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You asked open-ended questions, now what? Understanding the nature of stumbling blocks in teaching inquiry lessons.

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Summary: Undergraduate preservice teachers face many challenges implementing inquiry pedagogy in mathematics lessons. This study provides a step-by-step case analysis of an undergraduate preservice teacher's actions and responses while teaching an inquiry lesson during a summer math camp for grade 3–6 students conducted at a university. Stumbling blocks that hindered achievement of the overall goals of the inquiry lesson emerged when the preservice teacher asked open-ended questions and learners gave diverse, unexpected responses. Because no prior thought was given to possible student answers, the preservice teacher was not equipped to give pedagogically meaningful responses to her students. Often, the preservice teacher simply ignored the unanticipated responses, impeding the students' meaning-making attempts. Based on emergent stumbling blocks observed, this study recommends that teacher educators focus novice teacher preparation in the areas of a) anticipating possibilities in students' diverse responses, b) giving pedagogically meaningful explanations that bridge mathematical content to students' thinking, and c) in-depth, structured reflection of teacher performance and teacher response to students' thinking.

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