



CRMSE Colloquium Announcement

Elise Lockwood
Oregon State University

Craig Swinyard
University of Portland

Examining Students' Combinatorial Thinking through Reinvention of Basic Counting Formulas

Friday, March 14, 2014
11:00 – 12:00 pm
6475 Alvarado Road, Suite 128

RSVP: <http://crmse.wufoo.com/forms/crmse-colloquia/> or
email Karen Foehl Palmer at kfoehl@mail.sdsu.edu

Abstract: Counting problems provide an accessible context for rich mathematical thinking, yet they can be surprisingly difficult for students. While some researchers have addressed these difficulties, more work is needed to uncover ways to help students count effectively. In an effort to foster conceptual understanding that is grounded in students' thinking, we had two undergraduate students engage in a ten-session teaching experiment. In this experiment, the students performed well on the tasks and successfully reinvented four basic counting formulas, drawing on sets of outcomes in productive ways. However, a closer look at their work reveals unexpected issues that arose for them, particularly in thinking about what comprises justification in counting. In this presentation, we describe the students' successful reinvention, and we frame our findings in terms of Lockwood's (2013) initial model of students' combinatorial thinking. We additionally present potential implications and directions for further research.