

Opening Statement - Rep. Daniel Lipinski (D-IL)  
Subcommittee on Research & Science Education  
Hearing on  
*What Makes for Successful K-12 STEM Education: A Closer Look at Effective STEM Education Approaches*  
October 12, 2011

Thank you Chairman Brooks for holding this hearing, and our witnesses for being here today. STEM education is of particular importance and interest to me, and is one of the reasons I was eager to join this committee and subcommittee. As a former college professor I saw first-hand how poorly some of our students are prepared, especially in math. I also know how my own career was shaped by my early exposure to concepts like engineering and how much I benefited from the emphasis put on math and science by my parents and teachers.

But I am also focused on improving STEM education because I am keenly aware that our future economic competitiveness and prosperity depend on it.

Time and time again we hear about how poorly our students are doing on math and science tests. On the last National Assessment of Educational Progress, the so-called “nation’s report card,” nearly 80 percent of 12<sup>th</sup> graders fell short of science proficiency. The World Economic Forum ranks the US 48<sup>th</sup> in math and science. Not surprisingly, this poor performance has resulted in fewer scientists and engineers. Only one third of the undergraduate degrees earned by American students are in a STEM field, compared with 63 percent in Japan and 53 percent in China. In a global economy where nearly everything we do is based on math, science, and technology, these numbers are frightening.

But there are many examples of schools and programs that are having great success increasing student interest and performance in STEM. That’s why I’m excited about this hearing and the recent NRC report on K-12 STEM Education. There are exemplary STEM schools, like the Illinois Math and Science Academy, and I want to learn why and how they work and what aspects of their success can be replicated broadly. I hope to hear from our witnesses about what we can do better to give students from all backgrounds access to a high-quality education and the opportunities that come with it.

One of the most important lessons I’ve learned about STEM education policy is that one successful model is not enough to achieve systemic change. For one, there still remains a lot we don’t know about what components of successful schools or programs have been most critical to their success. We also know from experience that simply copying successful schools doesn’t always work. We live in a large and diverse country, and our approach needs to reflect that.

I also think that is why it remains critical that we continue investing in education research that accounts for the tremendous diversity of environments, infrastructure, cultures, laws, student populations, and other factors that together describe a community and a school. As I mentioned, one of the most important factors in my educational success was the involvement of my parents,

especially my mother, so I was glad to hear that this report looked beyond the classroom. I hope to hear from our witnesses about the current state of research in education, and about where gaps remain.

The National Science Foundation is not represented on the panel today, but as some of the witnesses pointed out in their testimony, NSF is the premier STEM education research organization in the country. Along with the Institute of Education Sciences at the Department of Education, the NSF has been a leader in improving our collective understanding of how students learn. In her testimony, Dr. Means very convincingly describes why this is a unique federal role, and she is not the only one to make this point. It is important that we continue to support this research, especially projects that focus on sustainability and large scale implementation of successful education programs. Especially in these budget times, it is critical that we are spending our tax dollars on programs that work, and only through investing in education research will we know what works, what doesn't, and where we should target our limited resources.

We know there is no silver bullet when it comes to addressing the STEM education challenge we face in our country. At the same time, with so many examples of successful models and programs, we have much we can look to for guidance. I want to thank the witnesses for being here this morning and I look forward to your testimony.