



Beth Unverzagt, Director  
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We are in favor of HB 3511

Today at OMSI (Oregon Museum of Science and Industry) Informal Science programs from around Oregon are gathering to discuss the state of STEM education in Oregon. A statewide survey was just completed and it is clear that we have a missed opportunity. With our testimony we have included the first report on STEM beyond school hours in Oregon.

We all know STEM Education is critical to student success. Nearly 80% of future careers will require some STEM skills. A stimulating STEM education is essential for developing the basic analytical, problem-solving and critical thinking skills central to academic achievement and workforce readiness in the 21st century.

**Schools can't tackle this issue by themselves.**

Children spend less than 20% of their waking hours in school. Afterschool programs offer both additional time and the opportunity to diversify the ways that students experience STEM learning.

**Afterschool programs complement and supplement school-day learning** and are well positioned to engage and motivate participants. By offering innovative hands-on, project-based learning, STEM fields come alive for youth.

**High-quality STEM afterschool programs produce positive outcomes:**

- Improved attitudes toward STEM fields and careers
- Increased STEM capacities and skills
- Higher likelihood of graduation and pursuing a STEM career

In addition, a growing body of national research establishes lack of access to expanded learning opportunities in afterschool and in the summer is as a contributing factor to the "achievement gap" between low and high-income students.

This research tells us that **roughly two-thirds of the ninth-grade gaps between lower and higher income youth can be attributed to unequal access to afterschool and summer learning opportunities during the elementary school years** (Alexander et al. 2007).

For example, a study by [Tai et al.](#) found that students (with average academic achievement) who expressed an interest in pursuing STEM careers by 8<sup>th</sup> grade were more likely to follow through and choose STEM careers than academically high-performing students of the same age who showed no interest in such careers. [Wai et al.](#) found that students who had a higher dosage of STEM experiences through additional classes and out-of-school programs such as afterschool consistently performed better than those who had fewer such opportunities.

These research studies reflect the anecdotes that are seen in the science and technology communities. Many Nobel Prize winners and other notable scientists would attribute their interest in science to their experiences outside of school.

We ask for your support for HB 3511.

### Expanded Learning Opportunities

Expanded learning opportunities are evidence-based learning opportunities that complement and build linkages between in-school and out-of school programs by employing hands-on, experiential activities which are culturally relevant and responsive to students' needs and communities served.

Five key components that define expanded learning opportunities ELO's :

- ELO's are offered through strong **intentional partnerships** between schools and afterschool/community-based organizations during before and after school hours, summer, and intersession-learning programs. They focus on developing the academic, social, emotional and physical needs and interests of students through hands-on, engaging learning experiences in afterschool programs, and over school vacations and summer breaks.
- ELO's should be **student centered**, results driven, include community partners, and complement but not replicate learning activities in the regular school day / year. An expanded learning opportunity is designed to improve student outcomes around academic performance, grades, attendance, and student behaviors (task persistence, work habits, pro-social behaviors).
- ELO's actively **engage the families** of the student population in the learning of their child; using a shared responsibility model. Expanded learning opportunities are committed to creating meaningful ways in which families are committed to actively supporting their children's learning and development.
- ELO's are **targeted**, cost **effective**, **affordable** and **scalable** strategies across diverse geographical settings.

First and foremost, you can adopt progressive policies designed to support afterschool and summer learning programs, providing the opportunity for high-need students to make academic gains. Oregon has adopted an ambitious vision for its students to make academic gains, highlighting the state's commitment to inquiry, achievement, and success. Providing STEM activities – Beyond the Bell is the best next step for Oregon children and youth.

Sincerely,

Beth A. Unverzagt  
Director, Oregon Afterschool Network – OregonASK  
Beth.unverzagt@oregonask.org  
503-551-5488