ZMATH 2016f.00397

Stockero, Shari L.; Van Zoest, Laura R.

Making the most of unanticipated opportunities.

Aust. Math. Teach. 70, No. 1, 12-17 (2014).

Summary: The goal of the authors' ongoing research is to better understand how student mathematical thinking that becomes public in a classroom can be used to support the learning of mathematics content and practices. Although there are often instances of student thinking that the teacher has intentionally cultivated to emerge at a particular time through a given task or a posed question, the authors were interested in learning more about instances that were not planned. The authors defined pivotal teaching moments (PTMs) as instances in a classroom lesson in which an interruption in the flow of the lesson provides the teacher an opportunity to modify their teaching in order to extend or change the nature of students' mathematical understanding. Here, they draw on their study of of PTMs to consider the potential of unanticipated student ideas that emerge during class discussions. Being aware of the five types of potential high-leverage student input found in their research – extending, sense-making, incorrect mathematics, mathematical contradiction, and mathematical confusion – has the potential to help teachers avoid the phenomenon of failing to focus attention on unexpected events, what Simons called inattentional blindness. Knowing that these types of input often represent high-leverage thinking is an important first step to recognising and acting on them in a way that develops students' mathematical understandings. (ERIC)

Classification: C70 D40 C30
Keywords: mathematical thinking; classroom practice; learning; unexpected events