# Contents

1 **Introduction** .................................................. 1  
   Seng Chee Tan

Section I  Theoretical and Methodological Foundations for Knowledge Creation

2 **Perspectives of Knowledge Creation and Implications for Education** ................................. 11  
   Seng Chee Tan and Yuh Huann Tan

3 **Knowledge Building and Knowledge Creation: One Concept, Two Hills to Climb** .............. 35  
   Carl Bereiter and Marlene Scardamalia

4 **Trialogical Approach for Knowledge Creation** .................................................. 53  
   Sami Paavola and Kai Hakkarainen

5 **Harnessing Emerging Technologies to Build the Next Generation of Knowledge Creation Platform for School Students** ...................................... 75  
   Pei-Shan Tsai, Ching Sing Chai, and Kah Eng Hoe

6 **Statistical Discourse Analysis of Online Discussions: Informal Cognition, Social Metacognition, and Knowledge Creation** ................. 97  
   Ming Ming Chiu and Nobuko Fujita

7 **Creating Knowledge** ..................................... 113  
   Timothy Koschmann

Section II  Knowledge Creation Pedagogies in Practice

8 **Designing the Situation for Pervasive Knowledge Building: Future School Experiences** .................................................. 123  
   Hyo-Geong So and Esther Tan
9 From Problem-Based Learning to Knowledge Creation ........... 143
Jennifer Yeo

10 Knowledge Creation in the Mangle of Practice: Implications
for Educators .................................................. 167
Yew-Jin Lee

11 Developing Student-Centered Teaching Beliefs Through Knowledge
Building Among Prospective Teachers ......................... 189
Huang-Yao Hong

12 Conceptual Shifts Within Problem Spaces for Knowledge-Building
Practice Within a Teacher Community ......................... 205
Chew Lee Teo

13 Knowledge Building Pedagogy and Teachers’ Technological
Pedagogical Content Knowledge .............................. 227
Nancy Law

14 Teacher Learning in a Professional Learning Team: Of
Contradictions and Action Possibilities ......................... 249
Lai Har Judy Lee and Seng Chee Tan

15 Reflections and Commentary on Knowledge Creation in Practice . . . 271
Peter Reimann

Section III Conclusion

16 Knowledge Creation in Singapore Schools: Our Journey
and Ways Forward ............................................ 283
Seng Chee Tan, Jennifer Yeo, Hyo-Jeong So, John Eu Gene Ow,
Ching Sing Chai, and Chew Lee Teo

Index ................................................................. 303
Knowledge Creation in Education
Tan, S.C.; So, H.J.; Yeo, J. (Eds.)
2014, XIX, 305 p. 40 illus., 11 illus. in color., Hardcover