### Washington State Programs

<table>
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<tr>
<th>Program &amp; Location</th>
<th>Program Description</th>
<th>Success Factors</th>
<th>Challenges to Scaling</th>
<th>More Info on Evaluations</th>
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| **Career Academies**<br>Raisbeck Aviation High School Tukwila | A public high school in Highline School District that adopted a career academy model of instruction, immersing students in an aviation- and aerospace-themed curriculum contextualized across many academic disciplines. Students are connected to the aviation and aerospace industries by career connected learning opportunities, including internships and job shadows. The school developed a mentorship program that brings together students and industry at monthly mentorship breakfasts. | The career academy model is organized around one industry sector. Employers help design the curriculum, provide career connected learning experiences, and are directly connected to the school community. Proximity to a large concentration of industry actors created an immediate co-investment environment with their community. | Most schools/communities do not enjoy proximity to a unique concentration of industry partners such as those near Boeing Field. The location also makes mentorship recruitment from industry much easier than most places in Washington. Other similar schools would do well to identify other industry-concentrated areas in the state. | A 2008 MDRC study of nine career academy high schools in low-income urban settings found:  
- Career Academies produced sustained earnings gains that averaged 11 percent (or $2,088) more per year for Academy group members than for individuals in the non-Academy group — a $16,704 boost in total earnings over the eight years of follow-up (in 2006 dollars).  
- These labor market impacts were concentrated among young men, a group that has experienced a severe decline in real earnings in recent years. Through a combination of increased wages, hours worked, and employment stability, real earnings for young men in the Academy group increased by $3,731 (17 percent) per year — or nearly $30,000 over eight years.  
- Overall, Career Academies served as viable pathways to a range of postsecondary education opportunities, but they do not appear to have been more effective than options available to the non-Academy group. More than 90 percent of both groups graduated from high school or received a General Educational Development (GED) certificate, and half completed a postsecondary credential.  
| **Teacher Externships**<br>Pacific Education Institute FieldSTEM Teacher Industry Site-Based Learning Shelton and Snohomish | Recognizing limited opportunities with guidance counselors, model provides an industry externship to science teachers, who then can integrate up-to-date skills and industry knowledge in curriculum. Emerging program; sites in the Shelton and Snohomish School Districts. Funded by a demonstration grant. | Empowers educators to provide career-specific information to their students. Partnership with industry allows for increased opportunities for classroom and site visits for students. | Industry externships would require additional teacher worktime — either in the summer months or after school, or support from the school to take time off to participate (and hire substitutes). New program; will need time to prove the ROI on the model. | [A study of PEI’s outcomes found that teacher participants were significantly more likely to:](http://www.mdrc.org/sites/default/files/full_50.pdf)  
- Share information on the range of, and educational requirements for, a variety of local FieldSTEM jobs, including through job description fact sheets.  
- Provide real-world examples of how 21st Century Skills are critical to succeed in the workplace.  
- Support students in applying for internships with local companies and competing in science fairs.  
- Combine CTE and science classes for classroom presentations by FieldSTEM companies.  
- Deepen the relationships newly forged through the site visits and then infusing career lessons into their science lessons. | [Cohen Consulting & Evaluation, LLC](http://www.cohenevaluation.org/wp-content/uploads/2017/05/Raising-STEM-Career-Awareness.pdf) |
Industry-Led Design

Business After School
Spokane

- Business After School helps 400+ students per year in Spokane gain STEM skills through focused workshops hosted by area businesses for students, educators, parents, and community organizers. Over a dozen workshops are offered annually in different industry sectors, where hands-on learning is emphasized.
- The region’s business development organization was the connective tissue in the project, dedicating staffing to cultivating relationships with local schools and reaching interested students. Businesses make facilities for workshops available, assign a planning team or lead for the workshop, and engage youth during a worksite experience.
- Turning the design of the program over to businesses themselves allowed them to craft genuine experiences in the context of their unique work environments.
- GSI, the regional economic development organization, provides individualized coaching to businesses and support to set up workshops.

- Program visibility and marketing, generating an initial coalition of businesses.

Teacher externship opportunities were found to:
- Improve teachers’ understanding of the knowledge, skills, and dispositions required in today’s workplaces and the kinds of technology used there.
- Help teachers learn about the range of job opportunities available in the fields their academies focus on, the education and training requirements for these jobs, and the connections between these jobs and the subjects they teach.
- Encourage and support teachers to provide hands-on, interdisciplinary experiences based on real-world examples.
- Help to establish partnerships between schools and businesses in their community.


Mentorships

Washington State Opportunity Scholarship Skills that Shine Mentorship Statewide

- In 2016, 180 college students were matched with field-specific mentors across the state.
- Program runs in conjunction with the Opportunity Scholarship, a 1:1 public-private match program that provides scholarships for low-income students pursuing high-demand STEM and healthcare jobs.
- Support from program to ensure every student is offered a mentorship.
- Guided content modules for mentors, including a discussion guide.

- Program is working to address barriers of distance – pilot in place for virtual options.
- Staff-intensive to find and develop mentors across the state.

In the New York City Mentoring Program (NYCMP):
- 89 percent of NYCMP mentees report they learned about different career options from their mentors.

YouthBuild USA National Mentoring Alliance:
- 59 percent of program participants have received a positive career placement.

### Apprenticeships

**ANEW Preapprenticeship Trades Rotation Program Renton and Tacoma**
- Pre-apprenticeship model focused on preparing women to succeed in the construction workforce, including applying for apprenticeship programs.
- Hybrid model of classroom and hands-on training.
- Participants spend 4-8 hours at 10 different apprenticeship sites.
- Case management and support services, including supplies and transportation, are available to participants.
- Up to two years of retention services offered to participants.
- Assists those without a GED to attain it while participating in the program.
- Small participant size – 80 served in the previous program year.
- Generally, data show higher earnings are associated with more education. The median first year earnings for 2012 graduates ranged from $32,800 for graduates with a certificate requiring at least one year of study to $74,900 for graduates with doctoral degrees in professional fields.
- Mathematica Policy Research found that the average earnings gain associated with apprenticeship completion was $14,404 in the sixth year and $240,037 over a participant’s entire career, when compared to the earnings of nonparticipants.
- The same report found that, over the assumed thirty-six year career of an apprentice, the net social benefits average to be $49,427, even under the most conservative assumptions.

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### Career Exploration

**Wenatchee Learns Wenatchee**
- Comprehensive community initiative to build an effective CCL system for all students.
- Vision: Shift from academic preparation to preparation for life.
- Includes a suite of programs including career exploration programs, mentorships, internships, GED preparation, and connections to social services.
- Multi-organization partnership enables engagement from high schools, out of school, and employers.
- Broad support of the community; program is co-located with the Wenatchee Chamber of Commerce.
- 1/3 of chamber members participated in the first year of the program.
- Community-focused initiative; would require similar efforts in individual communities for replication.

A study of rural Washington school districts by the University of Washington found:
- Rural Washington schools have a higher on-time graduation rate than the rest of the state as a whole – 70.3 percent, compared to 59.8 percent overall.
- Some rural schools cannot support advanced coursework and technology that’s present in larger school districts.
- Rural students in Washington have access to some of the most fascinating geology and astronomy in the state. They live near some of the biggest engineering projects, like dams and nuclear facilities.
- Rural students earn comparable scores to their suburban peers, and significantly outscore urban students.


https://peabody.vanderbilt.edu/faculty/pje/pje_volume_90_issue_2_2015/peterson_bornemann_lydon_west.php
## Serving Rural Communities

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<th>Nespelem School Rural Community Connections Nespelem</th>
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<td><strong>Serving</strong> approximately 40 middle school students on the Colville Reservation.</td>
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<td><strong>Part of a continuum:</strong> career exploration opportunities open to grades 5-8, with connections to career pathway coaching for high school courses.</td>
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<td>School’s science teacher works with employers to develop applied learning projects for the classroom and in the summer.</td>
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<td>Industry-led projects – ex: Middle school students built a utility line with assistance from Nespelem Valley Electric Co-op linemen.</td>
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<td><strong>Program is run by</strong> Nespelem School, but participation in events is open to surrounding schools.</td>
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<td>Support from community; tribal newspaper covers student events, equipment is donated by local business.</td>
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<td>Portions of the program are dependent on grants, no stable funding stream.</td>
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<td>Strong individual leadership; program could be difficult to continue for a successor.</td>
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<td>A recent Roosevelt Institute study highlighted the specific challenge of increasing the educational attainment expectations among rural students:</td>
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<td>Only 64 percent of rural high school graduates pursue postsecondary education, in comparison to 69 percent of metropolitan graduates.</td>
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<td>Low educational attainment rates are a major cause of individual-level poverty and high rural poverty rates in particular.</td>
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<td>Rural schools have trouble attracting and maintaining high quality teachers and administrators that increase achievement.</td>
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<td>When schools fail to provide important career skills to the youth who choose to stay in the area, the remaining workforce lacks the young human capital that attracts industry and catalyzes development.</td>
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<td>Increasing the educational and career expectations of rural youth may therefore play a major role in reducing rural poverty.</td>
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