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Extending the reach of the models and modelling perspective: a course-sized research site.

Stillman, Gloria Ann (ed.) et al., Mathematical modelling in education research and practice. Cultural, social and cognitive influences. Cham: Springer (ISBN 978-3-319-18271-1/hbk; 978-3-319-18272-8/ebook). International Perspectives on the Teaching and Learning of Mathematical Modelling, 55-66 (2015).

Summary: For over 30 years, researchers have engaged in inquiry within the Models and Modelling Perspective (MMP), taking as a fundamental principle that learners' ideas develop in coherent conceptual systems called models. Under appropriate conditions, such as in Model Eliciting Activities (MEAs), this research has shown how learners' models can grow through rapid cycles of development toward solutions involving creative mathematics. These externalized models, and other thought-revealing artifacts, can become rich objects for reflection by learners, for formative assessment by teachers, and for analysis of idea-development by researchers. This chapter describes a new research effort to expand the reach of this MMP tradition, engaging questions about the interconnected models and modelling processes of students and teachers at larger, course-length scales.

Classification: M10 D20

Keywords: modeling; modeling perspective; model eliciting activities; education research

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