ZMATH 2014c.00189

Van Zoest, Laura R., Leatham, Keith, Peterson, Blake; Stockero, Shari L.

Conceptualizing mathematically significant pedagogical openings to build on student thinking.

Lindmeier, Anke M. (ed.) et al., Proceedings of the 37th conference of the International Group for the Psychology of Mathematics Education "Mathematics learning across the life span", PME 37, Kiel, Germany, July 28–August 2, 2013. Vol. 4. Kiel: IPN–Leibniz Institute for Science and Mathematics Education at the University of Kiel (ISBN 978-3-89088-290-1). 345-352 (2013).

Summary: The mathematics education community values using student thinking to develop mathematical concepts, but the nuances of this practice are not clearly understood. We conceptualize an important group of instances in classroom lessons that occur at the intersection of student thinking, significant mathematics, and pedagogical openings – what we call mathematically significant pedagogical openings to build on student thinking (MOSTs) – and introduce a framework for determining when they occur. We discuss how the MOST construct contributes to facilitating and researching teachers' mathematically-productive use of student thinking through providing a lens and generating a common language for recognizing and agreeing upon high-leverage student mathematical thinking.

Classification: C30 D40
Keywords: students' thinking; mathematical concepts; conceptualization; pedagogical openings