GALE RUSSELL, University of Regina

Intersections and roadblocks: Disentangling and rebuilding pre-service teachers' combinatoric understandings

In my experience, and the experience of others that I work and dialogue with, combinatorics is either a loved or hated high school mathematics topic for both teachers and students. In my EMTH courses (which focus on mathematics content, pedagogy, and assessment), I use an ever-expanding set of tasks to explore my students' (math majors and minors in a secondary education program) understanding of and thinking about combinatorics. Over the years, I have come to recognize relationships (that I call intersection points within combinatorics) that are key to my students understanding of combinatorics, as well as points of confused entanglements that have created roadblocks to that understanding. This session will briefly look at the tasks I most recently used with my students, what intersection points and roadblocks emerged, and how we worked to create a complex but navigable roadway for combinatoric understanding.