Statement of Ms. Susan Naylor, NBCT, PAEMST,
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before the US Committee on Commerce, Science and Transportation

Chairman Rockefeller, Ranking Member Hutchinson and Members of the Committee, thank you for this opportunity to bring a teacher voice to your work.

During the past 10 years, I have served on a variety of initiatives that have shaped the evolving face of mathematics education in West Virginia. I have seen our instructional standards written and re-written during that time, in a continued effort to improve the rigor and relevance of the curriculum we provide our students. Focus on relevant assessment and technology integration has also been emphasized. STEM education programs that have provided the funds for research and development in these areas, like the Re-invent initiative, have been extremely effective.

As a veteran teacher, I have several concerns for your consideration as you make decisions that will impact the future of science, mathematics and technology instruction in America's classrooms.

Earlier this year, I visited Washington, along with the other Presidential Awardees in Mathematics and Science from across the nation. While here, we were provided opportunities to talk with each other. The unanimous and highest priority concern of the entire group was professional development for teachers. There is currently a difficult transformation taking place in classrooms as "traditional" teachers face the unavoidable transition to the more "inquiry" based teaching philosophies and materials needed to support students in reaching higher standards. Research indicates that children acquire and retain deeper conceptual understanding of both mathematics and science through experiential problem solving. However, many teachers have not received sufficient professional development to feel confident using these new strategies and materials, so they fall back on what is familiar, even though not as effective. Teachers also need deeper understanding of their own content areas in order to effectively challenge and remediate students on different levels. I am very encouraged by the new Common Core standards that will provide common benchmarks nationwide. They will foster collaborative professional development initiatives that will not only provide consistency between states, but

hopefully save money as we cease trying to reinvent the same wheel 50 times.

Teachers would like to see new certifications available, like elementary mathematics specialists and interventionists whose specialized content knowledge would support classroom teachers. Incentives for teachers who choose teaching certifications in the STEM fields would help recruiting, and of course, fair and equitable salaries would help encourage highly qualified teachers to stay in education instead of seeking higher salaries in other fields. Another consideration would be a system of recognizing and rewarding teachers who do integrate STEM initiatives in their classroom

More scholarship incentives available in STEM fields could make a powerful impact on student career choices. However, scholarships that focus too much on a student's GPA encourage them to take easier classes to protect that GPA, instead of taking on the challenge of more difficult classes. There is also the issue of "teaching to mastery" as opposed to the traditional "63% as passing" to consider. College course offerings in the STEM fields would be more accessible to students if they were available on community campuses and would provide a more seamless transition from high school to college level courses.

Elementary teachers are concerned about the discrepancy between the emphasis placed on Reading/Language Arts and that placed on Mathematics and Science. In many states, the amount of instructional time as well as the amount of money invested in materials and intervention programs is much higher for reading. I recently learned of a proposal to remove Science from elementary report cards. That worries me, what gets assessed is what gets taught. If 80% of the careers of the future are rooted in science and mathematics, these subjects should be receiving more emphasis, not less.

Money is another issue. The cost of hands-on inquiry science materials, like SIMPLE (Science Inquiry Modules and Problem-based Learning Experiences) kits and Nova labs is high, not to mention the refurbishment of consumable materials for them, but they are the best vehicle for teaching deep conceptual understanding. The northern panhandle area of West Virginia has seen improvement in science scores since the implementation of these materials. At the same time, West Liberty University, located in the same area, has seen an increase in students pursuing degrees in science!

West Virginia has been proud of the technology integration in our classrooms, but sustaining it is becoming a losing battle. In this area as well, teachers have not received sufficient professional development to feel confident integrating technology into their instruction. Technology integration specialists who could support classroom teachers are too few and far between, some even being eliminated as funds are cut. At Parkersburg High School, (1,750 students), there are nearly 700 computers, but not one full time tech to service them. It is not unusual for a work request for computer repair/maintenance to take 90 days for response. In my school system, there are approximately 4000 student computers, and at a replacement rate of 10-15% each year, these machines need to stay in service for 8-10 years, but many of them were refurbished to begin with. All classrooms need interactive whiteboards to facilitate and engage students in collaborative learning and teachers need support in incorporating them.

Many teachers feel that more direct contact between students and the community businesses that will need graduates in the STEM fields would make career choices in these fields more likely. Shadowing programs, visiting experts in classrooms, and partnering projects are avenues for cultivating these relationships.

A second major concern expressed by the Presidential Awardees was the need for teachers to be given a voice in decision making beyond the local level of their own school systems. Thank-you for giving me that opportunity today and hopefully other teachers will take my place here as you reach out for the experience and expertise they can bring to your work.