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Yang, Yudong

How classroom instruction was improved in a teaching research group: a case study from Shanghai.

Li, Yeping (ed.) et al., Transforming mathematics instruction. Multiple approaches and practices. Cham: Springer (ISBN 978-3-319-04992-2/hbk; 978-3-319-04993-9/ebook). Advances in Mathematics Education, 355-381 (2014).

Summary: In mainland China, a school-based teaching research system has been in place since 1952, and a teaching research group exists in every school. In this paper, three of the teacher's lessons and the changes in each lesson are described, which might show how the lessons were continuously developed in the teaching research group. The mathematical tasks framework, the task analysis guide, and the factors associated with the maintenance and decline of high-level cognitive demands developed in the "Quantitative understanding: amplifying student achievement and reasoning" project [*M. K. Stein* and *M. S. Smith*, *Math. Teach. Middle Sch.* 3, No. 4, 268–275 (1998; ME 1998f.03986); *M. K. Stein* et al., *Implementing standards-based mathematics instruction. A casebook for professional development*. New York, NY: Teachers College Press (2000; ME 2000e.03200)] were employed in this study. Based on the mathematical task analysis, the changes in three lessons were described, and the author provided a snapshot for understanding how a Chinese teacher gradually improved his/her lessons in the TRG's activities.

Classification: C70 D40

Keywords: case study; mathematical lessons; Pythagorean' theorem; mathematical tasks; teaching research activities

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