



STATEMENT OF  
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BEFORE THE  
  
COMMITTEE ON HEALTH EDUCATION LABOR AND  
PENSIONS  
UNITED STATES SENATE

AT A FIELD HEARING ENTITLED  
“ESEA REAUTHORIZATION AND STEM EDUCATION”

PRESENTED  
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Senator Merkley, and members of the HELP Committee, thank you for the opportunity to submit this testimony. For the record, my name is Roy Koch, Provost and Vice President for Academic Affairs at Portland State University. It is my pleasure to provide some comments and suggestions on behalf of Portland State University and President Wim Wiewel regarding some significant challenges we see related to student success in the PK-20 educational continuum, with a particular focus on K-12 and STEM education, and some of our activities, as an institution of higher education, in working with our community partners to address those challenges.

We all recognize the important role that education plays in the success of both individuals and the society in which we live. Our continuing progress as a democracy and our economic prosperity depend on a well-educated citizenry. Unfortunately, the United State has fallen behind many other countries in our educational attainment and we must increase both our efforts and our success in this area if we are to remain in a position of global leadership. Universities like Portland State can and do play a key role in this effort. My remarks today will focus on how Universities, working with community partners including school districts and many other business, civic and social service organizations, can contribute to greater student success in the K-12 system and better preparation for and therefore greater success in higher education.

As Universities, we can (and many, including Portland State, do) contribute to the improvement of student success in the PK-12 system in several important ways including:

- The preparation and continuing support of teachers.
- Leading and participating in research to improve educational practices and student success both in the classroom and the community – in most cases working collaboratively with community partners, and
- Various service programs that directly impact K-12 students either through programs we support as a part of our educational mission through such programs as our senior capstone.

Portland State is deeply involved in all of these activities and we have integrated them into an institutional initiative we call SUCCESS – Schools, University and Community Committed to Educational Success for all Students.

Today, I would like to focus on two key approaches that we believe will lead to increased student success and illustrate them by highlighting our work at Portland State. Some of these activities are well underway and others are still in the developmental stage.

We believe that effective approaches to addressing student success in the entire educational continuum have two important characteristics:

- **They are collaborative.** For this work to be effective and to address the most important problems, it is essential that the University work with the schools districts. But it also requires a more holistic approach - engaging the entire community in identifying the important issues that need to be addressed in promoting student success. This approach recognizes that the success of the student depends both on what happens in the classroom

as well as the environment that exists in the home and the community. It also recognizes that there are many organizations that can make contributions to improving student success and that a coordinated effort will be much more effective. The ESEA should promote this collaborative approach to identifying and solving problems related to improving student success.

- **There is an ongoing evaluation and assessment process.** It is not sufficient to undertake programs aimed at improving student success, it is necessary to continuously and rigorously evaluate those programs in light of the educational and related outcomes that represent student success.

I can provide just two examples where we are approaching the issue of PK-20 student success using these two criteria.

**Cradle to Career.** In Portland and Multnomah County, we are implementing the STRIVE model as one of several demonstration sites around the country. STRIVE was created at the University of Cincinnati and is a partnership connecting the education, business, nonprofit, civic, and philanthropic and community sectors in a effort to help every child achieve educational success from cradle to career. This is a real example of the commitment to the idea that academic success depends on attention throughout the development of the student and occurs both inside the classroom and in the community. This effort is a real collaboration of government (the City of Portland and Multnomah County), the school districts, non-profits and Portland State. This organization has taken on the role of coordination of efforts, convening various community partners and school districts around important issues, and reporting on progress through the “Report Card” that tracks progress on many important indicators of Student success. Portland State’s role in this is related to the research – that is, the collection and synthesis of data that goes into the report. We also played a key role in bringing the model to the community, convening discussions helping bring together the coalition that led to the formation of the Cradle to Career initiative. With this coalition in place and with an effective tool to measure progress, it is now incumbent on the entire community to work toward identifying where our greatest efforts are required.

**STEM Education.** A major challenge over the last decade or more has been the challenge of attracting the best and brightest students into the STEM fields – both as practicing engineers and scientists and also as teachers in the STEM disciplines. A particular aspect of this issue that has received considerable attention is that our current STEM majors do not reflect the diversity of our society and, with our changing demographic, this presents an even greater challenge in meeting the need for trained professionals in the future. At Portland State, we have a number of programs to promote and support participation in the STEM disciplines, some with a particular emphasis on expanding participation from underrepresented groups. For example, we participate in the Association of Public and Land-grant Universities (APLU) Science and mathematics Teacher Imperative (SMTI) aimed at expanding the number of science students who move on to K-12 teaching careers and the Lewis Stokes Alliance for Minority Participation, and NSF supported project that helps create resources aimed at increasing the participation and success of STEM students from underrepresented groups. However, these programs only work if there

are an adequate number of properly prepared and motivated students coming to us from the K-12 system – and that is not the case.

Our most ambitious project to address the issue of both improving STEM education in the K-12 and increasing the numbers of students who are college ready and motivated to pursue STEM majors and eventually careers as scientists, mathematicians and engineers is the development of a network of STEM education centers. This, again, is a broad based, collaborative effort involving most of the Portland metropolitan regional school districts, Portland State, OHSU and other higher education institutions and a number of corporations who are supportive of this work, will benefit from the outcomes and are willing to provide leadership and assist in identifying support.

Briefly, in undertaking this approach we assert that the most effective way to improve student achievement in STEM is to engage a broad-based set of stakeholders in a collective impact partnership to transform the teaching and learning cultures in whole schools. The goal of the partnership is to build pathways for students to matriculate through K-12 schools on a college and career readiness trajectory. The collective impact partnership should include long-term and sustainable participation by the school district's administrative leadership, higher education STEM and school of education faculty, local businesses, community groups and informal STEM education providers.

Patterned after similar work in other states, the regionally located STEM Education Centers would support this transformation initiative. The STEM Centers would serve as research and development hubs having the capacity to provide centralized teacher professional development and partnership development programming. The STEM Center would be the location for compiling improvement research data and generating and disseminating reports and publications from the work of the networked improvement communities. The Center would also provide regional student, teacher and administrator programming for targeted investments in STEM education (science fair competitions, summer and after school enrichment programming, K-12 teacher development workshops, principal and administrator workshops).

The regionally based STEM Education Centers would in turn be networked through the governor's office to establish a statewide STEM education initiative. A governor appointed STEM Education Investment Board would oversee the function and productivity of the statewide STEM education initiative.

These are two examples of how Portland State is working in collaboration with a number of community partners to address the important issues of education from Cradle to Career. We believe that the approach we are taking in both cases will lead to systemic and lasting change and improvement in student success and that the ESEA should support this kind of activity – through supporting continuing improvement in teacher education and the role of Universities in working with school districts and other community partners on these important issues.