

Senate Education Committee  
Testimony  
February 3<sup>rd</sup>, 2016

When I think about math in my student years, I mostly remember it as an instrument of torture.

But a growing amount of research suggests math may be a building block of understanding.

Engineers and scientists have become more interested in employees who have studied applicable math throughout their academic career.

They believe math majors make better doctors, lawyers, accountants and business managers.

According to the US Bureau of Labor Statistics, employment of math occupations is projected to grow 28 percent from 2014 to 2024.

That study also found math occupations had a median annual wage of \$80,270 2014, which was higher than the median annual wage for all occupations of \$35,540.

And those strong in math can earn more in healthcare, business, finance, economics, and accounting than in some traditional STEM occupations.

When it comes to job prospects for recent grads, a survey by the National Association of Colleges and Employers shows that newly minted engineers have been the most heavily recruited and highest paid.

But a troubling trend is that foreign students study math at a higher rate than American students (about 66% compared to 48%), according to a separate report from The Brookings Institute.

Wherever they come from the fact is that the problem-solving capabilities of engineers and computer scientists put them in demand across the economy.

According to Duke University, mathematics develops analytical skills and the ability work in a problem-solving environment. Entrance tests to Duke's graduate programs support this. They found LSATS and GMAT scores are higher among math majors.

As we know with Intel's presence in Oregon, computers and technology provides well-paying jobs. Beyond mere proficiency in computer programming, math majors are trained to address the more fundamental issues involved in the creation of new algorithms.

Furthermore, many sophisticated applications of computers such as creation of computer graphics and the compression of video and audio signals (to name a few examples) involve a great deal of complex mathematics, and as a result, many computer companies specifically hire math majors.

For all these reasons, I'd like to see Oregon become a mecca for math. I'd like to see tuition waived for Oregon students who declare mathematics as a major.

This would not only help us produce more engineers, but also it would send a message far and wide about Oregon's focus on academics.

And finally... this would help with access. Money is still the number one obstacle for young people trying to go to college. Students in this country already owe \$1.2 trillion in student debt, surpassing credit card debt.

My hope is this would help make college affordable for qualifying students who see a future built on the building blocks of mathematics. My motto is ... degrees, not debt.

I've met with officials from our public universities and of course their first concern was cost. My goal is that the Higher Education Coordinating Commission will look for ways to provide grants to our universities so they will not be on the hook. Philanthropy, matching grants, other dedicated funds. The intent is not to burden universities, but to create opportunities for them. And this last part is why they are supportive of looking into this concept.