

Advances in Mathematics Education

Scott A. Chamberlin · Bharath Sriraman *Editors*

## Affect in Mathematical Modeling

In the book, the relationship between affect and modeling is discussed because, as educational psychologists have suggested for decades, affect directly influences achievement. Moreover, given the importance of mathematical modeling and the applications to high level mathematics, it provides the field of mathematics psychology with insight regarding affect, in relation to mathematical modeling. By doing so it helps determine the degree to which understanding of mathematics and understanding affect in mathematical modeling episodes may have a direct effect on cognition.

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CHAPTER	AUTHOR(S)	TITLE/FOCUS (tentative)
<b>SECTION I</b>		
Commentary	Jonei Cerqueira Barbosa (Universidade Federal da Bahia, Brazil)	
1	Scott A. Chamberlin, (University of Wyoming, US)	The construct of affect in mathematical modelling
2	Katrin Vorhölter, Alexandra Krüger, & Lisa Wendt (University of Hamburg, Germany)	Metacognition in mathematical modelling-an overview
3	Marta Magiera (Marquette University) & Judy Zawojewski (Illinois Institute of Technology, US)	Principles for designing research studies to study spontaneous metacognitive activity
4	Lisa Warner (William Patterson University, US) & Roberta Schorr, (Rutgers: The State University of New Jersey, US) &	Engagement structures and the development of mathematical ideas
<b>SECTION II</b>		
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5	Gerald Goldin (Rutgers: The State University of New Jersey, US)	Exploring a conative perspective on mathematical engagement
6	Inés M. Gómez-Chacón & Constantino De La Fuente (Madrid Complutense University, Spain),	Exploring teachers' epistemic beliefs and emotions in inquiry-based teaching of mathematics
7	Adi Weizel & James Middleton (Arizona State University, US) & Amanda Jansen (University of Delaware, US)	Mathematics learning experiences: The practice of happiness and the happiness of practice.
8	Juhaina Awawdeh Shahbari & Michal Tabach, (Tel Aviv University, Israel), Einat Heyd-Metzuyanin (Technion University, Israel)	Development of modelling routines and its relation to identity construction
<b>SECTION III</b>		
Commentary	Morten Blomhøj (Roskilde University, Denmark)	

	Lyn English (Queensland University of Technology, Australia)	
9	Pietro Di Martino (University of Pisá, Italy)	The complex relationship between mathematical modelling and attitude towards mathematics
10	Zakieh Parhizgar (Ferdowsi University, Mashland, Iran), Peter Liljedahl (Simon Fraser University, Canada)	Teaching modeling problems and its effects on students' engagement and attitude toward mathematics
11	Thomas Gjesteland & Pauline Vos (University of Agder, Norway)	Affect and mathematical modeling assessment – A case study on engineering students' experience of challenge and flow during a compulsory mathematical modeling task
12	Minnie Liu & Peter Liljedahl (Simon Fraser University, Canada)	Flow and Modelling
13	Bharath Sriraman (University of Montana, US)	A coda on affect