

**ZMATH 2009f.00121**

**Lewis, Catherine C.; Perry, Rebecca R.; Hurd, Jacqueline**

**Improving mathematics instruction through lesson study: a theoretical model and North American case.**

J. Math. Teach. Educ. 12, No. 4, 285-304 (2009).

Summary: This article presents a theoretical model of lesson study, an approach to instructional improvement that originated in Japan. The theoretical model includes four lesson study features (investigation, planning, research lesson, and reflection) and three pathways through which lesson study improves instruction: changes in teachers' knowledge and beliefs; changes in professional community; and changes in teaching-learning resources. The model thus suggests that development of teachers' knowledge and professional community (not just improved lesson plans) are instructional improvement mechanisms within lesson study. The theoretical model is used to examine the "auditable trail" of data from a North American lesson study case, yielding evidence that the lesson study work affected each of the three pathways. We argue that the case provides an "existence proof" of the potential effectiveness of lesson study outside Japan. Limitations of the case are discussed, including (1) the nature of data available from the "auditable trail" and (2) generalizability to other lesson study efforts.

*Classification:* B50 D40 C20 C30 C70

*Keywords:* lesson study; professional learning; professional development; teacher change; mathematics content knowledge; pedagogical content knowledge; teacher community; research  
doi:10.1007/s10857-009-9102-7