

# Assessing Changes in Chemical Thinking (ACCT)

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The ACCT project, formally “*Supporting Chemistry Teachers to Assess and Foster Chemical Thinking*,” is developing and implementing professional development workshops for middle and high school teachers to use formative assessments built on a previously developed framework for chemical thinking to develop their abilities to elicit, notice, interpret, and respond to students' reasoning in ways that promote more meaningful understanding of central ideas. The framework focuses on six essential questions and crosscutting concepts: What is this material made of? (concept of Identity); How do a material's properties relate to its composition and structure? (Structure-Property Relationships); Why does a material undergo changes? (Causality); How do those changes happen? (Mechanism); How can those changes be controlled? (Control); and What are the consequences of such changes? (Benefits-Costs-Risks). The professional development focuses on looking at student work to support teachers' deepening assessment reasoning and then their responsive use of student thinking in their teaching. The project develops and tests face-to-face and hybrid (online with face-to-face elements) versions of the PD. SEEC provides formative feedback to support the rigor of the project's own development and research efforts, and summatively assesses the value of the PD and facilitator resources, and the potential for broader dissemination and sustainability.

### Clients and Collaborators:

University of Massachusetts - Boston, Boston Public Schools, University of Arizona

### Funder:

National Science Foundation - DRK12 (DRL1621228)

### Our Role:

External Evaluator

### Project Staff:

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### Project Website:

<https://acctproject.org/>