Foreword

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Because the making of a historical benchmark isn't readily identifiable while it is being framed, it takes courage and insight to see possibilities and act upon them. During the past 30 years, neuroscience has handed us one benchmark after another—a wealth of information on the human brain and its functions, giving us opportunities to increase learning in ways not previously possible.

New technologies have allowed us to peer further and further into the mysteries of the human brain. And although we certainly don't yet know all we'd like to know, we certainly know enough to enrich the learning of our students and the knowledge base of our teachers. The brain research used in this book is as solid as it comes—and its applications tested in thousands of classrooms. This is happening, as Robert Sylwester says, "on our watch," and we should hold ourselves responsible for using this information as the compass by which we make decisions regarding what happens in our schools.

With tough financial times upon us, we need to work smarter, not harder. The ultimate significance of this landmark book is that it foreshadows a not-so-distant future in which all decisions in our public schools will be based upon principles from brain research, not on tradition, or "the way we do things here," or upon philosophies of education endlessly debated. The clear, succinct, no-nonsense descriptions of brain research findings in these pages will become the bedrock for decisions involving hiring, planning, funding, implementing, and assessing what we do in our schools.

Author and coauthor of more than a dozen, theory-to-practical-application books over the past 25 years, Karen D. Olsen is uniquely suited to the job of expanding our awareness of the practical, and powerful, uses of solid concepts from brain research. This book, her latest, represents a bold step forward in making practical use of brain research by offering a guide for decision making when cutting school budgets.

Karen's first large-scale project was using brain science to improve science education using the Kovalik ITI model (now known as *HET—Highly Effective Teaching*) with its strong brain research base. This was a 10-year, $3 million effort funded by the David and Lucile Packard Foundation. More than 500 teachers in five counties participated in the Mid-California Science Improvement Program (MCSIP), each for a minimum of three years.

As Executive Director of the MCSIP program, Karen was deeply involved in the day-to-day work of the participating teachers and, as a result, wrote several key books—*Kid's Eye View of Science: A Teacher's Handbook for Implementing an Integrated Thematic Approach to Science, K–6* (coauthored with Susan Kovalik), *Classroom Stages of Implementation,* and *Science Continuum of Concepts, K–6*—all aimed at helping teachers move from theory to practical application of neuroscience.

The brain research findings briefly described in this book were well tested during the MCSIP project (1987–1996) and have since been expanded and deepened through the work of dozens of trainers, associates of Susan Kovalik & Associates, working with thousands of teachers throughout the United States, Canada, Europe, Japan, and Indonesia.

This book will be considered a historical benchmark, causing all stakeholders involved in school budgeting to look with new eyes on what truly advances learning in their schools. It's not about how much money our schools have; it's about how that money is spent.

This book is also a useful guide when adding new funding, such as stimulus money and post-recession expansion funds, or when merely wanting to spend money more effectively.