

Making Tualatin America's Best Community

BY JERIANNE THOMPSON, TUALATIN PUBLIC LIBRARY MANAGER



The City of Tualatin is partnering with several community agencies to create a local pathway out of poverty through education

and skills training. After being named one of eight national finalists, Tualatin's America's Best Community team has spent the summer working on phase 1 of a Community Revitalization Plan: developing a mobile makerspace.

What is a makerspace?

Makerspaces are places where people can make, invent, and learn. They are creative, "do it yourself" spaces providing tools and equipment. The Tualatin mobile makerspace will provide hands-on learning experiences for youth, to spark an interest in STEAM (science, technology, engineering, arts, math) subjects. You can think of it as a modern-day bookmobile, bringing information directly to kids, but with technology.

Using the \$100,000 award received in April, the ABC team has purchased a cargo trailer and maker equipment. Design work is underway to convert the trailer into a makerspace. It will roll out to Tualatin's elementary schools this fall, loaded with equipment such as 3D printers, vinyl cutters, robotic kits, and circuitry sets.

Why is this important?

About 28 percent of Tualatin's families earn less than a living wage. Children and teens in these families often have reduced access to technology, which keeps them from being on a level playing field with their peers. For school-age children in lower income families, this digital access is important to ensure equitable access to learning opportunities.

The recent study "Opportunity for All? Technology and Learning in Low-Income Families" shows that children who only have limited internet access, such as through a smartphone, are less likely to go online to explore their interests. Family economic hardships also limit children's hands-on access to science and technology toys and gadgets, further inhibiting their ability to discover.

Hispanic youth often have a lower level of access to science information in childhood. Hispanic high school students are less likely than white students to take advanced science courses, according to the National Science Foundation; these factors have led to Hispanics being vastly underrepresented in STEM-field careers, research by the Pew Research Center suggests.

These families face the biggest challenges, and nearly one-fifth of Tualatin's population is Hispanic. Half of Bridgeport Elementary and a quarter of Tualatin Elementary's students are English language learners. Statewide, about two-thirds of Hispanic children live in low income households.

How does a makerspace increase equity?

Makerspaces allow these students an opportunity to catch up to their peers because they are inclusive environments that encourage tinkering without fear of failure. Expanding access to learning opportunities for all is one of the great challenges of our time. I believe this is one of the most important roles for public libraries in the modern age.

It's why Tualatin Public Library has been building programs and services to ensure that Tualatin's youth have equal access to technology

and STEAM learning, no matter what their home situation. Tualatin's makerspace helps further the Library's mission to empower and enrich our community through learning, discovery and interaction.

For phase one of the Tualatin ABC initiative, Tigard-Tualatin School District teachers have developed lesson plans that will give students in grades 2-5 a chance to collaboratively think critically, design solutions, and build things while learning about earth, life, and physical sciences. Incorporating arts brings an aspect of creativity and innovation. These lessons are aligned with the Next Generation Science Standards, enabling Tualatin teachers to expand in-class active learning experiences. Later phases of the plan will expand to middle and high school levels.

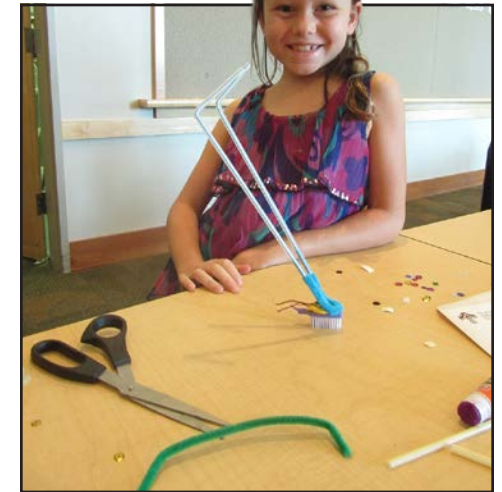
How does this help our local workforce?

Studies suggest that scientists and inventors often developed an interest in science because of childhood play experiences that involved construction and experimentation. The active learning strategies that will be utilized in the classroom lessons will give all Tualatin

students a chance to build that same foundation. Another critical element of this approach is that it encourages peer-to-peer learning as well, which is a key factor businesses look for in new employees.

Being mobile maximizes the makerspace's reach, particularly in providing access to low income and English-learning youth, bringing making opportunities to the broader community through the Tualatin Library, at community events, or in neighborhoods.

Income inequality limits the upward mobility of people. When children have limited access



to STEAM, they grow up less likely to graduate or pursue advanced education, have fewer employment opportunities, and earn lower incomes. By introducing design thinking and inspiring imagination through experienced-based learning, the Tualatin Mobile Makerspace can give Tualatin's youth a path out of poverty and a possibility of well-paid career with local advanced manufacturers.

The Tualatin ABC team believes this initiative will increase future employment opportunities for Tualatin's youth, especially among the economically disadvantaged. Encouraging an interest in STEAM will increase the likelihood of students taking optional science and technology-related classes as they proceed through school and will encourage more students to pursue careers in STEM fields.

As Mayor Lou Ogden said during Tualatin's ABC semi-finals presentation: The curiosity of today's child is tomorrow's prosperity. Though great strides have been made more help is needed, including donations (financial and equipment) and volunteers. Make your mark with the Tualatin ABC initiative: www.tualatinabc.org.



Jerianne Thompson is Tualatin Public Library Manager and a Tualatin resident. Find out more about Library activities at www.tualatinoregon.gov/library.



Children make brushbots, combining electronics and a toothbrush to make small robots, and race them at an after-school program at Tualatin Public Library.