The SWH approach, being a language-based approach, has enable me as a classroom teacher to FINALLY make that multi-disciplinary plan a reality. Ever since I have been teaching I have always heard experts talk about the power of connecting all that we teach together, but I have never been able to figure out the how. SWH has made that possible. I have learned how to use our science and social studies topics to serve as a game field for my students to see the literacy skills in action. I finally feel like I can actually take content based information and use it to practice literacy skills and concepts that we are learning. This is so incredibly powerful because our students are then receiving opportunities to interact with all of the concepts that we are learning in multiple doses.

(USA Elementary Teacher, 5th grade)

Hand and Keys first published their thinking about the Science Writing Heuristic approach with an article in *The Science Teacher* that appeared in 1999. Now almost 20 years later, we continue to hear from teachers about how this approach is transforming their practice. In this book, you heard the words and thinking of teachers in three international contexts who have in essence, three critical elements in common: (1) Writing to learn not only applies to our students but also to teachers making sense of practice, (2) Immersive argument environments are critical to teaching and learning not only in science but across subjects, and (3) When teachers are supported to be researchers in their own classrooms, they continually have the opportunity to align their teaching with learning.

THREE CRITICAL ELEMENTS

Language encompasses both the oral and written aspects. SWH encourages students to utilize both. Through listening to teachers and their peers and sharing ideas they develop the very important skill of respectful communication. Also included are negotiating and arguing – two skills that have had negative
connotations in the past. All of these encourage higher level thinking skills, requiring students to think through their ideas and defend them with evidence they have gained through investigation. Organizing their thoughts in journals, developing vocabulary through concept maps, and working in groups or alone writing/recording their findings also helps students to deepen their thinking and make connections to what they know. This program not only helps students LOVE science, but it also helps them to become better people through improving communication skills that ‘the old way’ missed, where students memorized facts and took a test! I’m excited to use this in my classroom!

(USA Elementary Teacher, 2nd grade)

In the reflection written above by a second-grade teacher from the USA (children are typically 7–8 years old at this stage), she illuminates her transformation in considering how to teach so children can learn. In the following paragraphs, we explore how the teachers who wrote chapters for this volume illuminate three critical elements of the journey to put the SWH approach to work in their teaching repertoire.

First, writing to learn. As you read each teacher’s (or group of teachers) chapter, you witnessed an important writing to learn experience where we ask teachers regularly throughout our professional development workshops to engage in reflective writing about their practice. We see it as critical to the way they make sense of new thinking, question old thinking, and re-align their practices with a theory of how students learn. This writing to learn practice for teachers is critical for them to understand what they know, where are the gaps in thinking, and what are potential pitfalls, fears, concerns about adapting their pedagogical practice.

Second, each teacher discusses the creation of immersive argument environments – for their students and for their own development. Each teacher discusses how they are a part of a community of teachers, support personnel, and university faculty who create supports as well as an ongoing immersive argument environment where, during professional development workshops, we challenge each other, question each other, and negotiate ideas about science, about language, and about the act of teaching and learning.

Third, in each chapter you see the authors take up a stance of “teachers as researchers.” From our very first SWH project, we approached teachers to be our partners in this research. We do not presume to know more than a teacher but that we each have a knowledge base that can inform, challenge, and shape the research questions, analysis, and dissemination.

A NEW MODEL FOR CONSIDERATION

In 2008, Norton-Meier theorized how children experience language in SWH classrooms building off of Halliday’s (1975) theory that children learn about language, while they learn through language, all while living language. In analyzing the chapters written by teachers in this volume and revealing the three critical