

CO-DESIGNING FOR STATEWIDE ALIGNMENT OF A VISION FOR HIGH QUALITY MATHEMATICS INSTRUCTION

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This project aims to test the conjecture that developing a shared vision of high quality mathematics instruction (HQMI) is foundational to the successful implementation of STEM education innovations. Since 2016, our research practice partnership (RPP) of state, district, and school-based leaders, mathematics teachers, and researchers have engaged in design-based implementation research (Fishman, Penuel, Allen, Cheng, & Sabelli, 2013) to iteratively co-design instructional resources that promote a shared, state-wide vision of HQMI. We aim to build upon this work by investigating the visions of HQMI held by educators at different levels of a state educational system, the extent to which those visions are shared, and how the visions mediate and are mediated by the co-design and uptake of implementation resources.

HQMI aims for teachers to be intentional in supporting students, for example, by problematizing ideas (Munter, 2014), supporting students in developing mathematical authority (Lampert, 1990), and scaffolding classroom discussions in ways that formalize learning goals for students (Smith & Stein, 2011). Established and emerging research suggests that sharing a vision of HQMI can support successful implementation of new programs or policies (Gamoran, 2003), relates to improved instructional quality (Munter & Correnti, 2017), and can lead to improvements in students' academic outcomes (Chance & Segura, 2009). In addition, research points to the ways in which educators' visions are shaped by participating in different social contexts (Munter & Wilhelm, 2021) and informed by different or conflicting messages from both inside and outside schools (Ticknor & Schwartz, 2017). Teacher collaboration, PD, and productive collaborations across educator roles are rarely effective unless they are tied to a shared vision of instruction (Peterson et al., 1996).

Using a mixed methods design we are studying our design process with a goal of understanding the ways in which vision of HQMI and implementation resources interact across a state educational system and the extent to which a shared vision of HQMI leads to coherence. Our poster presentation will describe the project as a whole, share the initial iteration of our framework design, and report our initial findings.

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