STEM Beyond School
November 2018

Grant Recipient: Oregon State University Extension Service
Grant Amount: $1.2 Million for current biennium (for 2 program years)

Purpose:

To expand STEM opportunities and student STEM interest, motivation and enthusiasm in STEM-related activities and careers among historically-underserved students in grades 3-8 by supporting high-quality out-of-school STEM programming, professional development and a statewide network for community-based out-of-school-time providers.

The two primary goals of the grant are:

Goal 1 – To improve STEM learning and foster STEM identity for 3rd-8th grade underserved youth throughout Oregon. Target student population is 70% or more of youth in poverty, students of color, English Language Learners, and/or students with disabilities. This implements STEM Education Plan Goal #1 Outcome to expand participant hours in high-quality after-school STEM programs by 2020, esp. for historically underserved and underrepresented students.

Goal 2 – To build capacity of SBS programs to provide high-quality STEM programming long-term. SBS supports a networked learning community of STEM providers and organizations focused on improving out-of-school STEM learning opportunities for underserved students, which includes targeted and responsive Professional Development**;** a peer-driven and peer-led learning community in a statewide Community of Practice; and flexible programming designed to meet community needs and student interests so that students identify with STEM and have ownership.

STEM Beyond School also aligns to STEM Education Plan goals 2, 3, and 4: 2- Ensure equitable opportunities and access for every student to become part of an inclusive innovation economy; 3 – Continuously improve the effectiveness, support and the number of formal and informal P-20 STEM educators; and 4- Create sustainable and supportive conditions to achieve STEM outcomes.

Specifically, the outcomes of the grant are to:

- Increase or maintain student STEM identity and motivation resilience in STEM-related activities.
- Ensure that students have opportunities to develop a mindset and confidence to envision their future within STEM careers.
- Increase opportunities for students to engage in interactive student-centered, applied learning.

- Increase out-of-school STEM programming to historically underserved student populations (grades 3-8) in science, engineering, and mathematics.
- Develop a statewide network of out-of-school providers to disseminate and implement effective practices, ideas and resources for STEM education.
- Develop baseline data elements to inform size, scope, quality and student outcomes of out-of-school STEM-aligned activities
- Increase opportunities for career-connected learning to ensure students see and believe they have a pathway for achieving a high school diploma and post-high school careers related to STEM.

By the Numbers (17-18 School Year)

- Number of students reached: 907 statewide during this program year
- 87% of surveyed students met one or more criteria for underserved/disadvantaged
- Number of STEM program hours OFFERED: 3,788
- Total hours attained by participating students in grades 3-8: 45,786
- Total Professional Development hours attained by site educators: 1,174

Unforeseen Benefits of the Grant

The STEM Beyond School project was selected as one of only 10 Oregon State University Outreach and Engagement Awards for Excellence in 2018. The Division of University Outreach and Engagement recognizes outstanding projects that significantly advance the mission of outreach and engagement across the university and throughout Oregon. Awards were presented at the Vice Provost Awards for Excellence event on May 14, 2018 at the OSU Memorial Union Ballroom.

Overarching Impact

- Youth who entered the program with an already strong science interest and identity maintained their strong interest and identity, while youth who entered with a lower rating demonstrated significant increases in identity-related outcomes across all six measures.

- Individual program quality is described by the evaluation report as "diverse, engaging and highly interactive" (p.2) with most programs engaging students in two or more NGSS practices and the majority of programs adopting two of the 4 Core Programming Practices: Students as Do'ers & Designers and Youth Interests Drive Programming. Programs involved in the SBS project provided a wide range of opportunities for youth to engage in interactive, student-centered, applied learning, particularly in the Math and Science/Engineering content that is aligned to NGSS practices.

Contact

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