Bringing Social Justice Topics to Differential Equations via a Climate Change Problem: Identity, Power, Access, and Achievement

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Recently, Adiredja and Andrews-Larson (2017) challenged the undergraduate mathematics education field to consider and recognize the political and contextual nature of teaching and learning postsecondary mathematics, including its power dynamics and social discourses. In this work, we discuss our endeavors to bring social justice topics into a differential equations course. Our goal was to be intentional as mathematics educators in including social justice topics in our teaching practice. Interestingly, in end of semester portfolios students' discussions of their identities, power structures at play, and additional dimensions of equity highlighted by Gutiérrez (2009, 2013) emerged. These dimensions of equity were specifically tied to experiences engaging with a climate change problem, even though the prompt in the portfolio did not seek such discussions. Here, we showcase the students' emergent identities and subsequently charge the field to be more intentional in instructional design to draw out those dimensions more explicitly in the undergraduate mathematics classroom.

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