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Mueller, Mary; Yankelewitz, Dina; Maher, Carolyn

Teachers promoting student mathematical reasoning.

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Summary: During an informal, after-school, math program, a group of middle school students worked collaboratively on open-ended problems. The students co-constructed arguments, provided justifications for their solutions, and engaged in mathematical reasoning. This paper describes the specific teacher moves that promoted this phenomenon. The findings of this study indicate that through carefully planned interventions, the teachers created a mathematical community with norms that included listening, sharing, explaining ideas, creating, questioning, revising justifications and using multiple forms of reasoning. These established norms resulted in the detection of student autonomy.

Classification: E53 D43

Keywords: open-ended problems; mathematical reasoning; interventions