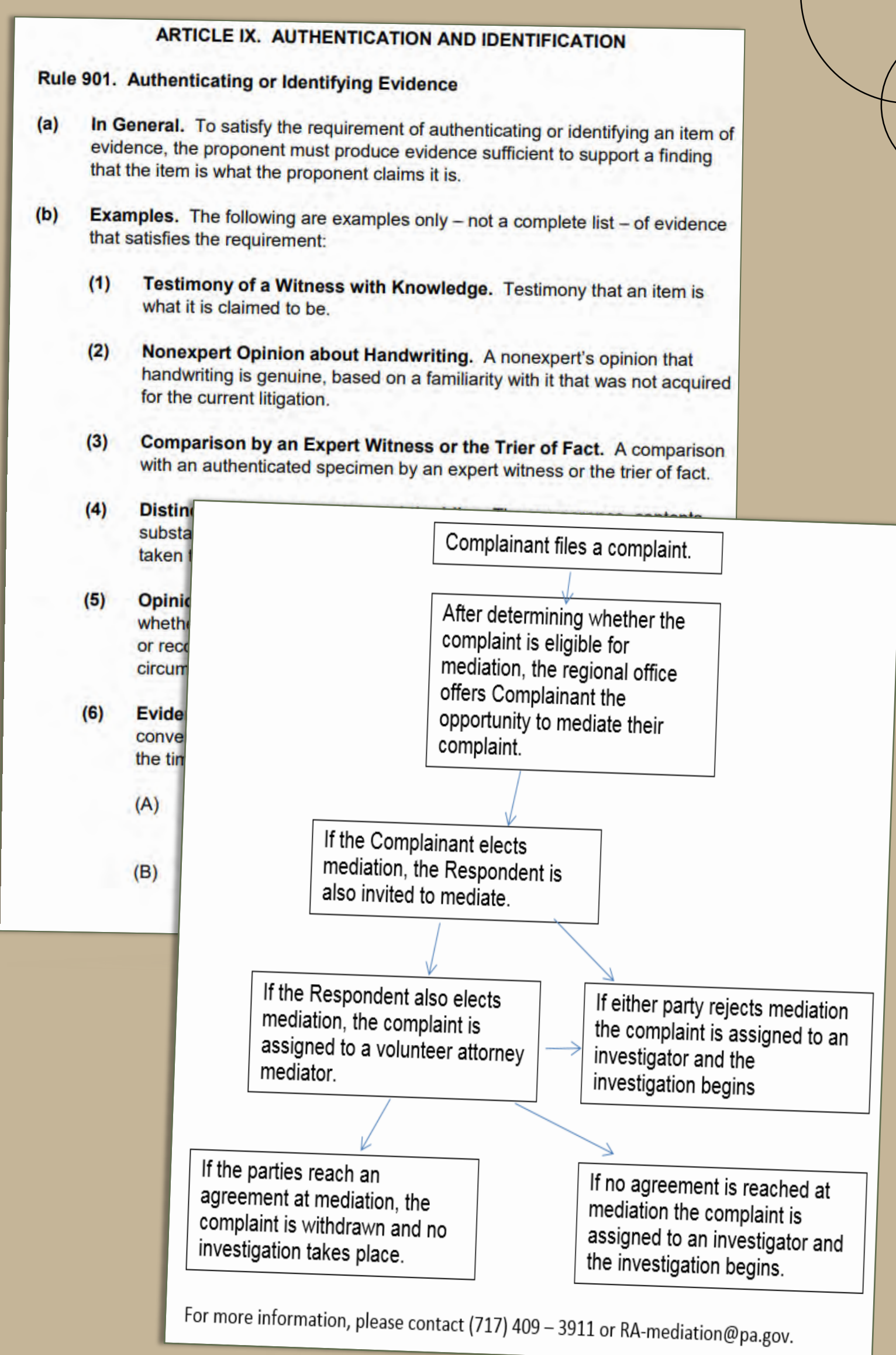
Students will read about immigrant entrepreneurs, compile an annotated list of applicable resources from the IRS and the SBA and make a chart showing when and why to use each source with this client.

### Scenario #2

A retired cafeteria worker fell in the hallway at the independent living facility where she resides. Medicare will not pay for an at home assistant to help her dress and bathe while the injuries heal, so she seeks money damages from the facility.

How long will a trial take? Can she hear well and respond quickly to questions? Is she accustomed to formal settings? Can she keep track of multiple instructions at once?

For homework, students will compose thoughtful explanations of two alternative dispute resolution forums that will suit this client's legal and communication needs.



## Sources for further reading:

- Antoinette Sedillo Lopez, Making and Breaking Habits: Teaching (and Learning) Cultural Context, Self-Awareness, and Intercultural Communication through Case Supervision in a Client-Service Legal Clinic, 28 Wash. U. J. L. & Pol'y 37 (2008).
- Christina A. Zawisza, Teaching Cross-Cultural Competence to Law Students: Understanding the "Self" as "Other", 17 Fla. Coastal L. Rev. 185 (2016).
- Shamika Dalton, Incorporating Race into Your Legal Research Class, 109 Law Libr. J. 703 (2017).



# Incorporating Scientist Spotlights and Global Case Studies into GEOL 0840: Environmental Science

Kyle A. Whittinghill<sup>1</sup>

<sup>1</sup>University of Pittsburgh Department of Geology and Environmental Science

## GEOL 0840: Environmental Science

- Intro course for Environmental Science (BS) and Environmental Studies (BA) majors
- Natural science general education requirement
- ~150 students, 3 credits, Fall semesters
- Two 50 min whole class sessions (“Lecture”)
  - Lecture with TopHat and think-pair-share questions
  - Cooperative learning activities
- One 50 min small section (“Recitation”, 10-25 students)

### Content Learning Objectives

- Explain how the scientific method is used to investigate environmental issues
- Describe core concepts from biology, chemistry, and geology related to environmental issues
- Communicate the environmental consequences of increasing human population (example: air, water and soil pollution)

### Assessment of Student Learning

- Think-pair-share and clicker questions (TopHat)
- “Lecture” cooperative learning activities
- “Recitation” individual and group exercises
- Weekly “quizzes”
- 1-2 mid-term exams
- 1 final exam (50% cumulative)

*In **cooperative learning**, students from different backgrounds work together in teams and are responsible for both learning content and helping their teammates.*

## Goals of Extended Diversity Project:

- Provide examples of diverse scientists and their recent research
- Include a more global set of case studies
- Incorporate environmental health/environmental justice

## Overall Course Transformation Goals:

- To improve student understanding and retention of course content
- To increase student engagement in lecture and recitation
- To better integrate recitation and lecture material
- To reduce costs for students by replacing a traditional textbook with open educational resources
- To properly align assessment with content learning objectives

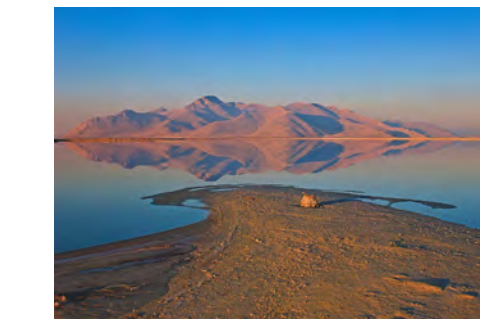
## Bonus Slides

- Began Fall 2018
- Students submit slides related to the previous class content
- Provides a bridge between lectures



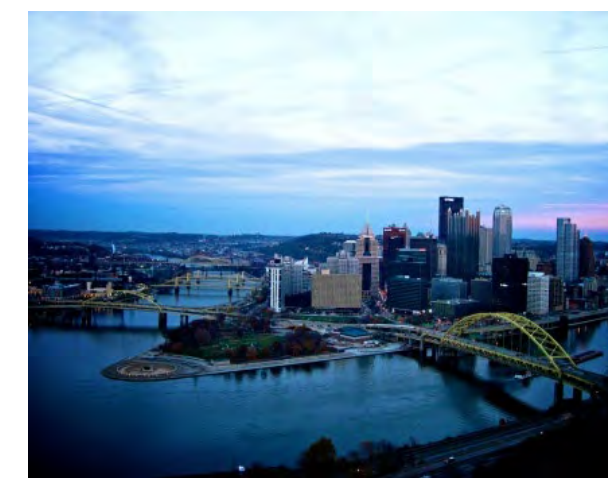
### Great Salt Lake

- Pools
- Water
  - Salt and minerals
  - Algae
  - Brine shrimp
  - Variety of bacteria
  - Other invertebrates
  - Fish
- Fluxes
- Freshwater from streams and rivers
  - Fish from rivers
  - Salt extraction
  - Brine shrimp harvesting
  - Evaporation and Precipitation



### Point-Source Pollution in PA's Waterways

- "Downstream" documentary film
- Point Park University's Environmental Journalism program
- Acid mine drainage from abandoned coal mines, sewage overflow, lead in old pipes
- PA has 83,000 miles of rivers, streams, and tributaries
- 1/3 of abandoned mine sites in the country are in PA
- Downstream effect on pH and community



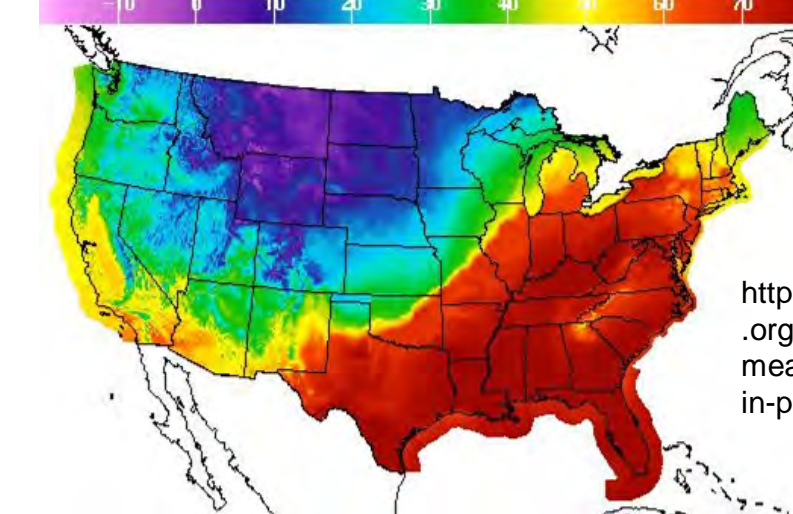
<https://stateimpact.npr.org/pennsylvania/2018/10/16/downstream-documentary-looks-at-pollution-in-pennsylvanias-water/>

### Three Possibilities:

- A scientist researching the topic
- A related current event
- A case study related to the topic

### Climate Change Means More Landslides in Pittsburgh's Future

- Landslides always an issue: steep hills, clay soil, shale and narrow valleys
- Usually occur in wet weather of late spring / early summer
- **2018 Pittsburgh's wettest start to the year on record**
- Landslides have shut down Route 30 and forced people from their homes



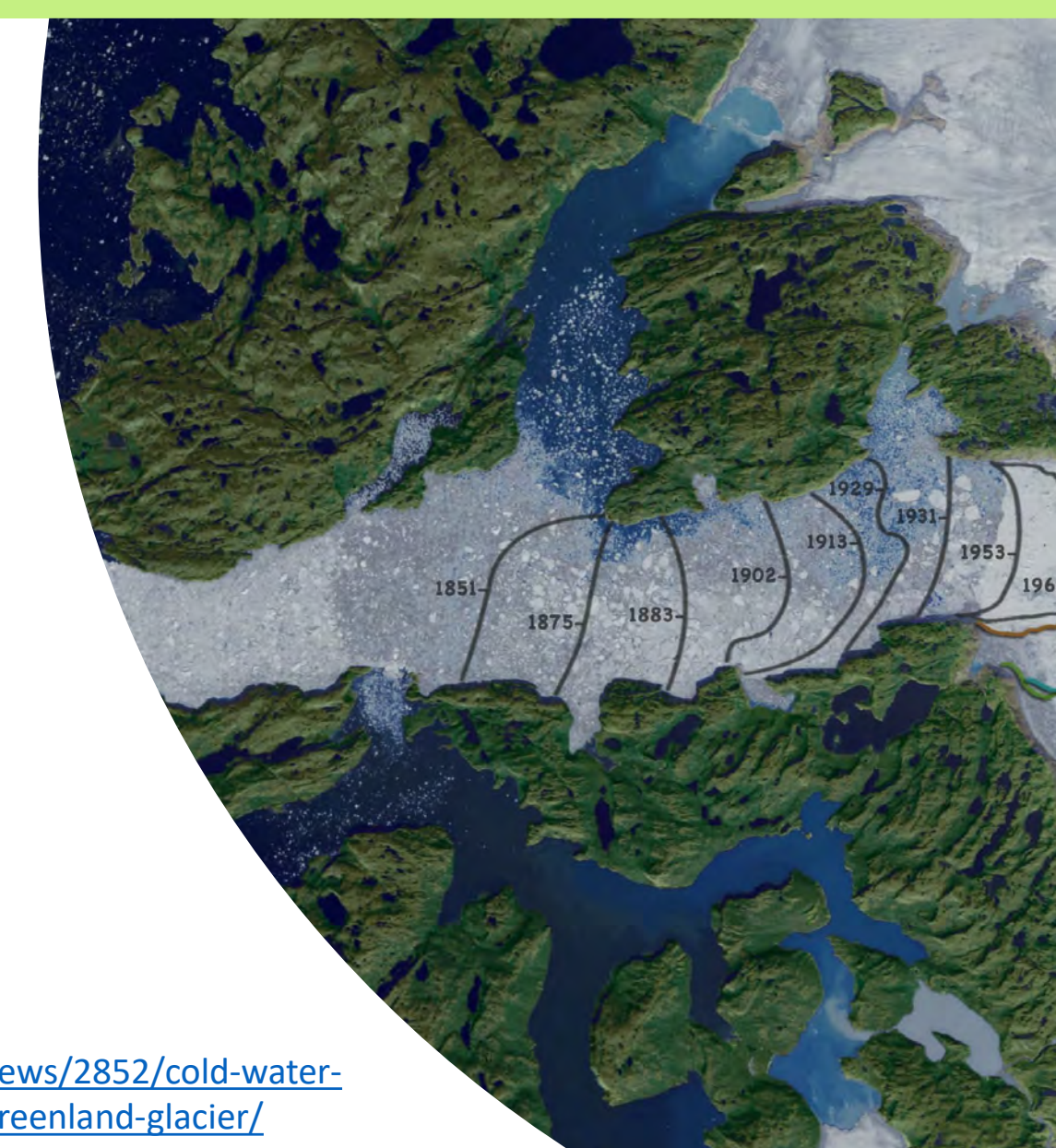
<https://www.alleganyfront.org/climate-change-means-more-landslides-in-pittsburghs-future/>



### The Jakobshavn Glacier

- Greenland's fastest-thinning glacier started slowing down, still a key player in rising ocean level
- Current by the ocean-side of the glacier brought colder water, slowing the melting of the glacier
- May be a temporary change and overall global ocean temperature is still increasing

<https://climate.nasa.gov/news/2852/cold-water-currently-slowing-fastest-greenland-glacier/>



Slides presented on this poster were adapted from those submitted by students in GEOL 0840 in the Fall 2018 and Spring 2019 semesters

## Scientist Spotlight

### Photosynthesis: Current Research

Yoshida *et al.* 2018, PNAS



Keisuke Yoshida



Toru Hisabori

Identified two proteins that pause photosynthesis until light is present

Source: <https://www.brightsurf.com/news/article/081618463398/how-do-plants-rest-photosynthetic-activity-at-night.html>

### Goals

- Provide examples of diverse Earth and Environmental Scientists
- Present current research in the field
- Increase opportunities to practice data-literacy

### Progress

- Compiled a list of female scientists and scientists of color
- Finding examples of their current research
- Plan to increase representation of more diverse groups of scientists

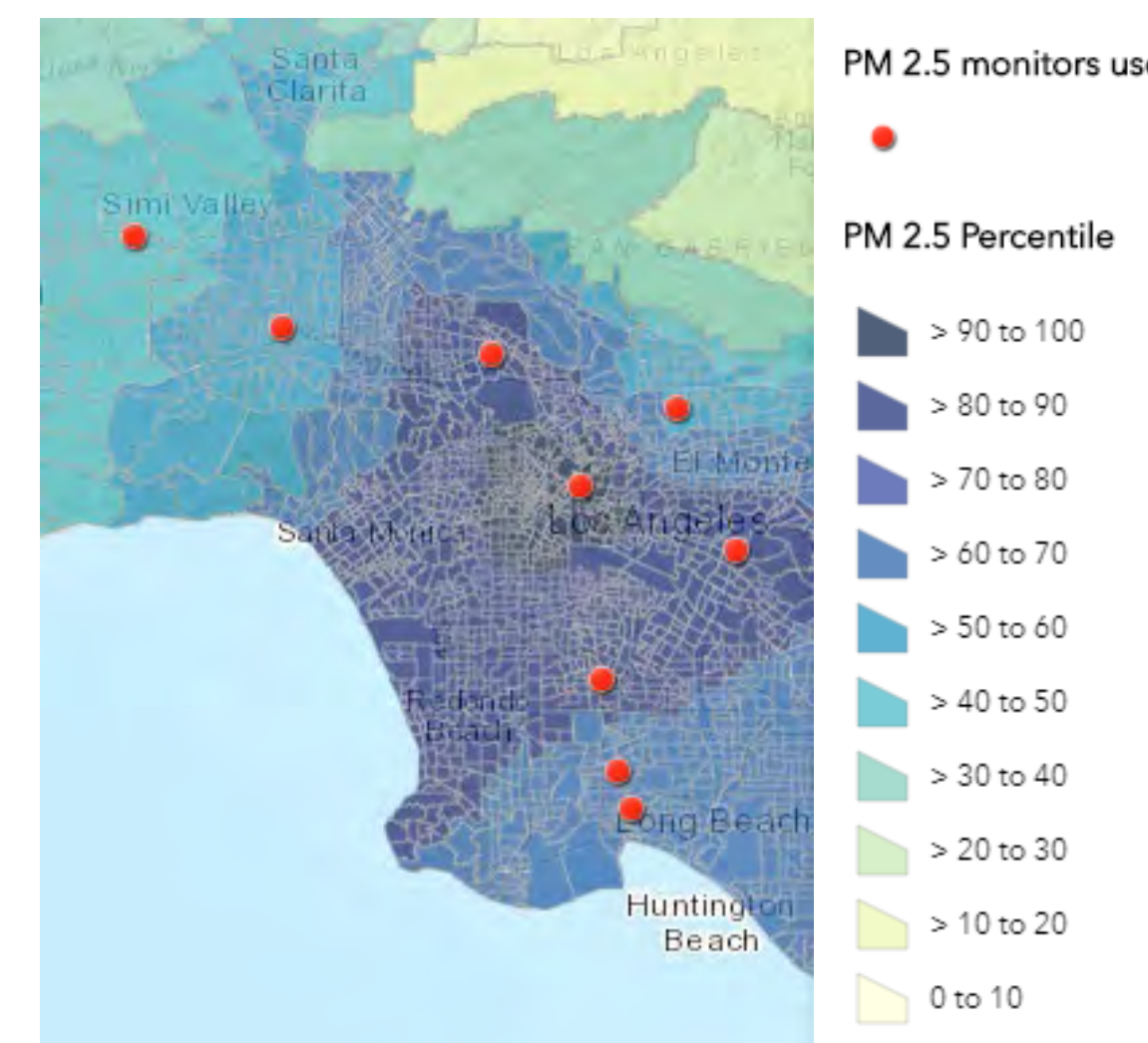
## Environmental Health and Environmental Justice Case Studies

### Progress

- List of possible cases
- Finding freely available readings (library / OER)
- Creating questions for active learning activities

### Pollution from California Wildfires

- PM<sub>2.5</sub>: particles < 2.5 micrometers
- Good: <50, Bad: 100-200
- Oakland, CA (160 miles from fires) measures 164
- PM can get into your lungs and bloodstream
- Wind patterns can carry smoke particulates long distances



## Global Case Studies

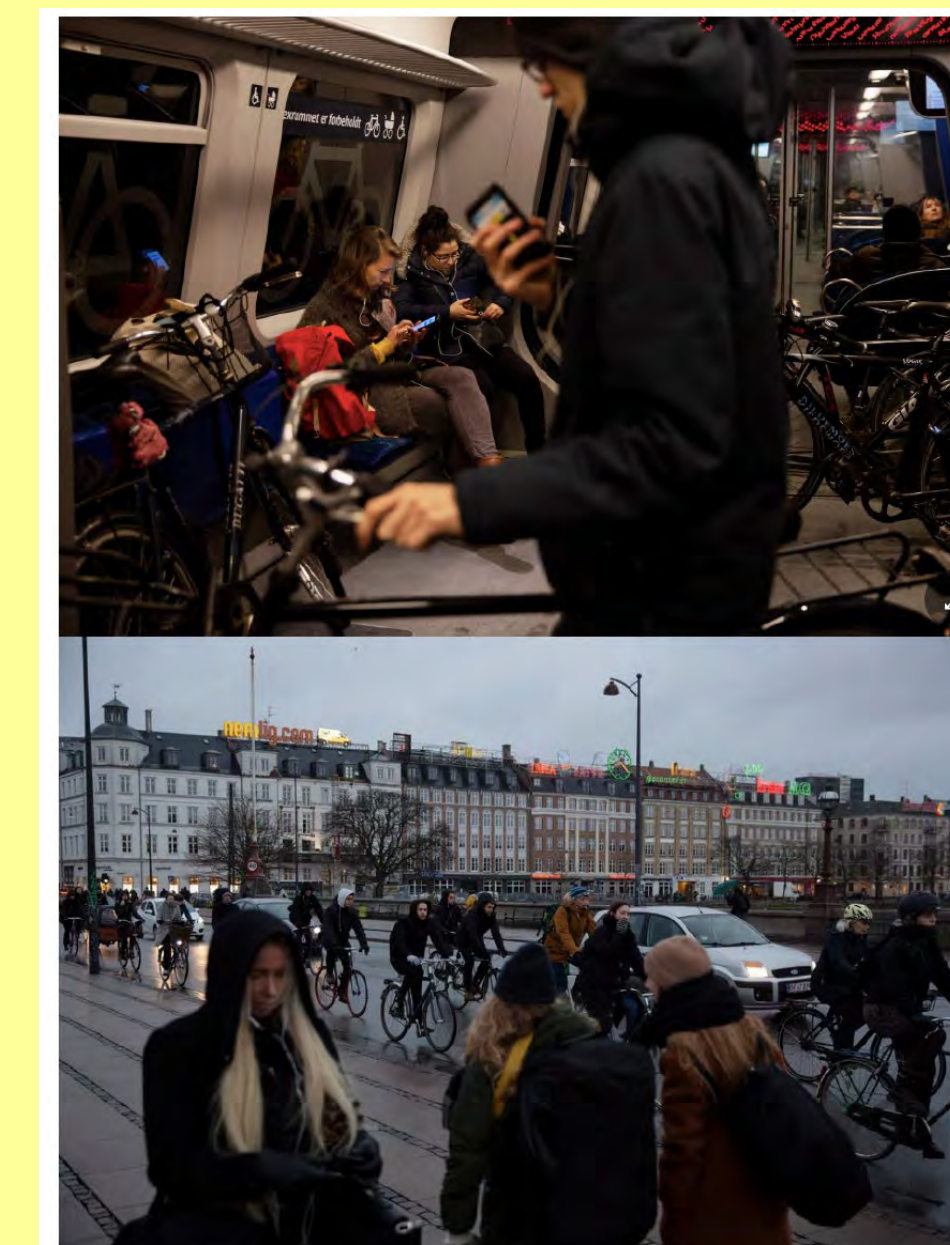
### Copenhagen Carbon Neutral by 2025?

May not be possible, but they are making significant progress:

- Cut emissions 42% since 2005
- 43% of citizens commute by bike (even in the rainy climate)
- New metro line means most citizens will be < ½ mile from a station

Copenhagen is relatively small and affluent and a large number of citizens support fighting climate change

[https://www.nytimes.com/2019/03/25/climate/copenhagen-climate-change.html?ref=collection%2Ffunctioncollection%2Fclimate&action=click&contentCollection=climate&event=click&module=package&version=v1&contentId=climate](https://www.nytimes.com/2019/03/25/climate/copenhagen-climate-change.html?ref=collection%2Ffunctioncollection%2Fclimate&action=click&contentCollection=climate&event=click&module=package&version=v1&contentId=climate%2Ffunctioncollection%2Fclimate&event=click&module=package&version=v1&contentId=climate)



### Progress

- List of cases
- Finding freely available readings (library / OER)
- Creating slides & TopHat ?s

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