Inclusive Teaching:
attract and support all students

Lots of dimensions that departments care about (and that are important to geosciences and society)

- The geosciences are not very diverse, and trends have not been good enough.
  - This isn't great for the field. We need creative solutions to difficult problems. All hands on deck.
  - This isn't great for departments. We need better enrollment numbers.
  - This isn't great for individuals. We need to enable students to reach their full potential.
- We need to train people outside of geoscientists.
  - What are you doing beyond your research group or your cohort of advisees?

1. Build your experience using active learning techniques

"Instructional activities involving students in doing things and thinking about what they are doing."
Bonwell and Eison, 1991

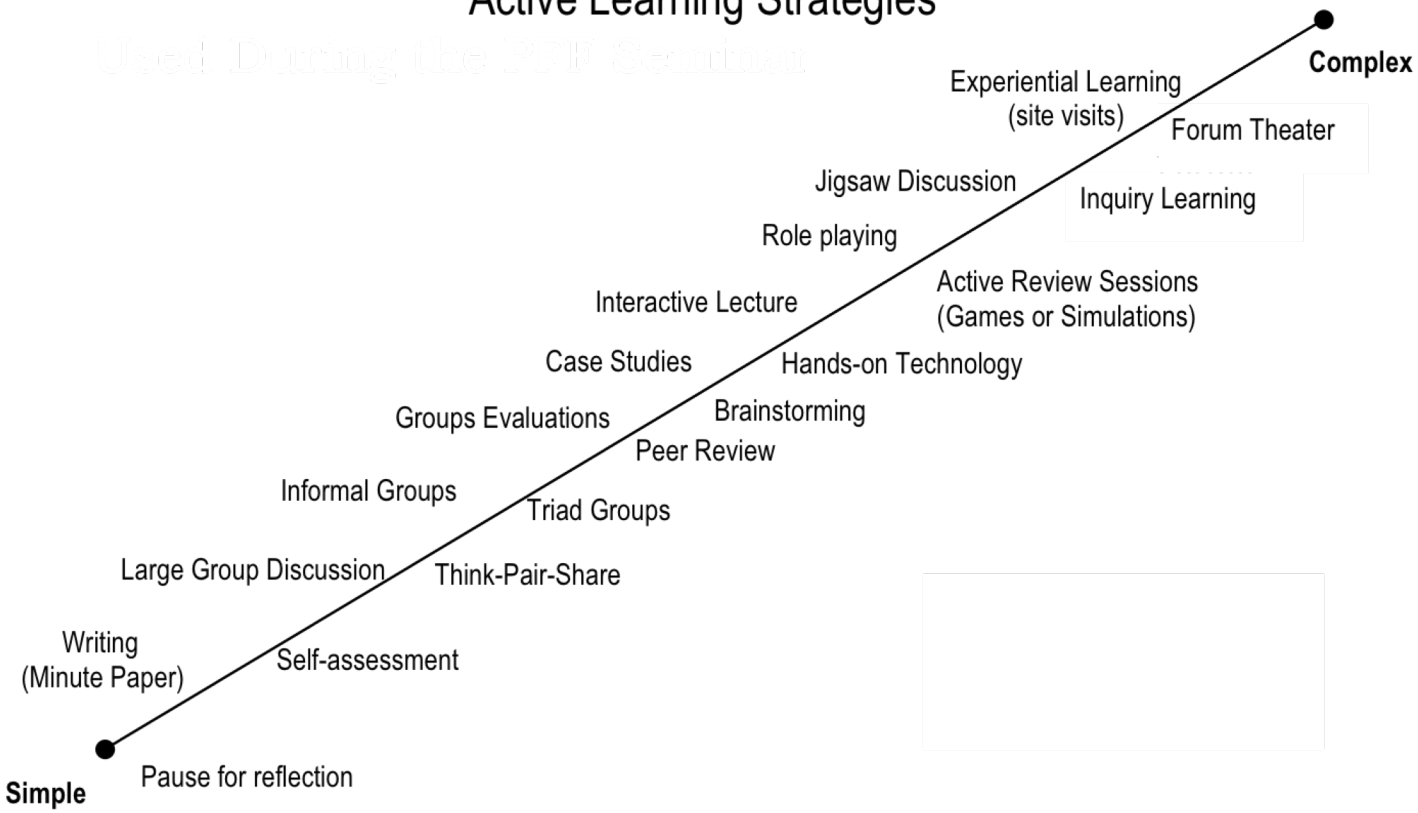
"Active learning implies that students are engaged in their own learning. Active teaching strategies have students do something other than taking notes or following directions… they participate in activities… [to] construct new knowledge and build new scientific skills."
Handelsman et al., 2007

"Active learning engages students in the process of learning through activities and/or discussion in class, as opposed to passively listening to an expert. It emphasizes higher-order thinking and often involves group work."
Freeman et al., 2014

"Students' efforts to actively construct their knowledge."
Carr et al., 2015

https://cft.vanderbilt.edu/wp-content/uploads/sites/59/Active-Learning.pdf

Active Learning Strategies



This is a spectrum of some active learning activities arranged by complexity and classroom time commitment.

Prepared by Chris O'Neal and Tershia Pinder-Grover, Center for Research on Learning and Teaching, University of Michigan

What all of these have in common…

- Talk less (smile more)
  - You are listening to the students, so you have a better sense of what they need from you. Your goal should be to make sure THEY say smart things, not on YOU saying smart things.
- Give a framework for peer instruction
  - Students can sometimes teach each other more efficiently than you can teach them.
- Allow them to create active, robust knowledge by making them use that knowledge
  - You are empowering them.

2. Become a mentor – lessons from engineering

- Underrepresented groups drop out early
  - 40-50% of engineering students switch to other majors or drop out.
  - Three key reasons:
    - Poor teaching and advising
    - The difficulty of the engineering curriculum
    - A lack of “belonging” within engineering
- They don’t ever get exposed to engineering

https://www.asee.org/retention-project/keeping-students-in-engineering-a-research-guide-to-improving-retention

3. Engage in programs that build sophistication into your approach to DEI

Topics:

- Diversity, equity, and inclusivity (DEI) in higher education, STEM disciplines, the geosciences
- Contributions from scientists who do not fit the stereotypes, including non-credentialed people (e.g., indigenous knowledge). Incorporate readings and/or case studies into teaching.
- Societal issues, including anti-racism and COVID-19
- Community-based learning and service learning

Diversity Statements

- Some applications now require these, in addition to teaching and research statements (or incorporated into those statements)
- One page (or so)
- Three areas that might be included in a diversity statement are 1) your values related to diversity, 2) your experiences working with diverse populations, and 3) your future plans related to inclusivity.
- If you are applying to a MSI, consider that context!

https://www.unl.edu/gradstudies/connections/writing-diversity-statement