Contents

Focusing on Chinese Mathematics Teaching, Teachers and Teacher Education: An Introduction vii

Section 1 Historical and Contemporary Perspectives

Chapter 1 The Wisdom of Traditional Mathematical Teaching in China
DAI Qin, Inner Mongolia Normal University
CHEUNG Ka Luen, Hong Kong Institute of Education 3

Chapter 2 How Chinese Teachers Teach Mathematics and Pursue Professional Development: Perspectives from Contemporary International Research
FAN Lianghuo, The University of Southampton
MIAO Zhenzhen, The University of Southampton
MOK Ah Chee Ida, The University of Hong Kong 43

Section 2 Understanding the Chinese Ways of Teaching Mathematics

Chapter 3 Mathematics Teaching in a Chinese Classroom: A Hybrid-Model Analysis of Opportunities for Students’ Learning
HUANG Rongjin, Middle Tennessee State University
MILLER L. Diane, Middle Tennessee State University
TZUR Ron, The University of Colorado Denver 73

Chapter 4 Achieving Coherence in the Mathematics Classroom: Toward a Framework for Examining Instructional Coherence
WANG Tao, The University of Tulsa
CAI Jinfu, The University of Delaware
HWANG Stephen, The University of Delaware 111

Chapter 5 Elementary School Teachers’ Instruction in Measurement: Cases of Classroom Teaching of Spatial Measurement in Taiwan
HUANG Hsin-Mei E., University of Taipei 149
Chapter 6  Pedagogical and Curriculum Potentials of Homework: A Case Study about Geometric Proofs in Shanghai  
FANG Yanping, Nanyang Technological University

Chapter 7  Teaching Calculation of Time Intervals: Comparing Mathematics Competence of Students in Macau, Hong Kong and the Netherlands  
LI Titus Siu Pang, Vrije Universiteit Amsterdam

Chapter 8  Teaching Number Sense via Interactive Multimedia in a Primary School in Taiwan  
YANG Der-Ching, National Chiayi University  
CHEN Pei-Chieh, Chiayi Dongshih Elementary School  
TSAI Yi FANG, Yunlin Jhennnan Elementary School  
HSIEH Tien-Yu, Chiayi Dongshih Elementary School

Chapter 9  Teaching Geometrical Theorems in Grade 8 using the “Shen Tou” Method: A Case Study in Shanghai  
DING Liping, Sør-Trøndelag University College  
JONES Keith, The University of Southampton  
ZHANG Dianzhou, East China Normal University

Chapter 10  Implementation of Objectives Based on the Curriculum Standards: A Case of Teaching Using Letter to Represent Number at a Chinese Primary School in Chinese Mainland  
HUANG Xingfeng, Changshu Institute of Technology  
YANG Jinglei, Changshu Institute of Technology  
LI Shiqi, East China Normal University

Chapter 11  Chinese Project-based Classroom Practices: Promoting Students’ Engagement in Mathematical Activities  
XU Binyan, East China Normal University  
ZHU Guangtian, East China Normal University

Chapter 12  A Large-Scale Video Survey on Taiwanese Fourth-Grade Classrooms of Mathematical Teaching Behaviors  
LEE Yuan-Shun, University of Taipei  
LIN Fou-Lai, National Taiwan Normal University

Chapter 13  Features of Exemplary Lessons under the Curriculum Reform in Chinese Mainland: A Study of Thirteen Elementary Mathematics Lessons  
MA Yunpeng, Northeast Normal University  
ZHAO Dongchen, Harbin Normal University
Contents

Chapter 14 Qingpu Mathematics Teaching Reform and Its Impact on Student Learning
GU Lingyuan, Shanghai Academy of Educational Sciences
YANG Yudong, Shanghai Academy of Educational Sciences
HE Zhenzhen, Shanghai Normal University

Section 3 Chinese Mathematics Teachers, Teacher Education and Teacher Professional Development

Chapter 15 Beliefs, Knowledge and Teaching: A Series of Studies about Chinese Mathematics Teachers
ZHANG Qiaoping, The Chinese University of Hong Kong
WONG Ngai-Ying, The Chinese University of Hong Kong

Chapter 16 What Makes a Master Teacher? A Study of Thirty-One Mathematics Master Teachers in Chinese Mainland
FAN Lianghuo, The University of Southampton
ZHU Yan, East China Normal University
TANG Caibin, Hangzhou Shangcheng Institute of Education

Chapter 17 Chinese Teachers’ Mathematics Beliefs in the Context of Curriculum Reform
CHEN Qian, Sichuan Normal University
LEUNG Koon Shing Frederick, The University of Hong Kong

Chapter 18 “Same Content Different Designs” Activities and Their Impact on Prospective Mathematics Teachers’ Professional Development: The Case of Nadine
YUAN Zhiqiang, Hunan Normal University
LI Xuhui, California State University Long Beach

Chapter 19 Exploration into Chinese Mathematics Teachers’ Perceptions of Concept Map
JIN Haiyue, Nanjing Normal University
LU Jun, Jiaxing University
ZHONG Zhihua, Nantong University

Chapter 20 Assisting Teachers in Maintaining High-Level Cognitive Demands of Mathematical Tasks in Classroom Practices: A Training Course in Taiwan
LIN Pi-Jen, National Hsinchu University of Education
TSAI Wen-Huan, National Hsinchu University of Education