Funding The Hub

We are the Mid-Valley STEM-CTE Hub. Through collective leadership, resources are leveraged to provide equitable access to meaningful STEAM and CTE opportunities to students in Linn and Benton Counties.

Mid-Valley
STEM-CTE HUB

We take many approaches to cover all of the bases. Examples of this include the newly launched Mobile Makerspace, Educator's Lending Library, and scholarship opportunities focused on direct outreach to educators and students. Additionally, our career-connected learning opportunities, the Maker Innovation Learning Lab, and digital media content are other innovative ways the Hub connects industry with educators and students.

The impactful work facilitated by the Hub to increase access to quality career-connected learning opportunities as well as STEAM and CTE education relies on grant funding and partner support.

Building sustaining support through charitable foundations, state and federal sources, as well as individual and partner contributions helps to ensure the delivery of collaborative, innovative, and equitable programs for youth.

Consider making a contribution through this link by December 31, 2023, to grow and sustain our programs.

*Science, Technology, Engineering, Arts, and Math
** Career-Technical Education

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The MILL

The Mid-Valley STEM-CTE Hub's Maker Innovation Learning Lab, aka the MILL, is a collective space for innovation and learning on the Linn-Benton Community College's Albany campus where community members, LBCC students, and youth (K-12 and beyond) can gain hands-on experience with STEAM tools, resources, and equipment.

The MILL provides a safe, creative, equitable, and accessible space to support collaboration, and hands-on experiential learning to the LBCC community and the greater Linn and Benton two-county region. Youth at the MILL can complete small-batch projects that include any of the following:

- 3D Modeling
- Laser Engraving
- Web Design
- CNC Milling
- Graphic Design
- Prototyping
- Sewing
- Logo Design
- Embroidery
- Circuitry
- And more!

Skills gained at the MILL help:

- Prepare students and participants for well-paying careers and successful futures;
- Develop enriching hobbies;
- Build essential interpersonal and employability skills.

How can you help?

The MILL recently launched and needs support to leverage momentum through the following priorities:

- Outfitting the space with the equipment, supplies, and furnishings to create flexible work spaces for all users. Glance at our **wishlist** or consider an unrestricted gift to meet the most pressing needs.
- Expanding the Hub's rolodex of resources and expand the array of programs at the MILL by connecting guest speakers and experts in making of all kinds.

Interested in exploring the space? Come see us! Schedule a tour of the MILL located on the Linn-Benton Community College's Albany Campus, Takena Hall 229.

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Computer Science & Digital Literacy

Our Computer Science and Digital Literacy programs help foster an inclusive computing culture in Linn and Benton Counties. Every student in our region deserves valuable career-connected learning opportunities provided through computer science and digital literacy programs.

Computer Science (CS) and Digital Literacy (DL) skills are critical in creating the problem solvers of the future. We want Oregon graduates to be equipped with the knowledge and skills to thrive in their career paths as all industries are incorporating more and more computer-aided elements. We also believe it is important to support educators in their abilities to connect with their students as they learn how to apply their developing skills.

Concepts and curriculum associated with this initiative include both in and out-of-the-classroom experiences with:

- Computing systems
- Cyber-security
- Data and analysis
- Algorithms and programming
- Software development
- Coding
- And much more.

Our programming focuses on topics that will impact the future success of our students in their post-K-12 careers.

Through collaborative partnerships with educators, students in our region have access to equitable and enriching computer science opportunities.

MVSCH is proud to collaborate with the Oregon Department of Education to expand statewide, equity-centered Computer Science and Digital Literacy learning opportunities.

Goals for our region

- Increase dual credit opportunities.
- Increase CS/DL integrations.
- Increase the number of K-8 school teachers who integrate CS/DL.
- District adoption and implementation of K-12 standards.
- Increase centralized CS/DL opportunities.
- Establish a CS/DL community of practice in rural regions.
- Highlight best practices forscaling and replication in rural areas.

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Mobile Makerspace

For an innovative approach to hands-on learning and developing maker mindsets, the MVSCH has launched our Mobile Makerspace and works collaboratively with community-based organizations to implement creative programs that spark interest in STEAM from cradle to career.

Our Mobile Makerspace brings STEAM supplies, tools, and technology to provide underserved students, communities, and schools in Linn and Benton counties with hands-on building, tinkering, and learning experiences that are oftentimes otherwise unavailable. These learning opportunities can also play a pivotal role in the social and emotional development of youth through interactive project work.

Engaging youth in maker activities has a host of benefits:

- Students with a maker mindset possess the ability to make deep connections, take creative risks, think divergently, problem-solve, and have more engaged hands-on learning;
- Typically students find hand-on activities more enjoyable and satisfying;
- Maker activities encourage greater understanding of STEAM concepts and often students rate their abilities higher afterward;
- Maker activities help develop lifelong learning skills.

Some of the items and ideas students may be exposed to when interacting with the Mobile Makerspace include:

- Scrappy Circuits
- LED Buildings
- Engineering Straw Rockets
- Paper Airplanes & Hoop Gliders
- Tessellations
- Hackeronics (aka Take Apart Workshop)
- Circuit Building
- DIY Fidget Spinner
- Robotics
- Cardboard Boats

...and myriad other STEAM learning activities!

What is a Maker Mindset?*

"The idea of the maker mindset is that students develop creative confidence and a sense of agency — that they have the ability to creatively solve problems on their own and with their peers. Maker-centered learning teaches life skills — critical thinking, collaboration, and communication."

*(Source: Stephanie Santoso, Director of Strategic Initiatives at Citizen School).

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Career-Connected Learning

Career-connected learning (CCL) is a continuum of experiences within a framework of career awareness, exploration, preparation, and training that are both learner-relevant and directly linked to professional and industry-based expectations.

Intentional CCL partnerships make a significant impact. Everyone benefits when:

Young people are able to leave school workforce ready;

- Students have what they need to be successful in their careers;
- Schools make progress against the metrics they care about such as graduation rates;
- Employers build stronger talent pipelines;
- Community economies are strengthened.

With a generation hungry for change - and an economy that is experiencing historic staffing shortages, this is the moment to rethink an education that works for everyone.

To address these gaps, MVSCH works cradle to career to provide youth with hands-on STEAM and CTE that can inspire them to embark on a pathway to well-paying positions and contribute to the future prosperity of the community.

Over 45% of families express interest in options for their children beyond a 4-year degree, 2-year degree, or vocational training, and the majority of Gen Z students want greater exposure to work experience and professional mentorship.

Our CCL suite of programs is a grassroots initiative, created in partnership between:

- PreK-12 educators
- Business leaders
- Linn-Benton Community College
- Local workforce development boards
- Students and families
- Community-based and culturally-specific organizations.

The Hub's CCL portfolio provides students with the opportunity to:

- Learn and practice Essential Employability Skills (EES) which are the knowledge, developed habits, and character traits necessary to increase their career potential and success;
- Participate in job shadows, industry tours, and internship opportunities.

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With your support, this critical work can expand to more constituents, students, educators, businesses, and communities in Linn and Benton counties.

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Scholarships

Through charitable contributions to the Mid-Valley STEM-CTE Fund through the LBCC Foundation, the Hub sponsors CTE Signing Day scholarships to LBCC students in career-technical education programs every year.

MVSCH believes in the prosperity of the community. With a goal to make access to prosperity equitable to Mid-Valley students, MVSCH offers financial assistance in the form of scholarships to students who demonstrate aptitude and need that are enrolled in career-technical education programs (CTE).

The Hub's current scholarship priority is for CTE students because they are choosing fast-track programs that will get them expedited placements into high-wage, high-demand careers that benefit the students, and the community.

Programs include many options such as:

- Mechatronics
- Automotive Technology
- Accounting Technology
- Cyber Security
- Welding and Fabrication Technology
- and more!

What is CTE?

Career-Technical Education programs are brief (usually 1-2 year) programs that will train students in specific high-earning career fields.

CTE programs are pipelines to getting students caeer-ready and into the workforce. They align with the vision of the Mid-Valley STEM-CTE Hub which is driven by industry and student needs and our focus on equity. CTE scholarships help remove the barriers for underserved students and narrow the achievement gap to create a culture of equitable prosperity in the Mid-Valley.

Creating financial assistance for the pursuit of STEM post-secondary education and training pathways is a priority strategy from the Oregon STEM Education Plan developed by the Oregon STEM Investment Council and is embraced by our Mid-Valley region.

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You can be a part of helping 'Real Futures Start at LBCC' by making a charitable contribution to the Hub.

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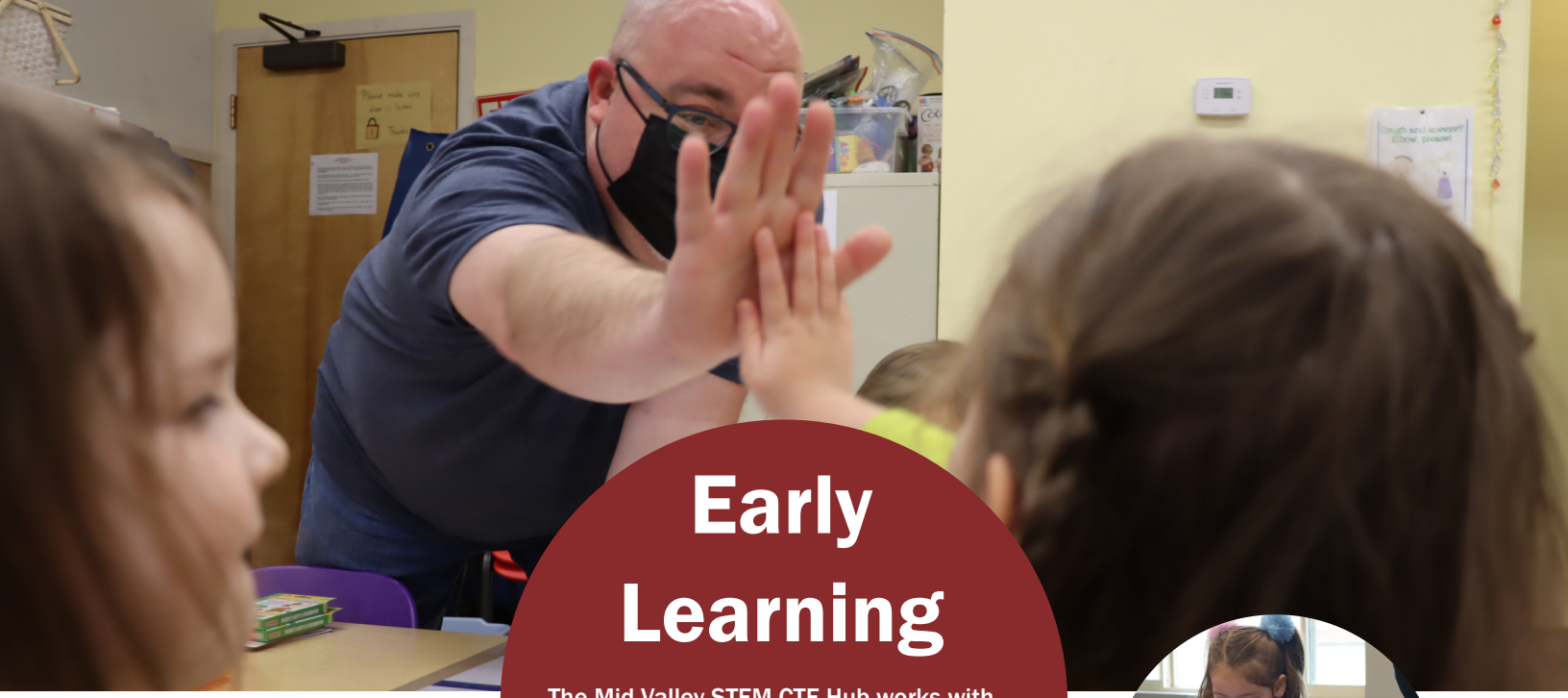

Early Learning

The Mid-Valley STEM-CTE Hub works with partners in early childhood education in Linn, Benton, and Lincoln Counties to ensure equitable opportunities and access for every student to become a part of an inclusive innovation economy.

Young children acquire STEAM skills through exploration, inquiry, and active engagement. Early STEAM skills lay the foundation for later success in school and ensure all children are provided with tools and skillsets to thrive to achieve equitable and innovative early STEAM educational systems, we partner with early childhood education teachers to create culturally-relevant programming for the classrooms they serve so they can build a fun and inviting learning culture around computer science and math for their young learners.

"MVSCH's Program Coordinator & early learning lead, Chris Singer, is an EXCELLENT instructor who conveys information clearly and follows-up with further information and resources. He is organized and entertaining and is knowledgeable and passionate about STEAM."

--- Lynn Thompson, A Child's Place

Actions to elevate early learning systems in our region include:

- Raising the profile and understanding of Early Childhood STEAM through advocacy and messaging.
- Partnering with Early Learning Hubs, Child Care Resource and Referral agencies, Early Learning Higher Education Partners, and Oregon Association for the Education of Young Children to provide professional development and resources to early learning educators, providers, parents, and other preschool partners.
- Providing STEAM-related training support to early childhood educators, providers, and parents.
- Making high-quality early STEAM resources and implementation guidance available to practitioners, including childcare providers and educators.
- Providing resources and support to parents and families for early STEAM learning.
- Making lessons developed available through websites, Oregon Online Learning, and other open source locally available tools.

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Educators' Lending Library

Our Educators' Lending Library is a resource providing hands-on learning tools to educators so that students can cement their theoretical knowledge through experiential learning opportunities.

In today's world, students need more than just pencils and paper to succeed in school and beyond. The Mid-Valley STEM-CTE Hub's Educators' Lending Library (ELL) is a free resource for all educators in Linn and Benton counties that offers STEAM teaching tools and classroom kits that educators may otherwise not have access to.

Some items that are available for check-out in the Educators' Lending Library include:

- Makey Makey classroom sets
- iFixit toolkits
- BBC Micro:Bit controllers
- SnapCircuit kits
- Tablets and iPads
- Edison robots
- Microscopes
- SumBlox
- Keva planks
- Strawbees
- Chromebooks
- 3D printing pens
- and more!

The Mid-Valley STEM-CTE Hub's ELL equips our educators across the region with ready-to-use classroom kits, hands-on resources for teaching engaging lessons in science, technology, engineering, arts, and math. The materials are easy to reserve and can be conveniently delivered via courier to any public library in our two-county region for quick pickup and dropoff. We have STEAM resources for all grades, PreK-20 - and we're adding more all the time!

"We use the Educators' Lending Library for STEAM Fridays. I love that I can keep the kits for a long enough period of time that I'm able to explore and learn how to use the items before introducing the students to the kits."

-Educator at Peaceful Learning Village

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Closing the Gap Podcast

Closing the Gap is a podcast featuring conversations with women and gender diverse people working in STEAM and skilled trades. The show provides students, educators, and professionals a space to find community and identity in these fields.

Women and gender minorities make up just over 25% of the workforce in science, technology, engineering, and math (STEM), and men vastly outnumber women majoring in most STEM fields in college. The gender gaps are particularly high in some of the fastest-growing and highest-paid jobs of the future, like computer science and engineering. In trades occupations, this gap is even larger with women only making up just 9% of the workforce in construction and other skilled trades occupations. And those numbers are much lower for women and gender-diverse people of color.

Closing the Gap seeks to diversify the talent pipeline for these high-wage, high-demand careers. Representation is an important element in inspiring and empowering students to pursue careers such as those in STEM and the skilled trades that will lead to economic prosperity and help eliminate generational poverty. Closing the Gap is building a diverse platform for voices to represent all students in Linn and Benton counties.

You can find the show on YouTube, Spotify, and on our website

https://www.midvalleystem.org/closing-the-gap/

Closing the Gap offers mentorship for local students who are interested in learning about women and gender-diverse people working in STEAM and skilled trades as well as hands-on opportunities to learn by participating in the production of the podcast.

Past guests of Closing the Gap include:

- Alaina Percival - CEO and co-founder of Women Who Code
- Dr. Ramycia McGhee - educator at LBCC and Albany City Council-person
- Deb Mumm-Hill - Executive Director of Oregon STEM
- Jennifer Wong-Ala - Oceanography graduate student at OSU
- Dr. Lisa Avery - President of Linn-Benton Community College
- Marley Parker - Science Communicator
- And many more!

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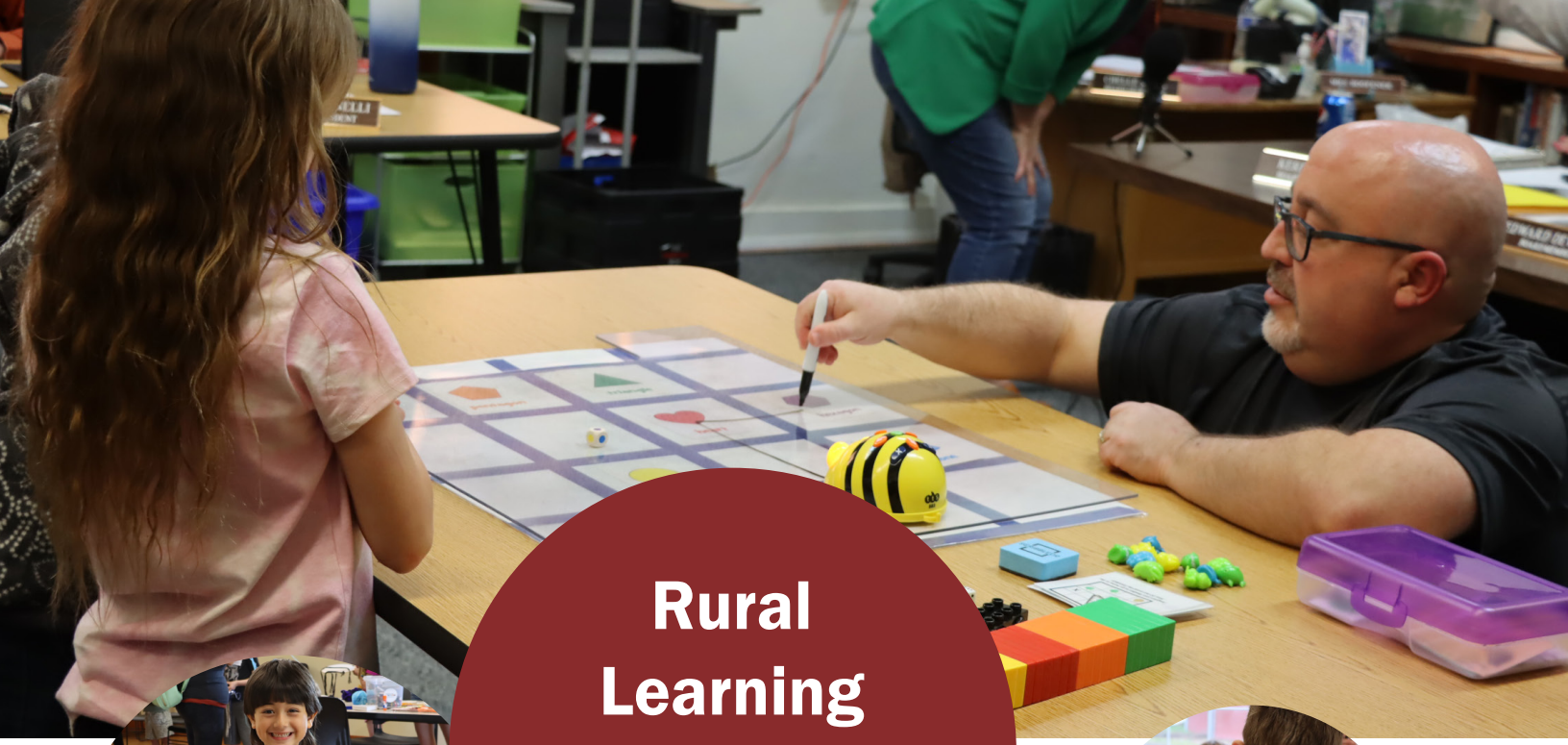

Rural Learning

The Mid-Valley STEM-CTE Hub's rural learning initiative focuses on integrating STEAM into daily classroom curriculum in culturally-specific and relevant ways.

STEAM integration with rural schools provides students with an opportunity to learn and understand real-world problems by applying knowledge and skills from multiple disciplines. This approach is designed to help students develop essential skills such ascritical thinking, problem-solving, along with social-emotional and collaboration skills.

Example STEAM tools for teaching and learning we like to use include:

- Dominos
- LEGO
- Hot Wheels
- KEVA Planks
- Makey Makey
- Sumblox
- Beebots
- and more!

Here are some ways STEAM integration can be implemented in classrooms:

- Incorporating science experiments and investigations into classroom lessons that are aligned with the core curriculum;
- Using technology tools such as tablets, computers, and interactive whiteboards to engage students in learning;
- Encouraging students to explore engineering concepts by designing and building prototypes, such as simple machines, bridges, or towers;
- Integrating the arts into the curriculum, such as music, dance, and visual arts;
- Incorporating mathematics into everyday classroom activities, such as measuring and counting, as well as through more advanced problem-solving activities;

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