Social Responsibility in the Sciences:
Reflections on my Sabbatical

Elizabeth Flotte

How I got here: A Timeline

August 2015

Started at ECC as Biology Instructor

August 2016

Begin Doctorate Program in Educational Practice (EdD) at UMSL

December 2019

Graduate from EdD program

Spring 2020 - ?

Pandemic Haze

Fall 2021

Sabbatical Leave

Doctorate Program

- Year 1 – A lot of reading
  - Social justice issues and systemic racism
  - Sustainability and environmental equity
  - Social engagement and participatory culture
- Year 2 - Choose dissertation groups and develop a research proposal
- Year 3 – Complete dissertation research

Dissertation

- Title: Environmental Science and Culture: Exploring the Factors Contributing to the Pro-Environmental Behavior of Rural Youth
- Surveyed 252 youth aged 13 to 22 years old (100 ECC students enrolled in science courses)
- Pooled survey data and looked for relationships between variables

Survey Variables

Demographics	Connectedness to Nature	Meaningful Nature Experiences	Role Models
Identity	STEM Interest	Environmental Capital	Pro-Environmental Behavior

Results of Study

- When all variables are considered, these three explain the most variability in participant scores for pro-environmental behavior (R^2=0.53):
  1. Political affiliation ($p<0.0001$)
  2. STEM interest ($p<0.0001$)
  3. Identity ($p=0.0126$)
- We saw no significant effect of ruralness, connectedness to nature, meaningful nature experiences, or access/capital

Sabbatical Focus 1: Further Analysis of ECC Data

- Check for consistency between ECC results and pooled results
- Answer additional questions about their demographics, experiences, their values, and their behaviors.

Some Notable Results from this Analysis

Strengths

- Variety of experiences in nature, and high access
- Positive attitude toward the environment
- Special knowledge about agriculture, hunting, etc.
- School experiences matter

Some Notable Results from this Analysis

Challenges

- Gap between valuing nature and protecting it
- Low engagement with environmental issues in daily life
- Conflict between conservative political identity and pro-environment identity
- Conflict between being pro-environment and pro-agriculture

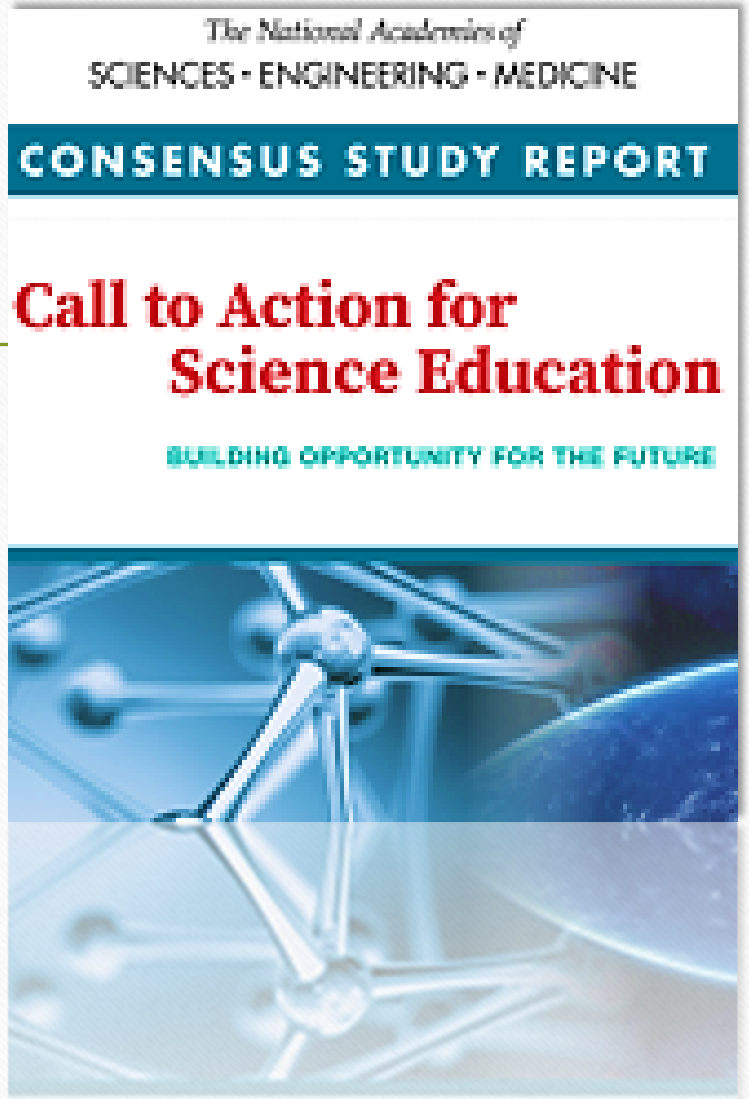
Some Notable Results from this Analysis

Opportunities

- Emphasize social experiences
- Emphasize multigenerational activities
- Use terminology carefully - "conservation" rather than "sustainability" or "environmental"
- Teach environmental issues across the curriculum so students see the connection to other topics and daily life

Sabbatical Focus: Additional Reading

1. Increasing the inclusion of science topics with social importance across the curriculum
2. Incorporating other social responsibility topics into the science curriculum



After Returning to Teaching in Spring 2022

- Continued work on two publications summarizing dissertation and sabbatical work
- Discussed my prior work *and* the NASEM report with my department at a Science and Engineering meeting
- Discussed my prior work with the Green Committee
- Begun work on my Anatomy and Physiology curriculum

Plans for Instruction and Request for Collaboration

- Develop dedicated assignments regarding social responsibility issues that relate to anatomy and physiology or health fields. Example topics:
  - Diversity of skin color
  - Demographic Disparities in health outcomes
  - Impact of outdoor experiences on development, health, and wellness
  - Biology of sex/gender
  - Racism and sexism in medical texts and teachings
  - Discrimination in healthcare
  - Equity concerns with environmental pollution

Closing Reflections

Thanks to everyone who made this sabbatical possible!

Email me if you want to collaborate or learn more:

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