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Exploring interconnections between real-world and application tasks: case study from Singapore.

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, 207-217 (2015).

Summary: Some findings from an interdisciplinary project work (PW) implemented with Year 7 and 8 students (13–14 years old) from three Singapore schools are reported. These are part of a study examining the impact of PW in terms of its learning outcomes (LO). Of interest are findings associated with LO: the extent to which the PW brings about student-perceived "interconnections" between school disciplines, within mathematics, and between school-based mathematics and real-world problem solving. There was an overall increase in mean scores on the scales measuring perception of interconnectedness of mathematics and inter-subject learning (ISL) and beliefs and efforts at making connections (BEC) after PW. ANOVA showed a significant impact of the PW on ISL but not BEC scores. Qualitative results revealed that these seemingly positive results disguised issues with students' ability to make the desired interconnections in a meaningful manner.

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