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Examining the Development of a Teacher's Assessment Practices Through Mathematics Coaching

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Abstract

This study is part of a two-year research project that aims to examine how mathematics coaching supports early-career mathematics teachers (within their first five years of teaching) in developing their skills in designing, implementing, and assessing cognitively demanding mathematical tasks. In this particular study, the assessment practices of a mathematics teacher working in a public school were examined across four micro-cycles within the mathematics coaching program. The focus was on her assessment practices after the implementation of cognitively demanding mathematical tasks. The teacher's classroom practices were video-recorded, and the data were analyzed through content analysis. The findings indicate that the teacher's assessment practices changed noticeably across the cycles. In the first cycle, these practices were relatively limited and primarily focused on procedural knowledge. In the second cycle, it was determined that the teacher did not conduct any assessment of student learning following task implementation. In contrast, during the third and fourth cycles, her approach to assessment became more diverse and expanded in scope. In this process, the teacher moved beyond purely procedural assessment and began to incorporate conceptual assessment practices. Moreover, her assessment approaches became more varied over time, and the assessment process became more integrated with instruction. In terms of feedback, the teacher's practices also expanded throughout the process, with a more frequent and systematic use of conceptual feedback after the implementation of cognitively demanding tasks.

Keywords: Assessment Practices, Cognitively Demanding Tasks, Early-Career Mathematics Teachers, Mathematics Coaching, Teacher Development