Contents

Part I  Research on Curriculum Influence on Student Learning

1 What Can We Learn from Textbook Analysis? ................. 3
   Ji-Won Son and Jeri Diletti

2 Intended Treatment of Fractions and Fraction Operations
   in Mathematics Curricula from Japan, Korea, and Taiwan .... 33
   Tad Watanabe, Jane-Jane Lo, and Ji-Won Son

3 Comparing the Difficulty Level of Junior Secondary School
   Mathematics Textbooks in Five Nations .................. 63
   Yiming Cao, Libao Wu, and Lianchun Dong

4 Uncovering the Label “Asian” in International Comparative
   Studies of Mathematics Education ....................... 83
   Yoshinori Shimizu

5 Achievement Gaps in Mathematics and Opportunities
   to Learn: Insights from PISA 2012 ....................... 95
   Yan Zhu

6 Toward Understanding the Influence of Curriculum
   Resources on Students’ Mathematics Learning:
   Cross-National Perspectives on What Matters
   Where, When, and for Whom ........................... 115
   Edward A. Silver
## Part II  Research on Institutional System of Mathematics Teacher Education

7  Knowledge Expectations Matter: Mathematics Teacher Preparation Programs in South Korea and the United States  
Rae Young Kim and Seung Hwan Ham  

8  Pre-service Teacher Training for Secondary School Mathematics in Japan and Korea  
Masataka Koyama and Hee-chan Lew  

9  Predictors of the Teaching Readiness of Future Secondary Mathematics Teachers: A Comparison of Singapore, Taiwan, and the United States  
Ting-Ying Wang and Feng-Jui Hsieh  

10  Similarities and Differences in Programs for Prospective Secondary Mathematics Teachers  
Jeremy Kilpatrick  

## Part III  Research on Improving Teacher Knowledge and Pedagogical Approaches

11  Cross-Cultural Lesson Planning Between the United States and South Korea  
Woong Lim and Ji-Won Son  

12  The Instructional Quality of Mathematics Student Teachers in the United States and Japan: The Possible Impact of the Structure of Student Teaching  
Douglas Lyman Corey, Keith R. Leatham, and Blake E. Peterson  

13  Reflective Capabilities of Mathematics Education Systems in China, Japan, and the United States  
Thomas E. Ricks  

14  Research on Improving Teacher Knowledge and Pedagogical Approaches: From a Comparative to a Collaborative Perspective  
Sandra Crespo  

## Part IV  Cross-national Comparative Studies with Large-Scale Data

15  Self-Concept, Self-Efficacy, and Mathematics Achievement: Students in 65 Regions Including the US and Asia  
Ming Ming Chiu  

16  What Do TIMSS Studies Show About Math Achievement Inequality? A Sociological Perspective  
Seong Won Han, Ji-Won Son, and Chungseo Kang
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>When Knowing Basic Skills and Procedures Is Not Enough</td>
<td>315</td>
</tr>
<tr>
<td></td>
<td>Kyong Mi Choi and Dae S. Hong</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>The WIFI Study: Students’ Valuing of Mathematics Learning in Hong Kong and Japan</td>
<td>333</td>
</tr>
<tr>
<td></td>
<td>Wee Tiong Seah, Takuya Baba, and Qiaoping Zhang</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Examining the Association Between Teacher Feedback and Mathematics Instruction in Japan, Korea, Singapore, and the United States</td>
<td>355</td>
</tr>
<tr>
<td></td>
<td>Seong Won Han, Ji-Won Son, and Chungseo Kang</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Large-Scale International Datasets—What We Can and Cannot Learn from Them, and How We Could Learn More</td>
<td>385</td>
</tr>
<tr>
<td></td>
<td>Sarah Theule Lubienski</td>
<td></td>
</tr>
<tr>
<td>Part V</td>
<td>Final Commentary</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Reflections on Research Trends in International Comparative Studies in Mathematics Education</td>
<td>395</td>
</tr>
<tr>
<td></td>
<td>Gabriele Kaiser and Xinrong Yang</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>The Missing Link—Incorporating Opportunity to Learn in Educational Research Analyses</td>
<td>411</td>
</tr>
<tr>
<td></td>
<td>William H. Schmidt, Leland S. Cogan, and Michelle L. Solorio</td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td></td>
<td>419</td>
</tr>
</tbody>
</table>
What Matters? Research Trends in International Comparative Studies in Mathematics Education
Son, J.-W.; Watanabe, T.; Lo, J.-J. (Eds.)
2017, XXV, 432 p. 32 illus., 17 illus. in color., Hardcover
ISBN: 978-3-319-51185-6