

Preface

Teaching, like learning, is fundamentally an enduring struggle for meaning and inquiry is the catalyst in this struggle.

—Weinbaum et al. (2004), p. xiii

Raquel, a preservice elementary school teacher, had just completed a long-term, in-depth observation in my science methods course. The purpose of this investigation was to familiarize her with the process of inquiry with the hope that she would develop a positive disposition toward this form of instruction in her own classroom. The assignment required her to first isolate a question she wanted to explore and then to develop an implementation plan. As is commonly the case for students at all educational levels, Raquel's biggest hurdle was identifying and clearly stating an answerable question. She eventually decided to monitor the surroundings she encountered during her daily lunchtime walk. What follows is the final entry in her science notebook for this semester-long task.

Inquiry is the process of searching for patterns and observations in the world around us. This idea parallels the experience I've had with my long-term observation project. At first I wasn't sure what to expect. When I decided to simply take a walk for 20 minutes a day while on my lunch break, I remember being concerned that I wouldn't have enough "data" at the end of the project. I asked my professor about this and was met with a smile, a shrug of the shoulders, and a very pleasant "I'm not sure what you're going to find." The response challenged me to find data and perturbed me a little because I wasn't comfortable

x Integrating Inquiry Across the Curriculum

with the uncertainty of not knowing exactly what the results of my long-term observation were going to look like.

What I didn't realize at the time was that this was the beginning of inquiry learning . . . it is student-centered. I had faith in the process and I stuck to it. What I discovered was that there was a lot of value to what I did. My daily walks brought continuity to my long-term observation. The investigation engaged me in learning.

Eventually, I began to think, "What can I learn from this experience and bring to my classroom?" This type of thinking transformed my long-term observation project into a full, meaningful, and rich experience. . . . I know I can learn to teach through inquiry because I've been able to take a simple, 20-minute daily walk and turn it into a valuable learning experience.

Raquel's essay vividly captures the fundamental aspects of teaching and learning through inquiry. She carefully observed her surroundings, detected peculiarities, asked questions, probed, and continually reflected on her growing understanding. This book advocates that all partners in the learning enterprise offer students the opportunity to actively investigate objects, events, text materials, people, places, and phenomena.

This book's central premise is that inquiry offers *unifying* process skills and a knowledge base that are equally relevant for guiding student learning across *all* major subject areas. A recent Internet search for "science/inquiry/K-12 education" yielded 18,200 hits. The raw, unanalyzed numbers from other comparable searches for inquiry identified 29,000 Web sites associated with geography, 82,000 for English, 98,400 for mathematics, and 117,000 for history. This oversimplified, nonscientific, data-gathering approach supported our contention that although inquiry is most commonly associated with science, it combines practices and understandings that are recognized and implemented across all disciplines. Inquiry should be embedded throughout the school experience.

The book is divided into two distinct sections. Experts from mathematics, geography, language arts, history, and science education authored chapters found in Part I: Teaching and Learning Through Inquiry in the Content Areas. Each follows a common framework that presents a research-based rationale for incorporating inquiry in that particular discipline, illustrates how inquiry can provide a focal

point for developing and implementing the curriculum, offers ideas for assessing student performance, and identifies some important technological tools that support an inquiry classroom. The section on integrating the curriculum focuses on the case study approach and problem-based learning.

Content Chapters 2–7 conclude with Ideas From the Field curriculum materials that treat inquiry as the central feature of a learning environment and are grounded in the respective national curriculum standards. This collection of inquiry-based learning activities builds on the ideas, suggestions, and principles introduced in the content chapters and illustrates how questions can serve to both initiate and guide student learning. The ideas presented here and throughout the book can help readers to develop an inquiry stance and become better prepared to evaluate curriculum and instruction for the presence of inquiry.

Part II: Creating Conditions for Successful Student Inquiry adds to this inquiry in the content area mix by introducing information specific to concerns about assessment, special education, English language learners, and informal education. The assessment chapter introduces strategies that provide reliable data about how students are performing while engaged in inquiry. The special education and English-learner segments take forceful stances for making inquiry accessible to all student populations. The informal education piece illustrates how museums are uniquely positioned to provide leadership in content-based professional development for teachers. Each chapter in Part II helps to clarify the ancillary conditions for successfully implementing inquiry with all learners.

Although many books address the topic of inquiry, most target their coverage to specific content areas. Few, if any, approach the theme of inquiry from the overarching, thematic perspective presented here. The broad scope of *Integrating Inquiry Across the Curriculum* makes it a general starting place for any K–16 teacher who is interested in exploring instructional approaches from the perspective of student inquiry.

Integrating Inquiry Across the Curriculum can be used specifically as a textbook for undergraduates in K–12 teacher preparation programs and as a resource for practicing K–12 teachers across all curriculum areas. We envision that the book will be helpful to:

- Classroom teachers who are searching for ideas about incorporating inquiry-based experiences into their curriculum

xii Integrating Inquiry Across the Curriculum

- School or districtwide study groups that are exploring ways to integrate materials from a variety of content areas and investigating strategies to assess active learning
- K–12 district teams that are examining curricula for applications of inquiry and problem solving
- Professional developers and educational leaders who are helping inservice teachers to understand inquiry-oriented curriculum approaches
- College professors who are introducing information about inquiry to K–12 preservice teachers
- College faculty who are teaching about integrated curriculum and instruction

Concerns are mounting that instructional constraints associated with the mandated testing requirements of No Child Left Behind will drive teachers away from using inquiry-oriented approaches to student learning. The fear is that, in the interest of time and content coverage, direct instruction will become the dominant teaching approach found in the classrooms of the future. Proponents of inquiry must produce evidence that clearly demonstrates the importance of striking a proper balance between instruction focused on telling and instruction that is aimed at student discovery.

REFERENCE

Weinbaum, S., Allen, D., Blyther, T., Simon, K., Seidel, S., & Rubin, C. (2004). *Teaching as inquiry: Asking hard questions to improve practice and student achievement*. New York: Teachers College Press.

ACKNOWLEDGEMENTS

The contributions of the following reviewers are gratefully acknowledged:

Anne Roede Giddings
Curriculum Supervisor
Newington Public Schools
Newington, CT