## Contents

### Part I  Introduction and Research Perspectives

**Expertise in Mathematics Instruction: Advancing Research and Practice from an International Perspective** ........................................... 3
Yeping Li and Gabriele Kaiser

**Theoretical Perspectives, Methodological Approaches, and Trends in the Study of Expertise** .............................. 17
Michelene T. H. Chi

**Images of Expertise in Mathematics Teaching** ........................................... 41
Rosemary S. Russ, Bruce Sherin, and Miriam Gamoran Sherin

### Part II  Expertise in Mathematics Instruction in a Western Setting

**Coordinating Characterizations of High Quality Mathematics Teaching: Probing the Intersection** .......................... 63
Edward A. Silver and Vilma Mesa

**Expertise in Swiss Mathematics Instruction** ........................................... 85
Christine Pauli and Kurt Reusser

**Responding to Students: Enabling a Significant Role for Students in the Class Discourse** .......................... 109
Ruhama Even and Orly Gottlib

**Effects of a Research-Based Learning Approach in Teacher Professional Development** ........................................... 131
Florian H. Müller, Irina Andreitz, Konrad Krainer, and Johannes Mayr

**Teacher Expertise Explored as Mathematics for Teaching** ........................................... 151
Elaine Simmt
Part III  Expertise in Mathematics Instruction in an Eastern Setting

Characterizing Expert Teaching in School Mathematics in China – A Prototype of Expertise in Teaching Mathematics  
Yeping Li, Rongjin Huang, and Yudong Yang  

The Japanese Approach to Developing Expertise in Using the Textbook to Teach Mathematics  
Akihiko Takahashi  

Perceptions of School Mathematics Department Heads on Effective Practices for Learning Mathematics  
Suat Khoh Lim-Teo, Kwee Gek Chua, and Joseph Kai Kow Yeo  

Exploring Korean Teacher Classroom Expertise in Sociomathematical Norms  
JeongSuk Pang  

Expertise of Mathematics Teaching Valued in Taiwanese Classrooms  
Pi-Jen Lin and Yeping Li

Part IV  Cross-National Comparison and Reflections

Cross-Nationally Comparative Results on Teachers’ Qualification, Beliefs, and Practices  
Svenja Vieluf and Eckhard Klieme  

Reflections on Teacher Expertise  
Alan H. Schoenfeld  

Reflections and Future Prospects  
Gabriele Kaiser and Yeping Li  

Index
Expertise in Mathematics Instruction
An International Perspective
Li, Y.; Kaiser, G. (Eds.)
2011, XVIII, 372 p., Hardcover