


Chapter 20

Title IX Compliant Botany: A Culturally Responsive Curriculum

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ABSTRACT

In 1972, Congress enacted Title IX to address gender-based discrimination in Federally funded education. Over fifty years later, the number of women graduating with college degrees in plant science is now roughly equal to that of men. However, the percentage who obtain professional positions commensurate with their training after graduation is still lower (Sheltzer & Smith, 2014; Trafton, 2014). On average, those who do get jobs in science are paid less (McDermott-Murphy, 2022). The gender gap can be explained in part by “a lack of role models, cultures that tend to exclude women, and persistent stereotypes about women’s intellectual abilities” (McDermott-Murphy, 2022). In its most powerful form, education makes possible liberatory learning experiences (hooks, 1994, p. 4). “Overcoming sexism as a barrier to learning and including more information about women in curricular content are ways to begin to warm up the science classroom climate for women, making it more female-friendly” (Rosser, 1991, p. 105).

INTRODUCTION

To address the challenge of attracting and retaining underrepresented and marginalized populations, teaching science in a historical context represents a promising strategy. Interdisciplinary teaching can be an effective way to address curricular reform and to rethink accounts of science that are Eurocentric and focused on ap-

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plauding primarily the achievements of white men (Bowcutt & Caulkins, 2020). Storytelling, integral to the humanities, can help make scientific inquiry relevant to more students. “It is through multiple stories of the human condition, science, technology, achievement, turmoil, toil, failure, and more that knowledge becomes a wide spectrum of relative experiences, empowering students to identify with, relate to, and freely absorb course content. Utilizing this approach inspires students to take ownership of the concepts and materials examined because they are encompassed within highly relatable and personal contexts” (McNulty, Peoples, & Rantz, 2022, p. 3). When coursework meets student interests, a passion for learning can be catalyzed that can help them overcome many challenges stemming from racism, sexism, and classism, including internalized forms. By exploring the cultural influences on botany, students can examine human-plant relations through multiple lenses. Students need to be able to find themselves in the stories.

Considering women’s and queer people’s lived experience is key to designing authentic learning opportunities. Many people yearn for empowered female and queer representation in their education, equal economic opportunity, female and queer-positive health care, freedom from sexual violence, and examples of ‘survivance’, a term crafted by Anishinabe scholar Gerald Vizenor to mean the capacity to survive and resist oppression (Smith, 2012, p. 146). We all need the analytical skills to better understand why these have been elusive historically. Within a supportive learning community, students are at greater liberty to examine gender-based biases, while also refining their academic skills in critical thinking, reading, and writing. Interdisciplinary instruction can cultivate competency in plant biology while examining the historical context of botany as a discipline and human relations with plants. Exploring the intersections of gender studies and the history of botany opens a portal to understanding plant science in a more holistic and honest way. Epistemic humility requires that we recognize that everyone is making meaning, but some meaning-making has historically been valued more than others. In my role as an educator, I create experiences in which people can make meaning that connects with their lived experience.

A note about positionality, as a member of the Irish and English diaspora teaching plant science to primarily Euro-American students, I decided early in my career to develop expertise in the European and Euro-American cultural history of plants. This allows me to put Western plant science in a historical context for my students, so they better understand that all botany is ethnobotany. The history of plant knowledge construction and use in the British Isles, Europe, and the U.S. is far more complicated when we move away from an emphasis on grand narratives populated by cis-white male heroes (Bowcutt and Caulkins, 2020). A more inclusive and honest account of the past illuminates how knowledge is created and used in communities, and it changes over time and space. By weirding the history of Western

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