A major change is taking place in America's K-12 classrooms: we are moving from didactic instruction, with its emphasis on information accumulation, to project-based learning, with its emphasis on process as well as content learning. No where is the change more evident than in science. Students are asking genuinely interesting questions -- what is the quality of the water in our tap -- and carrying out authentic inquiries. Teachers are no longer deliverers of information, but mentors that model, critique, and manage. Students are not passive vessels to be filled, but rather, they are active, engaged. However, supporting a mentor/apprentice model of learning in a classroom with 1 teacher and 30 kids is a most serious challenge.

In my talk, I will argue that information technologies will be the backbone of classrooms restructured along the mentor/apprentice model. Via examples I will demonstrate how technology may well be playing a pivotal role in arguably the most significant change in education in over 100 years.