
CHRIS EAGLE, University of Victoria

Simulating mathematics research in the classroom

The experience of doing mathematics in a homework or examination setting is very different from the experience of mathematical research, and students transitioning from undergraduate mathematics to a graduate program are often surprised at just how different research is from what they spent most of their time doing as an undergraduate. Undergraduate research experiences can help bridge this transition, but they are not available to all students.

In this session I will share an activity that I have used in upper-level math courses (particularly topology and measure theory, though I believe it adapts fairly easily to other settings) that aims to give students something like a taste of mathematics research within the confines of a course. The activity is designed to help develop research skills (such as clarifying the problem, formulating conjectures, and setting goals) while remaining contained to a relatively short amount of time and being focused on topics from the course at hand. The activity also contributes to developing teamwork skills and includes a significant reflective component.

I will share both my impressions of the results as well as anonymous student feedback. I will be very open to your suggestions for further improvements.