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# Knowing what students know: How question formats differ in their abilities to reveal student thinking

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## **Abstract for DBER Group Discussion on 2017-03-02**

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### **Title**

Knowing what students know: How question formats differ in their abilities to reveal student thinking

### **Abstract**

Instructors use assessment ubiquitously throughout undergraduate STEM courses to gauge student understanding of important concepts. The utility of an assessment can be partly judged by the degree to which it can detect the presence of correct and incorrect understandings. We will discuss a series of within-subjects controlled experiments to determine how student responses differ for questions posed in multiple-choice, multiple-true-false, or free-response formats as well as implications of this research for instructional practice.