

Rural Community Impact through a Near-Peer STEM Fellows Model within the Wyoming Enrichment Network

Making Connections Strategy 4 A Near-Peer or Industry Mentorship Model to Support Transitions to STEM Academic and Career Opportunities

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In this case study, we describe the partnership between Wyoming's statewide network, the Wyoming Enrichment Network (the Network), and its program partners supporting the development and implementation of a near-peer STEM (Science, Technology, Engineering, and Math) Fellowship model. Through this Fellows model, leaders within the Wyoming Enrichment Network supported youth development in communities across the state through professional learning of near-peer mentors, both to cultivate their own positive STEM identity and to grow their skills as STEM role models. The intention was to provide strategies for these near-peer mentors to see and develop their own STEM identity, and in turn, help to grow opportunities for youth in rural communities to see STEM all around them.



Image: 2024 STEM Fellows reflection, participants create a metaphor of their learning with Legos. Credit: Courtesy WYEN.

Overall, the goal of the Wyoming Enrichment Network is “to empower the people and organizations who care about young people’s growth so, together, we can make a meaningful difference in the lives of Wyoming youth” (Wyoming Enrichment Network, 2025). Questions that drove the work of the Wyoming Enrichment Network for this project included:

- How can a state network support all youth, particularly those in the smallest or most rural communities, to cultivate and deepen their STEM interests?
- How can a state network create more sustainable solutions for connecting with rural communities and grow STEM pathways for youth who reside there?

Context: Positioning the Wyoming State Network

The Wyoming Enrichment Network was recently rebranded from its former name, The Wyoming Afterschool Alliance, in response to their identified need for making learning more connected and robust across the state. Rooted in a commitment to support young people in finding a sense of belonging and purpose, their mission is as follows:

“We bridge the gap between Wyoming’s Out-of-School programs and the communities they uplift, fueling them with resources, support, and opportunities that inspire lifelong learning, growth, and connection. Our goal is to empower the people and organizations who care about young people’s growth so, together, we can make a meaningful difference in the lives of Wyoming youth” (Wyoming Enrichment Network, 2025).

Michelle Sullivan, Director of the Wyoming Enrichment Network, explained, “in order for young people to thrive, it requires we have support and pathways for them in out-of-school time as well as in school across their development.” Michelle explained that the Wyoming Enrichment Network approaches and enacts their mission in three ways: 1) elevating and providing resources and support for adults to help increase skills and capacities; 2) elevating the value of out-of-school learning and sharing high-quality examples of programming; and 3) cultivating connections in and across communities to support young people as they learn and grow. Michelle elaborated on how they see their role as part of the broader out of school and STEM ecosystem in Wyoming and explained that their strategy is built around “growing a network of youth facing organizations to help communities support young people as they grow and develop. That is really at the heart of our theory of change.”

Problem of Practice: Designing Around a Scarcity Mindset in Rural Communities

Wyoming is a frontier state with a population of just 582,000 people, and so the rural nature of the state is necessarily embedded within their strategy development as a network organization.

Michelle explained a central problem of practice, asking: “What does it take to create pathways and handoffs for young people, specifically in very rural and under-resourced communities where you don’t have the same urban infrastructure available?”

As part of their overall strategy to address this challenge, the Wyoming Enrichment Network has collaborated with the Wyoming State Board of Education, the Department of Education, the University of Wyoming, and the Governor’s Office to shift the public and policy conversations around student-centered learning models that connect learning in school with learning in out-of-school time through what is called “Wyoming’s Future of Learning Collaborative.”

Michelle emphasized that this problem rings especially true when considering how to support rural communities in STEM fields specifically. The school is often the center of a young person’s learning journey in most rural districts. Limitations for rural families include access to internet in the home, hour-plus bus rides, often in treacherous weather, to get to and from school, and fewer opportunities for youth to learn about and explore STEM content in ways that connect to their lived experiences. An additional problem of practice asked, how might we grow the human capacity in STEM in a rural place with sparse resources, or as Michelle described, “a small town with long streets?” Within this context, Michelle asked, “What does it look like to shift the perspective of a

state that has a persistent scarcity mindset to one that is around working together to be more effective at increasing opportunities?”

Theory of Action and Design Rationale

A unique aspect of Wyoming’s education landscape is the very high graduation rate from high school coupled with a low college-going rate – about 85-90% of all students graduate from high school while only about 29% of state residents have a college degree or higher. The Wyoming Enrichment Network used these data points as motivation to “provide resources and support for the college Fellows to see themselves as role models and mentors and also a strategy to get young people thinking more broadly about their own potential.”

Emily Vercoe, Special Programs Associate, elaborated that “there is an abundant network of college-age students in Laramie during the school year because it is home to the state’s only four-year university,” and that the Fellows program capitalizes on this opportunity to develop college mentors before they leave for home in the summer. This strategy allows the Wyoming Enrichment Network to grow skills and expertise among college students who then take these resources into their home communities, increasing capacity for staffing in summer programs.

The Wyoming Enrichment Network’s Fellows can make meaningful connections with youth who share similar lived experiences and interests. As Emily explained, “these connections allow youth to see a college student from a similar background sharing their passion, potential, and interest. And for the college students, it’s a chance for them to reflect on the positive impact they can make on youth in their home communities.” As a former Fellow explained, “my biggest takeaway was how important it is to meet kids where they are, reflect on their knowledge, and build relationships that accommodate those needs and developmental stages.”

Program Implementation: The College STEM Fellows Model

With the goal of strengthening STEM pathways and handoffs in rural communities, the Wyoming Enrichment Network invited undergraduate students from anywhere in the state to join a cohort of



learners as Fellows to work with youth in afterschool and summer learning STEM programs in Wyoming communities. In its third year, this program leverages the period between when college classes end and the start of summer programming for K-12 students to introduce Fellows to positive youth development strategies and STEM concepts. Fellows begin their experience with a one-day hands-on workshop, where they meet one another and explore engaging methods that incorporate science, technology, engineering, and math into informal learning contexts. Fellows then meet virtually once a week to continue their learning and to build connections as they return to their home communities.

Image: Learning about positive youth development has helped the Fellows build strong relationships with the young people in their programs which fuels their engagement in meaningful and relevant STEM activities. Credit: Courtesy The PRACTICE Program.

The Fellowship program includes professional development by different groups with which the Wyoming Enrichment Network partners, including Techbridge Girls, ACRES, and Click2 Engineering. Through this training, the college Fellows learned about how to “inspire and engage youth in meaningful and relevant STEM activities, build relationships, and act as positive role models” (Wyoming Enrichment Network, 2025). The program showed evidence of impact by helping to build leadership skills, STEM skills, and confidence in leading youth development activities.

Building on the success of their 2023 program model, the Wyoming Enrichment Network refined its offerings, using the PEAR Clover Model for positive youth development as guidance. Each cohort informs future STEM Fellows programming. At the end of summer, Fellows reflect on what they learned, what was important, and how they would advise future program design. Consistently, Fellows request additional positive youth development strategies and support. The PEAR Institute's participation has increased because of this interest and their Clover Model, which Fellows find to be an accessible way to enter into positive relationships with young people.

The past two cohorts, Jamaal Williams has actively participated in the design, facilitation, and reflection, thus helping us increase fluency in application and grow the Network's capacity to facilitate youth development supports.

Feedback from the pilot informed the 2024 curriculum, which emphasized hands-on STEM activities to demonstrate STEM's relevance and fun. They also emphasized building relationships with and among Fellows. These components aimed to equip Fellows with the skills to inspire and engage youth in meaningful STEM activities, build relationships, and serve as positive role models. Additionally, they connect with families by asking them to engage in STEM activities at home and share their experiences beyond the Fellows training.

Emily explained that they have been working on and leaning into the near-peer mentorship strategy for some time, and it has really come into focus as one of the core aspects of their overall programming strategy at the Wyoming Enrichment Network level. After connecting with and learning with other state networks, they asked themselves, “What would it take to build bridges that connected students to programs in Wyoming?” While working toward the development of their program, Emily explained that the Wyoming Enrichment Network is continually impressed by college students’ “unique abilities to connect with youth,” elaborating that they “really wanted to learn more about using near-peer networks and connecting young people college students in small communities across the state so that other young people could see what college going could look like, what careers in STEM could look like, what someone that they may have admired is doing right now.”



Image: Fellows gain confidence in facilitating STEM experiences so that they can help the young people in their programs can practice developing an engineering mindset where they have the room to try, fail, and learn from new experiences. Credit: Courtesy The PRACTICE Program.

Program Expansion: High School Fellows Pilot

Two Fellows' positive experiences in one community opened doors to a broader partnership. Their success caught the attention of the school district's 21st Century Community Learning Center coordinator, who invited the Wyoming Enrichment Network to address a persistent challenge at a rural school. The local after-school program struggled with low middle school participation, largely because students saw it as nothing more than a homework help center.

This challenge sparked deeper thinking across the Wyoming Enrichment Network about how relationships and near-peer mentorship could transform after-school programming throughout Wyoming. The team recognized that both high school and middle school programs needed to become "so much more than homework help" and began exploring how near-peer mentorship could drive this transformation. Building on these insights, the Wyoming team expanded their approach. They continued supporting the college Fellowship while launching a high school pilot program that paired older students with middle schoolers. These high school Fellows led STEM minicamps and focused on building meaningful relationships with younger participants, demonstrating how near-peer connections could revitalize after-school programming and increase student engagement.

Fellows as a Strategy for Connection



Image: Jamaal Williams, Assistant Director of Training at PEAR, co-facilitates a reflection session using the emergent learning design structure. Credit: Courtesy WYEN.

Michelle views the Fellowship model as a powerful catalyst for organizational growth and community engagement. "In some ways the Fellows are an onramp to make connections," she explained. "We have discovered that a lot of times the partnerships emerge and develop because of the opportunities the Fellows help us create." This approach has enabled the Wyoming Enrichment Network to reach new communities across Wyoming while gaining deeper insights into their specific needs.

Beyond leveraging resources from national partners, the Wyoming Enrichment Network employs what Michelle calls an "emergent learning design structure" to develop Fellowship programming. This framework centers on empathy and collaboration: "a design thinking process where you're putting empathy at the beginning and co-creating with Fellows. You're coming in with a set of hypotheses and consistently checking in on those."

Rather than operating from fixed assumptions, the Wyoming Enrichment Network embraces continuous adaptation. "We often create things with a set of assumptions about what is going to work, so I think we've been really focused on an action and reflection model," Michelle noted. This iterative approach allows the team to test ideas, gather feedback, and refine methods based on real experiences.

The Wyoming Enrichment Network actively positions Fellows as partners in program development, inviting current participants to co-create content while bringing alumni back to facilitate discussions and share insights. As Emily explained, "Fellows share their expertise, helping inform us about what works for them, what they need, what they wish they had, and how we could better support them." This collaborative structure, grounded in what Michelle describes as a "structure and habit of action and reflection," ensures the program remains responsive to student needs. Emily emphasized that this reflective practice helps the Wyoming Enrichment Network "remain relevant, to be sure college students have what they need to be effective and then designing structure to help facilitate those needs and also build a sense of community and connection among the cohort so that they're learning together."

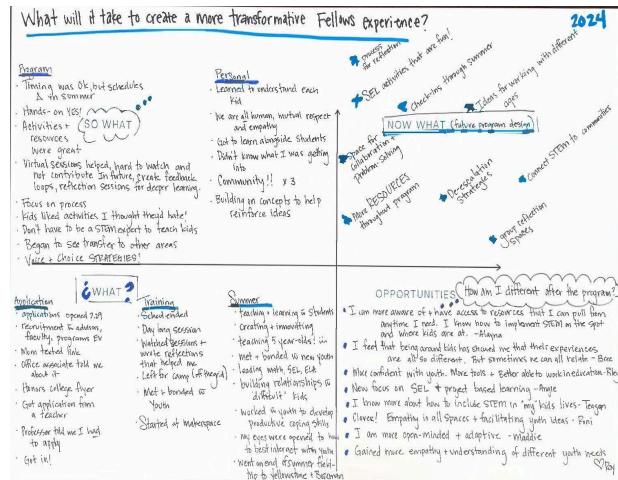


Image: Emergent Learning Map from 2024 - this process guides planning and program design for participants. Credit: Wyoming Enrichment Network.

Key Outcomes

Key outcomes of the Fellows program included the opportunity to grow participation across the state. They have had 31 college-aged near-peer educators reaching 1,190 youth across three cohorts. Participants have hailed from and nine of the 23 counties across Wyoming. All individual Fellows receive compensation for their time. The Wyoming Enrichment Network recently learned that by offering \$600 for their participation, an amount that was strategically determined, participants did not need to report that income to the IRS. To support the programming, the Wyoming Enrichment Network also provided \$500 for Fellows to use when designing and delivering programs. The Wyoming Enrichment Network found that when Fellows came into programs with resources and the ability to buy necessary materials to support their work, that made the work of the Fellows easier to integrate within the programs they were supporting and took some of the pressure off implicit power dynamics when Fellows entered a new community.

The Wyoming Enrichment Network found that several Fellows reported shifting their life or career path after participating in the Fellows program. These participants decided to opt into education or social work as a career pathway based on their mentoring experiences in the Fellows program. One 2024 Fellow explained, "I didn't know I'd love working with the youth that I get to see every day. This summer has really changed my perspective on what I hope to do in the future." Additionally, another participant described an impact of the program on their identity – "Forming personal connections in stem and being able to say, 'wow she looks like me, I bet I could do that too.' For me, I think this could have made such a big difference."

Below, see an overview of the implementation timeline for the project with key milestones:

Spring 2024	Summer 2024	Fall 2024	Winter 2025	Spring 2025
Fellows build learning community through PD and prepare for summer jobs; training is hybrid.	Fellows work in various communities across the state. Fellows reflect on experiences and guide development of next year's program; *key* to success of strategy	Pilot program for high school students working with middle school students; program is iteratively developed	High school program implemented; Recruitment for 2025 cohort begins	New cohort of fellows begins and secures placements; alumni provide content, context, and expertise

Challenges and Solutions

The table below offers some key challenges and solutions Wyoming encountered during the implementation period of this project.

Challenges	Solutions
Recruiting Fellows from more counties to participate and increase representation across the state	Offering training and programming online and finding key connections across the state
Getting college Fellows to commit and show up consistently	Sending text messages before sessions begin as reminders, setting expectations, and building relationships with Fellows
Maintaining consistency across experience of Fellows	Continuously learning as facilitators how to support best practices and connect with experts to improve Fellows program

Next Steps and Future Directions

Leaders at the Wyoming Enrichment Network explained that one of their future goals is to have at least one Fellow from each of the 23 counties across Wyoming. Though this is a long-term goal, their current program is iterating toward this with each new year of the Fellowship. They have worked toward this goal of increasing spread across the state by continuing to build relationships with state agencies like Game and Fish, State Parks and Cultural Resources, and the department of education. Other partners include county agencies, parks and recreation districts, 4-H programs, and others that have a presence in all of their different counties to build awareness around the college and high school Fellowships and to get young people to apply. Overall, as an intermediary organization, Wyoming is in a state of rebranding and focusing on how they tell their story of making connections for people on the ground to be more successful. Emily suggested:

“I think the best thing we can do right now is stories, storytelling, sharing successes, showing people what the program looks like, what it feels like to be part of a collaboration like this and elevating those partners that are on the ground so that organizations can see themselves in some of this work, too. The hope is that maybe we are changing the way that Fellows think

about what STEM is or STEM could be, or what career connections or possible futures they imagine for themselves.”

In addition to sharing success within their state, this project got leaders thinking about cross-state collaboration possibilities. For example, Emily explained that the panhandle area of Nebraska is culturally closer to Wyoming in some ways, as well as geographically close. They have thus begun talking with leaders from Nebraska at the state network meetings to discuss ways of building stronger collaborations between states that are tackling similar concepts.

How the Wyoming Enrichment Network Prepared for and Supported Connections through a Near-Peer Mentorship Model

- In each year of the Fellowship program, network leaders in Wyoming evaluate their programming and adapt their model based on feedback from current and former Fellows.
- Wyoming network leaders set big goals for their Fellowship programming to help increase capacity (e.g., having one Fellow for each county in the state), even if those goals are not yet in sight.
- Wyoming network leaders keep sustainability at top of mind and focus on long-term impact when they reach out to alumni to enlist them as partners and teachers to support the future of the Fellows program.

About the Making Connections Project

Strengthening Synapses: Fostering Connections and Pathways for Youth Across STEM Learning Ecosystems

STEM Next and the Connected Learning Lab at UCI have partnered to support state and regional out of school networks as they develop and strengthen an ecological and connected approach to STEM learning. The case studies series represent real world examples that are part of a larger effort to develop and improve connection strategies that strengthen STEM learning ecosystems, centering the experiences, mobility, and futures of individual learners and their families across state and regional networks.

Each case study in this series takes a close look at a partner organization's approach to one of the eight strategies for connecting: 1) A wraparound approach; 2) Coordinating between in school and out of school; 3) Giving back to one's community; 4) Near peer or industry mentorship; 5) Translating youth interests into STEM career opportunities; 6) Building relationships with families; 7) Curating online tools; or 8) Creating open portfolios. These case studies are not exhaustive; they are examples of coordinating and brokering that can be used to spark ideas and inspire growth.

For more information on the project and the strategies, visit <https://stemnext.org/stem-pathways> and connectedlearning.uci.edu/projects/making-connections/

References

Wyoming Enrichment Network (2025). Wyoming Enrichment Network: Thrive beyond the bell.