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Participatory design research as a practice for systemic repair: doing hand-in-hand math research with families.

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Summary: Success and failure in formal mathematics education has been used to legitimize stratification. We describe participatory design research as a methodology for systemic repair. The analysis describes epistemic authority – exercising the right or the power to know – as a form of agency in processes of mathematical problem solving and learning. We asked: What will aid families in advocating for their children’s math learning, particularly when they expressed concern about their ability to do so? Participatory design research provided a collaborative and iterative method to work with people who shape math learning: parents, children, teachers, community organizers, researchers, curriculum developers, and mathematicians. Data from four years of participant observation involved the design, facilitation, and dissemination of workshops and take-home materials and family case studies. As participating families claimed epistemic authority, institutional barriers became more visible. This tension maps where participatory design methodology can evolve to address systemic change.

Classification: D20 C60

Keywords: participatory design research; help of the family

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