

## Culturally Relevant Approaches to Geosciences Pedagogy

Richard Schulterbrandt Gragg III, PhD  
Florida A&M University School of the Environment

Culturally relevant teachers do not teach all students the same way in the name of equality. Instead, they create lessons in which students' experiences are discussed and infused in the learning, and in which students have the opportunity to learn by building on their personal backgrounds and academic strengths. Using strategies that allow students to draw on their cultural frames of reference brings personal relevance to a lesson. Since the brain needs emotion and meaning to pay attention, making learning personal and emotional for students can bring about the most lasting lessons.<sup>1</sup>

People of color and low-wealth populations are disproportionately co-located in proximity too and cumulatively impacted by environmental stressors that can diminish their environmental, social and economic qualities of life and well-being. Many Florida Agricultural and Mechanical University students, or their relatives, are from or aware of these vulnerable populations and their issues and outcomes i.e., health disparities; unsafe drinking water; food deserts; and climate impacts.

In the process of developing teaching modules for the SERC-InTeGrate project I and my team's approach was rooted in cultural relevancy. For me that began 23 years prior as newly hired assistant professor of environmental science serving as the staff research director for the Florida Commission on Environmental Equity and Justice where I became exposed and committed to the integration of science, public policy and advocacy. Then and now, there was focused attention on the lack of STEM diversity. Among other efforts my response in the classroom and in the development of academic programs was to develop and deliver courses that engage students in the issues of environmental equity and justice. I have accomplished this in all my courses, including undergraduate: environmental ethics, environmental toxicology and human health I & II; and graduate: environmental and occupational health, and introduction to environmental toxicology. This focus is paralleled in my research and community engagement activities as well as my research supervision and training of students.

I served as an author on the Food as the Foundation for Health Communities and as a tester for the Lead in the Environment InTeGrate teaching modules which are both excellent and engaging examples for all students and faculty who may access them. I see a Pan-African pedagogic approach as necessary to delivering a comprehensive and complete geosciences systems thinking perspective, as captured by: Cash, D. W., W. Adger, F. Berkes, P. Garden, L. Lebel, P. Olsson, L. Pritchard, and O. Young. 2006. Scale and cross-scale dynamics: governance and information in a multilevel world. *Ecology and Society* 11(2): 8. [online] URL:<http://www.ecologyandsociety.org/vol11/iss2/art8/>

1. Jackie Roehl, Embracing Discomfort: Speaking Out for Cultural Relevance, July 10, 2012, Education Week: Teacher. [http://www.edweek.org/tm/articles/2012/06/10/fp\\_roehl.html](http://www.edweek.org/tm/articles/2012/06/10/fp_roehl.html)