
145-2 - BUILDING BLOCKS OF A GEOSCIENCE PROFESSIONAL: A HANDBOOK ON IDENTITY FORMATION FOR STUDENTS AND MENTORS



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333 (3, David L Lawrence Convention Center)

Abstract

The journey from student to earth science professional is a multifaceted process that includes mastering professional knowledge and skills, developing and integrating new identities, understanding the culture of science, and internalizing professional ethics. The development of a professional identity is vital to retaining students in science, and it bears crucial societal and professional implications given the ongoing challenges of diversifying the geosciences and the increasing needs for sound decision-making in the face of global change. Unfortunately, in many geoscience programs professional identity formation often lies within the "hidden curriculum" rather than being an explicit learning goal.

Inspired by curricular innovations in the medical, education, and engineering professions, we suggest there is a need for a more explicit focus on professional identity formation within the earth sciences. With support from the NSF, the Keck Geology Consortium REU is developing a handbook to guide student researchers and mentors in key aspects of identity formation in science, including: an introduction to research, the scientific method, the research question, critical thinking, reflection, working with diverse teams, identity, culture of science, professionalism, and GeoEthics. We selected these topics considering their relevance, the likelihood of students encountering them elsewhere, and the aspiration to provide more equitable and inclusive REU experiences. Each topic, covering a concise two-page spread, is aimed at stimulating discussion, reflection, or activities to promote development of knowledge, skills, dispositions, attitudes, and values integral to earth science professionals. The handbook, although initially designed for undergraduate researchers, also holds benefits for mentors who may feel unequipped to address topics of identity formation with their students. We suggest that the handbook might also be adapted for use in science degree programs, where professional identity formation could be introduced in sophomore-level courses, reinforced in subsequent courses, and culminate in a senior seminar for students to reflect on their growth as an earth science professional. The handbook is available for download from keckgeology.org.

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