



National Science Foundation

## Second Annual Joint Meeting: Evaluation and Research Programs

October 18-19, 2004 > Omni Shoreham Hotel > Washington, D.C.

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## Meeting Agenda

The Second Annual Joint Meeting: Evaluation and Research Programs  
October 18-19, 2004

*Omni Shoreham Hotel  
Washington, D.C.*

- [Monday, October 18, 2004](#)
- [Tuesday, October 19, 2004](#)

### Diverse Representational Modes in the Learning of Physical Science: Issues and Challenges

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#### Abstract

We are investigating the pedagogical issues associated with using diverse forms of representation in teaching and learning physical science concepts. We have probed learning difficulties associated with standard representations such as vector diagrams, circuit diagrams, bar charts, etc., and in some cases have found possible gender-dependent variations in those difficulties. We have compared students' problem-solving performance on identical problems that use different representations (e.g., verbal, mathematical, diagrammatic, graphical), and noted some significant differences depending on which representation is used. Our goal is to develop instructional methods and materials that are made more effective by explicitly taking into account these representation-related difficulties.

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