Kristofer J. Siy* (kristofer.siy@uwaterloo.ca), Osvaldo D. Soto and Trang K. Vu.
Experiencing the mathematical process through combinatorial games in a high school discrete math course. Preliminary report.

Discrete mathematics offers a wide variety of contemporary contexts useful for college preparation if we think about them from the perspective of the standards for mathematical practice. Over the past year, we have brought pedagogically sensitive mathematicians and math educators together with local high school teachers to redesign the curriculum of a high school discrete math course. This course includes a unit on combinatorial games, a topic not usually covered in high school or college discrete math courses. In this session, we will summarize our motivation and goals for doing so, especially with respect to the unique opportunity this affords us to engage students with the standards for mathematical practice, discuss specific pedagogical decisions to attempt to give students an authentic experience of the mathematical process, and present preliminary results about pedagogical implementation. We hope that this can provide a different perspective on what kinds of topics could be implemented in an undergraduate level discrete mathematics course. (Received September 26, 2017)