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Collaborative teacher inquiry as a tool for building theory on the development and use of rich mathematical tasks.

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Summary: This article describes the collaborative inquiry activity of a group of high school mathematics teachers interested in increasing student engagement and problem solving in the classroom. Specific findings related to the nature of the teacher interactions and subsequent impacts on practice are discussed. The findings focus on (a) the nature of the interactions within the teacher group and their impact on instructional decision-making and theory-building, (b) the role of student work in their collaborative inquiry, and (c) the role and impact of the inquiry group's facilitation processes. A description of the professional development provides context for the results. The teachers in this study were able to build individual and collective theories on learners and instruction. The limitations of their inquiry context and their own conversational norms allowed for deeper reflections on classroom practice than on learners and learning. Specific connections between the inquiry work and classroom practice are found.

Classification: B50 D50 D40

Keywords: collaborative inquiry; mathematical tasks; problem solving; secondary school teachers; teacher development; teacher research; theory building; empirical studies

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