

# Foreword

I have known Carolyn Staudt for 15 years. Our introduction took place in a most unusual way. I was helping a foundation, called Pioneering Partners, that provided funds for innovative teachers to disseminate their work. Carolyn's proposal had been selected as a finalist, but everyone who read it had to ask if it was too good to be true. Carolyn, a math/science teacher, had proposed linking an inner-city school with a rural school through a digital network. Student partners would work together online and produce one lab report or test response as a result of their collaboration. This proposal was part of a larger project that involved the interlocking of 11 geodesic domes that she built with community support. These domes were to simulate an undersea research station (in a former cornfield of Ohio), and her students would live and work inside these domes as if they had been sent to the bottom of the sea in a pressurized diving bell. While housed in the "undersea" domes throughout 7 days, her scientist students would conduct oceanography experiments, manage their own society, and share their data with students around the world. All the while, they would be communicating with the above-ocean world through fiber video links.

I had read more than 100 proposals, and nothing else came close to being this fantastic and imaginative. It all sounded like Jacques Cousteau or *20,000 Leagues Under the Sea* meets high-tech classroom. I jumped on a plane to check out these domes and to meet Carolyn Staudt.

Carolyn's proposal had actually understated the magnificence of what she galvanized her community to build. She even had a used research sub, equipped with robotic arms, shipped from England; it was installed in a steel building attached to the domes. Her students were incredibly focused on carrying out their experiments on Tilapia fish from the Amazon, the raising of hydroponic plants, and the monitoring of physiological responses of all students while inside the domes. Carolyn was given the grant, and teachers flocked from across her region to learn how to immerse students in a multidisciplinary learning environment.

It has taken this long for the technology to catch up with Carolyn's vision of immersing students in the active role of being scientists and global

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communicators. Now, every teacher does not need a million-dollar set of fiber wired domes. We can now outfit every student with more power in their hand than held in all the computers that were installed 15 years ago in that Ohio cornfield.

*Changing How We Teach and Learn With Handheld Computers* is a result of a decade's worth of Carolyn's work with teachers, designers, and inventors. This material will help any educator who is considering using or who already uses handhelds, from elementary grades through high school. It will help teachers challenge students to achieve new understandings of patterns of data in math, science, and social studies. It proposes a model in which data become the impetus and support for critical thinking and problem solving. It will allow teachers to help their students feel the power of real data that they generate themselves and share with one another. Her crystal-clear examples are rich in content and aligned to standards.

Get ready to ramp up your adventure level for teaching and learning. The future has arrived, and it can be in your hand.

—Alan November