

# Teaching about sex & gender variation in nature and bias in science enhances belonging of trans-spectrum students in life science courses.

#2201808: *A qualitative inquiry into sex/gender narratives in undergraduate biology and their impacts on transgender, non-binary, and gender non-conforming students*

## Some trans-spectrum students encountered supportive sex & gender narratives.

Affirmation that sexes and genders exist beyond binary male/man and female/woman in humans.

Diversity in sex & orientation abounds in non-human organisms.

Biological understanding supports that humans exhibit a spectrum of sexes & genders and/or orientations.

Narratives took forms of:

- Short disclaimers
- One-off examples
- Extended case studies
- Restructuring of whole units to center diversity

More elaborate & integrated examples more supportive.

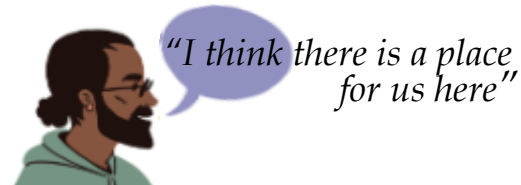
*"It's ... disappointing that [gender/sex diversity is] treated as an aside... rather than making it more essential a part of learning and understanding."*

## More broadly, challenging the idea that identities do not matter in science was also supportive.

Scientists' positionalities matter.

Scientists are influenced by culture (i.e., bias occurs in science).

Expansion of what counts as science beyond western traditions of science.



For at least some student each of these narratives:

- Increased belonging in biology
- Helped resist dominant narratives in biology & society about sex & gender

Variation among students in how impactful each narrative was.

## Methods

Qualitative

LGBTQ+

- Interviewed 48 trans-spectrum students in life science majors from across the US.
- *Guiding Theory*: Master narrative theory
- *Analysis*: reflexive thematic analysis
  - Large group of coders with a range of positionalities

McLean & Syed 2015



## Unique Approaches

- Applied Theory of Caring Research (Swanson 1991; Cross 2023)
  - Engaged in knowing, being with, and doing for our participants
- Counterspace: Deliberately engaged a cohort of LGBTQ+ undergraduates with research.



← Published pilot study

"It's completely erasure": A Qualitative Exploration of Experiences of Trans-spectrum Students in Biology Courses

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