

impact

University of Idaho Extension programs that are making a difference in Idaho.

Twenty-five mobile makerspaces expand access to hands-on STEM education

AT A GLANCE

Idaho Think Make Create (TMC) labs provide hands-on STEM education and resources to over 25,000 youth in less than two years.

The Situation

In 2018, the Idaho Out-of-School Network (ION) conducted a survey and found out why many afterschool programs don't provide science, technology, engineering and mathematics (STEM) education. Afterschool programs often lacked the following:

- Funding for STEM curriculum
- Qualified staff
- Time for a STEM program
- Appropriate STEM curriculum

Our Response

In the spring of 2021, University of Idaho Extension 4-H Youth Development joined ION and other partners (Idaho STEM Action Center, Idaho Division of Career and Technical Education, Gizmo-CdA and the Idaho State Department of Education) to launch a statewide mobile-makerspace program expanding access and providing STEM education resources to rural and unserved audiences across Idaho.

Over the course of 14 months, 25 labs were built and delivered to hosts to use for low-tech makerspace programming. Program funds are supporting hands-on STEM supplies and curriculum, professional



Think Make Create Lab educator training participants in Salmon outside of Lab #12.

development for adult educators, small grants to TMC hosts to support use of the mobile makerspaces, in addition to hiring TMC program staff.

Once a lab is deployed, the leadership team works with hosts to build and develop local, community partnerships that will help sustain the mobile makerspace program and enrich the youth's STEM learning.

Training is provided to any TMC user and host site for staff professional development on how to deliver quality STEM hands-on education, using content standards and engaging in the Idaho TMC labs statewide network.

Regular communication is scheduled and open to anyone within the TMC network. Monthly TMC Shop Talks are scheduled to promote TMC user engagement,

impact University of Idaho Extension

share current statewide program updates and opportunities, highlight TMC programs, as well as a networking opportunity.

A monthly newsletter, The Makerspace Playbook, co-authored with three other TMC states (South Dakota, Nebraska and Louisiana) is also distributed to over 4,500 readers. Each issue highlights a TMC program, shares trailer maintenance tips, recognizes sponsors or provides ideas on incorporating career awareness. It also includes STEM activities and ideas on how to put educational program ideas into practice, such as how to reach diverse audiences.

Program Outcomes

Within less than two years, the program has reached over 25,000 youth and 1,500 adults. Over 250 educators have participated in TMC training. Think Make Create Labs program has reached 40 out of 44 counties in Idaho. With over 1,300 sessions reported by TMC users, on average, youth are spending at least five hours per session on quality, hands-on STEM activities.

Through a variety of donors, grants and in-kind dollars, over \$2 million dollars has been invested into the Idaho Think Make Create (TMC) labs.

Stocked within each trailer are over 80 activities, which include lessons and low-tech materials, ready for immediate use in youth programs. All lessons are aligned with Idaho Science Content Standards.

TMC professional development qualifies staff to use these resources when providing hands-on STEM education. Training participants were evaluated on their knowledge and confidence, and they showed an increased understanding of how to provide quality STEM learning experiences. Educators, regardless of in-school or out-of-school roles, are helping to build

consistent pedagogy and are raising the quality of learning with youth, therefore are more intentional in their STEM education delivery.

The Future

Current efforts are underway to evaluate youth impact more thoroughly, particularly around STEM identity and skills. By participating in hands-on STEM education youth are building skill sets, along with an understanding and appreciation for science, technology, engineering and mathematics. This not only helps build innovation but prepares youth for life's future challenges.

Cooperators and Co-Sponsors

- University of Idaho Extension 4-H Youth Development; UI Extension offices in following counties: Bear Lake, Bingham, Boundary, Coeur d'Alene Reservation, Lemhi, Nez Perce Reservation
- Idaho Out-of-School Network; Idaho STEM Action Center; Idaho Division of Career and Technical Education; Gizmo-CdA; Idaho State Department of Education
- Micron; Battelle Energy Alliance; Optum Health; STCU (Spokane Teachers Credit Union); Sparklight; Trailers Plus
- Boys and Girls Clubs (Ada County, Lewis-Clark Valley, Magic Valley, Western Treasure Valley); Treasure Valley Family YMCA; United Way (Idaho Falls and Bonneville counties, southeastern Idaho); Libraries (east Bonner & Gooding counties)
- School districts (Kellogg, Mountain View, Nampa, One Stone High School); Children's Museum of Magic Valley

FOR MORE INFORMATION

Claire Sponseller, Area Extension Educator • University of Idaho Extension 4-H Youth Development • 208-364-4596 • csponseller@uidaho.edu

Wendy Wilson, STEM Education & Communication Coordinator • Idaho Out-of-School Network • 208-947-4275 • wwilson@jannus.org

10-23-csponseller-mobile-makerspaces • 3/23