NASA MSI Talk

In 1957, I was just 7 years old. I had seen my first television the year before and I had also seen Davy Crocket “on stage” at the movie theater, coonskin cap and all, but I was bitterly disappointed and demanded for my mother to tell me why there was no stagecoach and horses. But the most important thing that happened to me that year was something that I am quite sure I was unaware of. The dreaded Russians launched what we would now call a primitive satellite called Sputnik. This caused much wailing and gnashing of teeth in our Communist-phobic country and the President and Congress laid out an ambitious plan to catch up to and pass Russia in the so-called Space Race. This caused funding for what we now call STEM research to skyrocket and National Defense Loans to be available to science and math majors and, significantly, major pots of funding for expanding higher education graduate school opportunities for all field, specifically including a variety of education fields. It was known then, even if it has been forgotten or somewhat ignored now, that Colleges of Education and the people they train are crucial to any conception of technological or any other kind of literacy.

I finished a BS in Math and clearly took a different path than the one that led to a technology career, but I was certainly affected in my choice of major and affected every day in multiple ways by what came out of that 50’s paranoia—a government agency that came to be called NASA, with it relatively pure goals and its eyes on the heavens. It wasn't long before the influence of the research, science, engineering, and technology that it took to go to space began to filter out to the public and improve our quality of life. I won’t even try to be exhaustive in my list of things NASA pioneered—others have done that. But just think for a moment about advances in remote medical monitoring, in miniaturization of computers and other technology, of freeze drying technology, of radiation shielding, of power sources and heat absorption and diffusion, of solar power and GPS tracking, of medical research on muscle atrophy, of mylar, of Tang, for goodness sake!

Well, my friends, I think it is time for us to start another Grand Push. Maybe we can focus on Mars or maybe on colonizing the Moon or maybe just bringing power and communication to remote and benighted parts of our own world. In any case, we need people trained and training to do the technology and science research and invention and fabrication that these and other challenges demand. And who will educate those people? And who will educate those who educate them? And who will do the work to make all that education efficient and effective? We will—Colleges of Education. Yes, in conjunction and cooperation with our STEM friends, but we have a role to play in research on curricular and delivery innovations to reach a new kind of student, the kind of student that the modern world has created, as well as the kinds of students that may not have had an opportunity in the past. And COE’s have to lead in this!

To conclude, let me tell you something else that I have seen in my own life that has been a game changer and tell you where the next game changer will happen when we do our jobs. In my own working lifetime, since about 1970 or just before, women have opened doors and had them opened for them that were unprecedented for literally centuries. My daughter is a surgeon at City of Hope Hospital in LA. She is one of the five new surgeons they hired last year, all young women. Over half the medical school classes are now women, and on and on. Now, you say, “So what?” Well, so what is that in just a few short decades, we have stopped wasting half of our available talent and potential by involving half our population in new ways.

And that’s what we have to do with programs like this grant—we have to open the doors of STEM, the secrets of future, of jobs, of better lives, to young people that haven’t thought of themselves as eligible or even interested, for a variety of reasons, insidious and innocent. We have to, because, just like with women, we can no longer waste our talent. And we have to because we can, we in Colleges of Education. In Texas, over half our school children are Hispanic and another large chunk are AA. We will educate these children in STEM or we will cease to be economically relevant in the 21st century. And this can be repeated across the nation. This is a crisis for any number of good reasons, but the best one is the one that NASA taught us all those decades ago. We don’t know what we will invent or what we will need in the future—so, we better hurry up and get started! We don’t know who will invent the next big thing, so we better give everyone a chance! On NPR the other day, I heard an interview with a young high school athlete who was trying out for the Olympics. She was asked about her dreams and she said that she didn’t call them dreams anymore, she called them goals. For centuries, humans dreamed of going to the Moon—NASA made it a goal and we went there! How fitting that we work with NASA now to fulfill our dream of educating a new and diverse generation of students in STEM fields. Wait, did I say dream? I meant to say, our GOAL! Thank you