

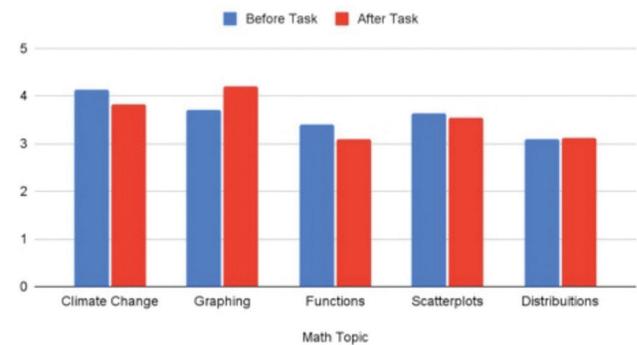
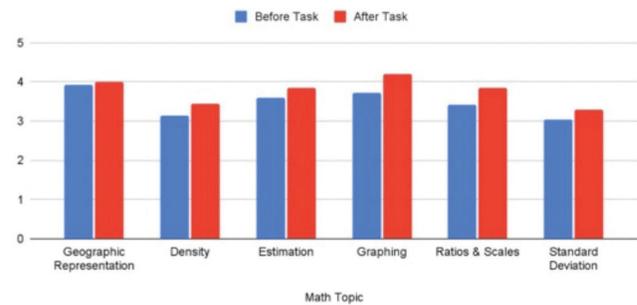
EDUCATION

Exploring the Connections Between Students' Social Justice and Mathematics Understandings

Student researcher: Lily Green, *Sophomore*

The current sociopolitical climate has sparked an increased interest in simultaneously teaching social justice and mathematics concepts. In the course Knowing the World Through Mathematics (EDCI 222, taught by Michael Lolkus and Emmanuel Adjei), undergraduate students learn mathematics content through discussions about global social justice issues. Before and after completing each task, students self-reported their interest in social justice topics and their understanding of mathematics topics using a 5-point Likert scale. Using descriptive statistics, I explored relationships between students' social justice interests and mathematical understandings. In this snapshot, I highlight the relationships between mathematical and social justice topics in two tasks from the 16-week course covering global misrepresentation and climate change.

In the first highlighted task, students showed an increased interest in the social justice topic, geographic representation, as well as an increased understanding of the mathematics topics taught (i.e., density, estimation, graphing, ratios and scales, and standard deviation; see figure 1a). However, in the second task, students reported a decreased interest in climate change (see figure 1b). Also shown in figure 1b is a decreased understanding of three mathematical topics (i.e., functions, scatterplots, distributions). It is important to note that the only mathematical topic that shows an increase in understanding (i.e., graphing) was also taught during the geographic representation task. This means that engaging in social justice mathematics tasks can support students' interest in and understanding of social justice and mathematics topics, but does not always. To better understand why these relationships exist, I will engage in qualitative analyses of students' open-ended responses to the post-task survey.



Geographic misrepresentation; (b) Climate change.

Research advisors Jill Newton, Michael Lolkus, and Emmanuel Adjei write: "Working with Lily has been such a rewarding experience. Throughout our partnership, she has shown interest and initiative in developing her own research questions and is eager to learn new methods of analysis. Lily upholds the highest levels of professionalism for herself and demonstrates promise for an early-career researcher."