

American Chemical Society New Faculty Workshop

Diversity, Equity, and Inclusion in Chemistry Education

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ACS
Chemistry for Life[®]

To the Google Drive!

- We'll be working in breakout rooms during this session.
 - open the Google Document assigned to your group number when the time comes
- We'll also be using www.menti.com.
 - use code: **80 50 25 5**

www.menti.com

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- rank the statements you see in order of most (top) to least (bottom) representative of you

The way we frame *equity* impacts how we consider its impacts on the classroom.

One of the most prominent concerns in STEM education remains...

“persistent achievement gaps between various demographic groups”.

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- use code: **80 50 25 5**
- What does the phrase “persistent achievement gaps between various demographic groups” frame as the problem in STEM education?

Let's deconstruct this phrase.

“persistent achievement gaps between various demographic groups”

- *Achievement gaps* are framed as what is *persistent*.
- *Gaps* imply differences.
- *Achievement* implies having accomplished something as a result of effort.
- Who is framed as lacking effort and performing differently?
 - *various demographic groups*
- But a *demographic group* is a socially constructed identity.

This is the danger of removing discussions of educational equity from its socio-structural context—it can become about **fixing** students.

Socially-Constructed Identities

nationality

socioeconomic
status

first-in-family
status

race

sexuality

Hogwart's
house

gender identity

physical ability

parental
status

religion

bioparents

Meyer-Briggs
type

There is no biological reason for differences in chemistry course outcomes by socially constructed identity.

Difference versus Inequity

- What can account for statistical differences in outcomes by socially constructed identity is how society engages with people perceived as having a given identity.
- The more perceptible the identity, the more likely it is to have an impact on how people are treated interpersonally and systemically.

Socially-Constructed Identities

USA

upper middle
class

first-gen ugrad
and grad

white

gay



Slytherin

man

depression/
anxiety

no children

atheist

adopted

INTJ

How I view equity is framed by my majority/minority identities; it takes work to unpack how these result in both privilege and inequity.

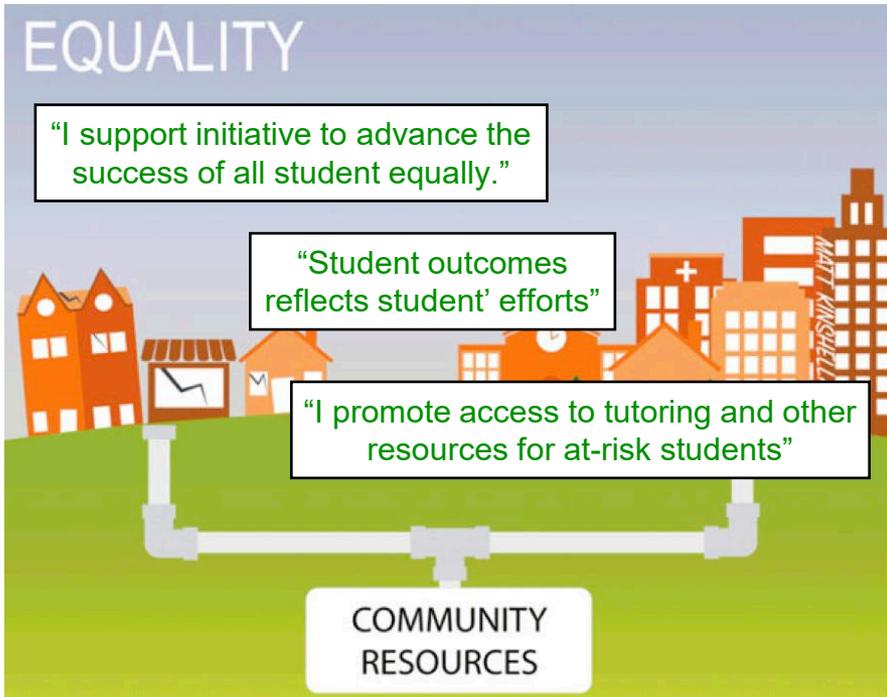
www.menti.com

- use code: **80 50 25 5**
- Thinking about your identities, which give you the most privilege in society?
 - this is free-response; you may identify however you want
 - you can respond more than once!

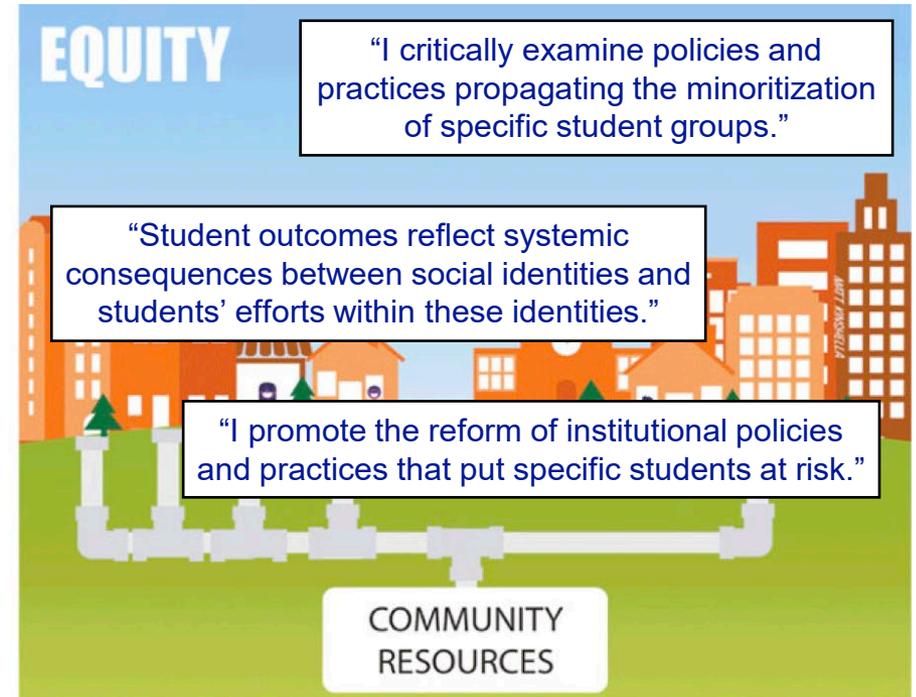
www.menti.com

- use code: **80 50 25 5**
- Thinking about your identities, which result in biases instilled in you by society?
 - this is free-response; you may identify however you want
 - you can respond more than once!

Equality versus Equity



In equality scenarios, its tempting to apply a deficit mind-set to “fix” individuals.



In equity scenarios, you attempt to fix the system.

<https://mmt.org/news/equity-illustrated-3rd-place-equity-about-resources> (accessed June 16, 2021)

image by Matt Kinshella

Suggesting Reforms

- In your breakout rooms, open the Google Document assigned to your group number.
- Brainstorm potential sources of inequity in your chemistry classrooms.
 - What steps can you take to subvert policies/procedures/systems that contribute to these inequities?

It may help to consider different types of students who might be in your class: those of low socioeconomic status; international students; parents; those of differing abilities; those with lower academic preparation, etc.

Did someone say *assessment*?

“If you’re assessing math problems, you’re moving on people who can do math problems and not necessarily the people who have decided to learn the chemistry. If we assess chemistry, then we’re making sure that the folks who understand chemistry and our core ideas are moving on.”

....says Samuel Pazicni, a chemistry professor at the University of Wisconsin–Madison involved in efforts to reform general chemistry.

Arnaud, C. H. Clearing the way for reform of general chemistry classes.
Chemical and Engineering News **2021**, 99(19), May 18, 2021.