Special Colloquium

Secondary Teachers' Professional Noticing of Students' Mathematical Thinking

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Abstract:

Researchers have ample evidence of many positive benefits for students and teachers when teachers enact active learning styles of teaching (e.g. Freeman et al., 2014). However, there are many challenges associated with active learning styles of teaching. In particular, an increase in student participation means teachers must be ready to quickly attend to important details of a student's solution, interpret the student's mathematical understandings, and decide how to respond to the student in a way that respects and extends the student's understandings, all in a moment's notice. This in-the-moment attention, interpretation, and decision-making is called professional noticing of students' mathematical thinking (Jacobs, Lamb, & Philipp, 2010). In this colloquium I will share findings from a cross-sectional analysis in which I compare and contrast the professional noticing expertise of three groups of secondary teachers (N = 72): prospective teachers, practicing teachers, and teacher leaders. Results provide characterizations of this expertise in secondary teachers at different points in their professional careers, and with varying amounts of experience with students' mathematical thinking.

Keywords: Teacher education, professional development, noticing student mathematical thinking

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