Assistant Secretary Stephanie Monroe
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Good morning. It is an honor to be here today. I'd like to thank the OECD for inviting me to speak on the important issues surrounding under-representation of women in the sciences. Secretary Margaret Spellings and President Bush recognize the importance of addressing this issue. America needs the contribution of women and girls to close the math-science "gender gap" and to retain our innovative leadership in the global economy. The Department of Education is committed to identifying the factors that are contributing to the under-representation of women in science, technology, engineering and mathematics. And we are taking sustainable steps to rectify this problem.

It was not too long ago when a friend's mother said that private college tuition was "too much money to spend on a girl's education". Thank goodness times have changed. But as last weeks report by the National Academy of Sciences reminded us, women are still underrepresented in the fields of math and science.

The first question we must ask ourselves is, why?

We know under representation starts early.

At the high-school level, girls make up only one-third of Advanced Placement physics students, and only 15 percent of those enrolled in Advanced Placement computer science classes. In post-secondary, female bachelor's degree recipients are much less likely than their male peers to major in computer science, engineering, and physical sciences. In fact, less than 20% of engineering majors are women. And the number of women with computer science degrees has dropped 25 percent since 1985. The statistics reflect similar discrepancies in post-graduate study. In 2000, women accounted for less than one-third of graduate students in the sciences, and less than one-fifth of engineering majors. These trends have an impact on women's choice to pursue careers related to math and science. There are few female full-time professors in science and engineering; the percentages range from 3 to 15 percent. In 2003, women constituted 14 percent of engineers and only 33 percent of mathematicians in the United States.

The next question is, why is equal gender representation important?

In 2005, Catalyst, a research and advisory organization conducted in-depth research into the framework of top U.S. Fortune 500 companies. The research examined the number of women in executive positions to determine whether diversified "leadership teams" affected the productivity of top-earning Fortune 500 companies. The results are interesting. Catalyst found that Fortune 500 companies with the highest percentages of female corporate officers experienced, on average, a 35.1% higher return on equity than those companies with the lowest percentage of female officers. And, that's not all. Those companies with higher percentages of female corporate officers experienced a 34% higher total return to shareholders than companies with fewer female executives. In other words, companies with "diversified teams" – or higher percentages of female officers – produced better products and performed at higher rates than companies with more homogenous structures.

So, how would science and technology benefit if women were represented in higher numbers? If the success of the top U.S. businesses is any indicator, we would see a marked increase in the productivity, innovation, and proficiency of those within the science, mathematic, and technologic fields. This likely result wouldn't come about because "women know more" about science, technology, and math. But, the result is logical. When people of different backgrounds and different perspectives work together- the results tend to be more distinctive. When people use varying life experiences, and approach problems differently, it is likely that they will develop more creative and unique solutions to problems.

So now that we know why diversity in the STEM fields is important, what is the United States doing about it? Well, I am excited to report that increasing the role of women in the sciences is a primary goal of the Secretary of Education and the President of the United States.

As the Assistant Secretary for Civil Rights, my office is responsible for ensuring all recipients of education funding adhere to America's civil rights laws. Those laws include discrimination in hiring based on gender as well as sexual harassment. My office is committed to the rigorous enforcement of these and all other civil rights laws by responding to complaints, conducting compliance reviews, providing technical assistance to recipients and ensuring those recipients maintain procedures so individuals can address grievances with the institution without fear of retaliation. The Department is also taking many pro-active steps to increase the presence of women in the sciences.

In March of this year President Bush launched the American Competitiveness Initiative to better prepare America's youth to enter math, science and technology related fields. The American Competitiveness Initiative focuses on all students' achievement and participation in math and science. Because we know, for America to remain competitive we need the participation of students of all races, genders and backgrounds. As a matter of fact, this goal was reiterated in last weeks report by Secretary Spelling's "Commission on the Future of Higher Education".

Recent data demonstrates that less than half of U.S. high school students graduate ready for college-level math and science classes. One of the goals of the Competitiveness Initiative is to strengthen the K-12 pipeline to prepare students for college-level math and science classes. To that end, President Bush has called for $25 million dollars to help recruit 30,000 math and science professionals to be adjunct teachers in our schools. We are also working to increase federal grants to high-achieving students, and increase availability of high-level, advanced courses in junior high and high schools.

The American Competitiveness Initiative illustrates one important fact: We need everyone – women and men alike- in order for America to continue to be competitive. This response, focused on increasing the preparedness of all American students, will further our efforts to improve the participation rates of girls and women in math and science. The commitment of these resources will benefit women and young girls in a positive way. Increased standards of learning under No Child Left Behind will ensure that they are being taught necessary skills in order to be able to pursue careers in math and science. More qualified teachers will be familiar with the challenges facing young women and be able to better serve as mentors. Increasing the number of research programs in the physical sciences will provide more opportunities for women to conduct research. While there is obviously room for improvement, we are already beginning to see an increase in female performance and participation. In mathematics, test scores showed very little difference between 4^{th}, 8^{th}, and 12^{th} grade boys and girls female. In 2000, female high school graduates were more likely to have taken Algebra I, Biology, and Chemistry than their male counterparts. And the percentage of females who took Calculus increased from 4 to 11 percent. We will continue to make this a top priority. And, we will expect to continue to see noticeable results

Last May, the Department of Education convened the first-ever National Summit for the Advancement of Girls in Math and Science. The Summit brought together the best and brightest women – and a few men- from public, private, and nonprofit sectors. More than one hundred of the most accomplished scientists, explorers, and entrepreneurs joined Education Secretary

Margaret Spellings and Dr. Kathie Olsen, Deputy Director of the National Science Foundation, at the National Summit to launch this initiative. The overall goal of the National Summit was to gather industry leaders in math, science and technology and get them together – in one room- to "brainstorm" on ways we can effectively confront this issue. We assembled panels to talk about the challenges in elementary and secondary education. We discussed the obstacles facing students in higher education and ways to develop opportunities for women in the workforce. We started developing a strategy to launch a national plan to confront the issue of women's under-representation in these fields.

The National Summit was just the first step in creating a unified coalition to tackle this problem. Based on the recommendations of the participants, we have begun to develop and put into place a plan that will enable us to truly have an impact on the number of women getting involved in math and science. Since the launch of this initiative last May, we have continued to work with NSF, Sally Ride, NASA, Girl Scouts, L'oreal, and many other organizations to implement the ideas that were shared at the National Summit.

Secretary Spellings made this one of the Department of Education's top priorities. As the Secretary announced at the National Summit, the Office for Civil Rights is sponsoring a comprehensive review of research on how and why girls turn away from science, technology, engineering, and mathematic fields. For example, only 5 percent of parents say they would encourage their children to pursue a career in a science, engineering, or technology related field. Why? We must get to the root of this issue. In order to adequately address this problem, we have to know and understand why the problem exists.

The Department of Education has also partnered with the Girl Scouts to expand initiatives, such as their campaign with the Ad Council on girls in math and science. These important initiatives teach girls about the everyday usefulness of math and science skills. They teach young girls about the many career choices available in these fields. And more importantly, they work to help girls picture themselves as scientists and engineers. Research has shown that most young girls don't see themselves, or women in general, as being professionals in math and science fields. These programs work to reverse these common misperceptions, and show young girls that they can be engineers, and astronauts, and deep-sea explorers.

In order for girls to effectively participate in math and science, they must have good teachers who are equipped to prepare them to pursue math and science professions. The Department realizes the importance of good teachers. Neither young girls, nor young boys for that matter, can be taught essential math and science skills without the help of qualified teachers. We at the Department of Education are expanding our teacher-to-teacher workshops to help teachers learn new ways to inspire students to become innovators and problem solvers. Our goal is to make this training online, free, and available for all to use. Two-thirds of active K-12 math and science teachers are expected to retire by 2010. It is extremely important that we focus on providing long-lasting assistance to teachers so that they can continue to teach students the skills necessary for entering fields related to math and science.

Not only are we taking steps to better prepare teachers to teach math and science, but under No Child Left Behind, we are measuring math scores in early elementary grades. And, they are at an all time high. In the last two years, the number of fourth graders who learned their fundamental math skills increased by 235,000. Beginning with the 2007-08 school year, No Child Left Behind will begin to measure achievement in science. Once we have strong data on

what's happening in our science classes, we'll be better equipped to ensure that all students are getting the education they deserve.

No matter what country we call home, all of us share the same commitment to see our young women succeed. Education opens the doors of opportunity and is the foundation of a better life and bright future for them and for us. Working together, learning from each other, we can help to attain that future.

Thank you.