

Contents

Chapter 1	It Matters How Students Learn Mathematics Berinderjeet KAUR	1
Chapter 2	M_Crest: A Framework of Motivation to Learn Mathematics WONG Khoon Yoong	13
Chapter 3	Designing Learning Experiences for Effective Instruction in Secondary Mathematics TOH Tin Lam	41
Chapter 4	Providing Students' Authentic Learning Experience through 3D Printing Technology Oh Nam KWON Jee Hyun PARK Jung Sook PARK	67
Chapter 5	What do Teachers Need to Know to Teach Secondary Mathematics Kim BESWICK	93
Chapter 6	Defining, Extending, and Creating: Key Experiences in Mathematics Yoshinori SHIMIZU	115
Chapter 7	Teaching for Abstraction through Mathematical Learning Experiences CHENG Lu Pien	131

Chapter 8	Making Sense of Number Sense: Creating Learning Experiences for Primary Pupils to Develop their Number Sense YEO Kai Kow Joseph	153
Chapter 9	Learning Experiences Designed to Develop Algebraic Thinking: Lessons from the ICCAMS Project in England Jeremy HODGEN Dietmar KÜCHEMANN Margaret BROWN	171
Chapter 10	Learning Experiences Designed to Develop Multiplicative Reasoning; Using Models to Foster Learners' Understanding Margaret BROWN Jeremy HODGEN Dietmar KÜCHEMANN	187
Chapter 11	Learning Mathematical Induction through Experiencing Authentic Problem Solving TAY Eng Guan TOH Pee Choon	209
Chapter 12	Scaffolding and Constructing New Problems for Teaching Mathematical Proofs in the A-Levels ZHAO Dongsheng	227
Chapter 13	Learning Number in the Primary School through ICT Barry KISSANE	245
Chapter 14	Learning Algebra and Geometry through ICT Marian KEMP	269
Contributing Authors		295