Finding Common Ground for Scaffolding in Science: Informing Theory and Design

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Design Experiments

- Map design activities to empirical research
  - Quick changes based on close classroom observation
  - Longer time scale changes based on classroom observation and classroom-based research on students' learning and cognition
- Identify design principles
  - Inform the design of learning environments and theoretical understandings of learning
  - Develop principles to increase likelihood of specific learning events
  - Explore a continuum from localized to generalized principles. Generality of principles bounded by...
    - ✓ nature of the learning phenomena
    - ✓ features of the learning context
    - ✓ our analytical understanding and design of the studies

Goals of the Session

- What are empirical effects of technological and non-technological scaffolds on student learning?
- What design principles emerge from this work?
- What and how do we learn from classroom research on scaffolds?
- How does this work inform our theoretical understanding of learning and of design?

Structure of the Session

- Participant(s) from each project...
  - define “scaffolding”
  - describe a scaffold or two
  - give empirical results showing effects of scaffold(s)
- Discussants and participants interact
- Participant(s) from each project discuss design principles that emerge from their work
  - How local or general? What bounds the generality?
  - How high or low inference? What is the evidence?
- Discussants and participants interact
- Discussant response and audience interaction

For More Information

See our session's website:

http://www-personal.umich.edu/~betsyd/scaffolding.htm

Or email Betsy Davis: betsyd@umich.edu