Upon my retirement in 2003 as a Professor of Science and Mathematics Education at Oregon State University I had been a teacher educator for over 20 years, focusing on preservice and inservice teacher education for integrating technology in science and mathematics. I had never taught online and had no idea about the pedagogical strategies needed for effective online instruction. Imagine my surprise when Dr. Emily van Zee, an Associate Professor of Science Education in the department, challenged me to help her design an online Master of Science (MS) degree program for focusing on integrating technology in teaching science and mathematics. My response was, “Oh NO! That doesn’t sound like anything I have the skills for.” Yet, somehow then, as an Emeritus Professor, we managed to engage in a research process resulting in the completion of the online MS program.

With the multiple support mechanisms for designing online degree program design at Oregon State University and with the help of many doctoral students, Emily and I established a research group focused on the task. The research program was truly a collaborative effort among the multiple team members. Dr. Emily van Zee received internal funding for the design of the program. Drs. Gogot Suharwato, Rachel Harrington, Pejmon Sadri, Kwang-Ho Lee, Tina Johnston, Henry Gillow-Wiles, and Nancy Staus were doctoral students who participated in the team at various times as they also completed their doctoral programs. Weekly meetings beginning in 2004 were essential in the collaboration as we all learned and studied about online instruction and engaged in research around Technological Pedagogical Content Knowledge (TPACK). This interaction was crucial to the research effort that ultimately led to the insights shared in this book. Also, we were awarded multiple Title II MSP (Mathematics Science Partnership) grants for the design, implementation and research for developing this online MS program. The collaborative efforts, knowledge and enthusiasm ensured the quality of the results identifying an online TPACK Learning Trajectory that we eventually applied to multiple MS online courses.
I want to express special appreciation to Emily and Henry as they continued to engage in the design of the courses and the design-based research efforts throughout the entirety of the research effort. Their dedication, hard work, and professionalism resulted in a graduate program that supported many in-service K-12 mathematics and science teachers throughout the world. At one point, the program population included 1/3 Oregon teachers, 1/3 US (outside Oregon) teachers and 1/3 international teachers (all K-12 mathematics and science teachers teaching in English throughout the world). We learned so much about effective online education through this worldwide community of learners’ knowledge-building community.

I also want to express my sincere appreciation for IGI Global’s vision, organization, and support throughout the publication process of this research insights book. The reviewers provided important feedback for the communication of the insights in this book. Without these visions and efforts, this book would not have been possible. Our collaborative research team has truly made an important contribution to the incorporation of inservice teacher education through online educational avenues, preparing teachers for teaching in this ever-expanding digital age.

Margaret L. Niess
Oregon State University, USA