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On comparing mathematical models and pedagogical learning.

Stillman, Gloria Ann (ed.) et al., Teaching mathematical modelling. Connecting to research and practice. Dordrecht: Springer (ISBN 978-94-007-6539-9/hbk; 978-94-007-6540-5/ebook). International Perspectives on the Teaching and Learning of Mathematical Modelling, 457-466 (2013).

Summary: Comparing and contrasting different mathematical models of realistic situations is one way in which the relative strengths and weaknesses of these models, and the mathematics that underpins them, can become the focus of discussion in a mathematics classroom. This chapter reports on one episode from a research and development project where teachers were learning to orchestrate such classroom discussions with a view to providing opportunities for their students to apply mathematical understanding and skills in context. While the teachers did discuss a range of models they also experienced difficulty in reconciling the conflicting ideas represented in these models.

Classification: M10 D30 D40 C70 B50 D70

Keywords: modelling; mathematical models; pedagogical learning; real-life problems; understanding; classroom discussion; professional development; difficulties

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