## Foreword

To say that these are conflicting times in education, and specifically for educational assessment, is to greatly understate the degree of turbulence both inside and outside the classroom. Certainly the very least that everyone agrees on is that students need to know how to read well, write well, and do mathematics. Beyond those basics, the necessary skills required by tomorrow's workforce are very different from what most schools are still doing. Corporate trainers assure us that learning benchmarked only by paper and pencil tests will be sufficient only for those working at the lowest level of the workforce. As a participant at a Schools for the 21st Century Conference told us,

Imagine a situation in which a shipment is due at 5:00 p.m. on Friday evening and that the person receiving the shipment has clearly stated that if the shipment is not on the trucks at that time, the order will be canceled. Now, further imagine that this shipment relies on a conveyor belt traversing four floors and that it breaks down at 4:15 p.m. The person we are looking for in that situation is not only the person who can fix the conveyor belt but also a person who can see alternative ways of getting the job done. Not only will this person need to see how to do things differently, but this individual may not be the manager or person in charge.

Companies are searching for individuals and organizational structures where employees are able to find creative solutions, work cooperatively, and adopt different roles and functions, and problem solve as a way of life. Real-life performance is the test.

How well do schools prepare such learners described above? And to what extent does assessment play a role in creating flexible learners who trust in their own ability to solve unique problems? As Diane Ronis points out in this book, today's schools still largely rely on standardization through standardized testing. The landscape of learning looks very different in the twenty-first century, and corporations are frustrated and alienated by an educational system that relies on nineteenth-century learning.

But what does learning look like when it is not tied to what Whitehead (1979) calls "inert knowledge" and we call "surface knowledge"? In a rapidly changing world, learning means being able to live with paradox and ambiguity.

## **X** BRAIN-COMPATIBLE ASSESSMENTS

It also means constructing, not memorizing, answers. Real learning is almost always a deep struggle involving the adjustment of beliefs and assumptions and inevitably engages issues of identity. Real learning is deeply personal. It requires that learners participate meaningfully in the ideas and subjects that they explore as they shape and reshape what they know and want to know. It requires that learners learn from genuine feedback.

But how do we understand such learning? How do we create it in our schools? And most important of all, how do we measure it? Diane Ronis has written an intelligent book that brings coherence and intelligence to understanding how to assess such learning.

She has framed her conclusions, to some extent, on a perspective based on a set of 12 learning principles that consolidate what is known of learning theory and include implications from the neurosciences.

The principles, as a whole, strongly suggest that learning is far more holistic, integrated, and complex when it occurs in real-life contexts. Learning includes the emotions, cognition, the context, the search for meaning, and conscious and unconscious processes, among others. The state of mind of the learner (including assumptions, conceptual frameworks) and beliefs all interact with learning.

Armed with this background, Diane takes on the task of assessment. She emphasizes that the learner needs to participate in the evaluation process and the need for what we call "active processing." Often teachers who teach through experiences and who create an empowered learning community forget, or do not know how, to help students consolidate skills and knowledge that were gained during the experience. Such consolidation is process oriented and critical for continued and future learning.

The book also includes up-to-date thinking grounded in the field of assessment itself, such as the development of rubrics, portfolio assessment, and teaching for high standards. The author ties all of these elements to teaching examples. Diane demonstrates clear knowledge of what happens in classrooms all over this country and leads educators willing to take a leap in teaching and assessment.

We predict that what will happen, if educators follow her lead, is that teaching and assessment will become part of the students' learning as they learn from everything, including their own mistakes and corrections. They will pass standardized tests but will find such tests extremely limited and even embarrassing given what they can actually do.

When that happens, schools will have aligned themselves with the challenges and opportunities that life in an interconnected global world calls for.

-Renate Nummela Caine, PhD