

Engaging Students as Partners in Critically-Oriented Reform of Postsecondary Mathematics

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A growing body of research points to the transformative potential of engaging students as partners with faculty to humanize math education (Cook-Sather et al., 2023). Successful partnerships follow a principle of reciprocity, in which students and faculty are both positioned as having expertise which can be leveraged to improve education (Mercer-Mapstone et al., 2017). A larger research study was developed to investigate how the use of Networked Improvement Communities (NIC) composed of key mathematics stakeholders could work to address issues of Diversity, Equity, and Inclusion (DEI) within introductory mathematics courses through critically transformative participatory action research. A unique single case-study emerged from a NIC that recruited students in addition to the faculty as NIC members. We address the following research questions: (a) In what ways was **student voice** prioritized in the NIC? (b) How does the integration of students impact the **power dynamics** within the NIC?

This single case study (Yin, 2009) draws from data collected as part of the ACT UP Math project which is examining the formation of NICs addressing inequities in introductory math courses. Alpha University's NIC presented a unique case study because of their intentional recruitment of students. Out of the eight NIC members, three are students. The NIC met every other week for two hours from January-May 2023 and created two action plans informed by data: (1) dismantling the placement system for introductory mathematics courses and (2) creating programming that connects students to the uses of mathematics.

We conducted a thematic analysis of structured observational field notes of the NIC meetings, semi-structured interviews of NIC members conducted in May 2023, and four reflexive journal entries completed by each NIC member. This process generated cross-cutting themes relevant to the NIC's inclusion of student voice and perceptions of power. These themes are: (1) the intentions of the NIC to prioritize student voice, (2) the inclusion of students as partners (or not) in NIC activities, and (3) reflections on power dynamics by NIC members.

Findings from this study suggest that although the structure of the NIC was intended to uplift student voices and create a space where students and faculty were *equal partners*, outside power structures prevented students from fully viewing themselves as partners with faculty members. For example, NIC student members described how having colleagues in the NIC who were also course instructors outside of the NIC influenced the ways in which they interacted with each other. However, the NIC has made strides mitigating power dynamics over the semester and demonstrating the value of student voice.

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