

2019 RiSE June Conference

University of Maine, Orono, Maine

Integrating Research & Practice: Strategies for interdisciplinary teaching and learning across the STEM+C disciplines

Talk Session 2 (Monday, June 24, 9:35-10:15 am)

Physical science instruction and assessment in the middle-school: Comparisons and contrasts with college-level instruction

David Meltzer, Associate Professor in Science and Mathematics, Arizona State University.

I will discuss some instructional experiences I had in teaching science classes for grades 5-8 over a period of five years, as well as a variety of assessment issues that became apparent during these experiences. In this context, I will discuss some of my findings regarding quantitative measures of learning progress when teaching physics to middle-school students. In particular, I will focus on my efforts to take research-based instructional and assessment materials developed at the college level, and modify and adapt them for use in grades 5-8. I will describe various issues related to assessment, including the importance of clarity in wording, the need for multiple measures to ascertain consistency, and the need to recognize “decay” of learning gains over time.