SCORING SIMULATION ASSESSMENTS

Randy Bennett, Frank Jenkins, Hilary Persky & Andy Weiss

Scoring Simulation Assessments

Research and Development
Educational Testing Service
Princeton, NJ 08541, USA
609-734-1101 (voice)
978-285-3068 (fax)
rbennett@ets.org

Abstract

Computer-based simulations can give a more nuanced understanding of what students know and can do than traditional testing methods. These extended, integrated tasks, however, introduce particular problems, not the least of which is that they produce an overwhelming amount of data. In this paper, we describe an approach to understanding the data from complex performances based on evidence-centered design (ECD), a methodology for devising assessments and for using the evidence observed in complex student performances to make inferences about proficiency. We use as an illustration the NAEP Problem-Solving in Technology-Rich Environments Study, which is being conducted to exemplify how nontraditional skills might be assessed in a sample-based national survey. The paper focuses on the inferential uses of ECD, especially how features are extracted from student performance, how these extractions are evaluated, and how the evaluations are accumulated to make judgments.