

Mathematics Education Colloquium

The National Research and Development Center on Cognition and Mathematics Instruction: Cognitively-Based Redesign of the Connected Mathematics Project (CMP)

Dr. James Pellegrino (UIC)

Abstract: This presentation will highlight work of the IES-funded National R&D Center on Cognition and Mathematics Instruction. The goal of the Center's work is to apply principles from cognitive and instructional research to the redesign of a middle-grades mathematics curriculum and then test their efficacy. The Center has focused on applying four principles to the redesign of the well-known and very popular Connected Mathematics Project (CMP) curriculum for grades 6-8. Discussion will focus on how we have applied each of the four principles to the redesign process: (a) visual-verbal mapping; (b) use of worked examples; (c) distribution of practice, and (d) formative assessment as well as results from some of the Center's research on the impact of curriculum changes, including some of the challenges associated with testing their efficacy. The presentation will highlight work conducted by the UIC team with Center partners from WPI on implementing distributed practice and feedback using the ASSISTments web-based platform for manipulating practice problems and feedback for in class and homework assignments. The discussion will include a consideration of the applicability of these principles and tools to other curriculum and instructional programs and the benefits that could accrue for students and teachers.

Tuesday, January 20 at 5:00 PM in SEO 636