



Testimony on Senate Bill 420

Senate Education Committee

March 9, 2017

Thank you Chair Roblan and members of the Senate Education Committee. For the record, my name is Sean Pollack, and I am an Academic Policy Specialist with the Higher Education Coordinating Commission Office of University Coordination.

There are several public policy and education goals advanced by this bill. Math study is foundational to many of the STEM and technical fields that are likely to see increased employment in the near future. Senate Bill 420 is an outgrowth of SB 1540 from the 2016 Session, which asked HECC to estimate costs for a tuition waiver for math majors at Oregon's public universities. A workgroup of experts, stakeholders and HECC staff reviewed some of the existing research and data on math degree production, and some national research on major choice and the connection between course taking in middle school, high school and the pathway into the mathematics related majors and STEM fields more generally.

We found that math bachelor's degrees are about 1.4 percent of the total degrees produced over the last five years statewide, and about 32 percent of Oregon resident math degree completers are transfer students who bring 45 or more credits from an Oregon community college. We also learned that Math degree completers are somewhat less diverse than the university student population as a whole, with approximately 79% of them white, compared with 63-68% of the university student population over the last 5 years.

That report recommended that any tuition subsidy be confined to upper division math courses (300-400 level) typically those taken in the final two years of study, as is spelled out in the SB 420. Using a weighted average of in-state tuition we came up with a rough cost estimate of \$1.3 million for the first year of a tuition subsidy for upper division courses for math majors, covering approximately 150 students per year. This estimate is based on 150 math bachelors' degree graduates per year, at a weighted average per credit hour cost of \$197. It is important to note that this cost estimate is for the first year only, that it does not take into account likely tuition increases over time, or increased costs incurred by higher demand for upper division mathematics, nor does it attempt to estimate likely administrative costs associated with such a grant. In addition to the tuition subsidy cost estimate, our workgroup made note of several other factors affecting math degree attainment:

The relative lack of diversity in the major should be a focus of a state level intervention or program for math majors. Institutions and math departments across the state recognize the need to attract, retain and support female and under-represented minority students in math, and those efforts could be supported along with tuition support.

Any bill or program to increase math degree production should look at the whole math education pipeline: from at least middle school through high school, the community colleges,

and the public universities. There is some truth to the oversimplification: a math major is a student who loves math. Students learn to love math usually by middle school -- they self identify or are identified by teachers as "being good at" math. If we seek to measurably increase the number of math degrees, we should be looking at math instruction across the education continuum. Section 2 of SB 420 creates a Task Force on Creating Incentives for Mathematics Teaching in Oregon for that expressed purpose

Thank you Chair Roblan and members of the Committee. I will be happy to answer any of your questions.