

# Consolidated Annual Report, Program Year 2014 - 2015 Wyoming

## Step 3: Use of Funds: Part A

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### 1. During the reporting year, did your state use Perkins funds to develop valid and reliable assessments of technical skills?

Yes

#### 1. During the reporting year, did your state use Perkins funds to develop valid and reliable assessments of technical skills?

Section 113(b)(A)(ii) says that States must develop an indicator relating to “student attainment of career and technical skill proficiencies, including student achievement on technical assessments that are aligned with industry-recognized standards, if available and appropriate.”

Secondary:

In 2014-2015, the state of Wyoming continued its work at the secondary level in the implementation of technical skill assessments for students in CTE programs funded with Carl D. Perkins in order to meet this requirement of the law.

Wyoming has historically utilized a state-developed assessment of technical skill attainment which was designed to measure generic workplace skills and did not contain industry-specific assessment items. It should be noted that the assessment system still includes generic workplace skills assessment items that transcend individual program areas. The state has recognized that this assessment alone is no longer sufficient to measure technical skill attainment. Measures of industry-specific competencies will be built into the statewide assessment system designed to measure technical skill attainment.

The assessment review process remained the same and consisted of the following:

- Convene educator content teams to review content standards.
- For each program area, determine if existing assessments are appropriate and affordable.
- Apply criteria for test security, administration and reporting features.
- Train teachers in developing formative assessments based upon the program's tested competencies.
- Administer the test and report results.
- Conduct pilot professional development for teachers to reflect upon test data to improve and focus classroom teaching.
- Scale up use of new assessments and teacher training.

The following assessments went through review in November, 2014.

Ag Mechanics

General Agriculture & Natural Resources

Cabinetmaking & Woodworking

Residential & Commercial Carpentry

Technical Drafting

## Architectural Drafting

## Welding

The 2014-2015 school year was the first year for complete implementation of CTE assessments. Students who were CTE concentrators in 2014-2015 were able to take online assessments in the following pathways:

- Agriculture Mechanics
- General Agriculture (includes Agriculture Business, Animal Science, Plant Science)
- Cabinetmaking and Woodworking
- Residential and Commercial Carpentry
- Technical Drafting
- Architectural Drafting
- Welding
- Business:
  - Accounting
  - Finance
  - Business Technology and Operations
  - Marketing, Management and Entrepreneurship
- Tourism, Hospitality, Foods and Nutrition:
  - Foods, Nutrition & Wellness
  - Professional Foods
  - Tourism, Hospitality & Lodging Management
- Family and Consumer Science:
  - Textiles
  - Child and Human Development
  - Interior Design
  - Life Management Skills

Besides state-developed, industry-aligned exams, industry-certified exams were also used to generate data for students in specific pathways where educators have elected to use those assessments such as; Project Lead the Way, ProStart, ASE Electrical Systems and Engine Performance, and Wyoming Certified Nursing Assistant exam.

CTE concentrators in other cluster and pathway/program areas without state-developed online assessments or industry-certified exams were assessed using the existing WyCTA skills assessment.

Those cluster and pathway/program areas include:

- CNA
- Digital Photography
- Graphic Design
- Natural Resource Management

- Precision Machining
- Programming and Software Development
- Video Production
- Web Development

To compute academic attainment, CTE concentrators entered in the WyCTA database are matched with state assessment data received from the Wyoming Department of Education (NOTE: Per Federal guidelines, only students whose scores were included in statewide AYP computations are included). For example, for the 2014-15 school year, CTE concentrators from the WyCTA database were matched with all 11th graders who took the ACT in Spring 2015. The indicator was then calculated by the number of CTE concentrators proficient on the math and reading portions of the ACT.

Governor Mead approved the revised CTE standards in January 2015. During the 2014-2015 year, the WDE began the search for a new assessment platform that would include more industry-aligned assessment options and credentials, and will continue the assessment review process to assure assessment alignment with the revised standards.

The following table shows the number and percent of concentrators who were proficient in each of the CTE online pathway assessments. As shown, Agriculture students (taking Ag Mechanics and General Ag) and Cabinetmaking/Woodworking students were the most proficient. Welding students were the least proficient.

Table 1: Technical Proficiency by CTE Pathway Test

	Not proficient		Proficient	
	Count	Row N %	Count	Row N %
Agriculture Mechanics	14	11.2%	111	88.8%
Architectural Drafting	7	18.4%	31	81.6%
Cabinetmaking & Woodworking	36	14.6%	210	85.4%
Child Development	23	24.5%	71	75.5%
General Agriculture	56	16.3%	287	83.7%
Residential and Commercial Carpentry	35	59.3%	24	40.7%
Technical Drafting	26	46.4%	30	53.6%
Welding	167	83.9%	32	16.1%
Wy. Accounting	18	23.1%	60	76.9%
Wy. Business Technology & Operations	16	29.6%	38	70.4%
Wy. Finance	9	27.3%	24	72.7%
Wy. Food, Nutrition & Wellness	53	51.0%	51	49.0%
Wy. Marketing, Management & Entrepreneurship	18	26.9%	49	73.1%
Wy. Professional Foods	46	46.0%	54	54.0%
Total	526	32.8%	1080	67.2%

Table 2 shows that among CTE concentrators assessed, the program areas with the highest percent of proficient students were Science Research and Engineering (91.4% proficient), Health Science (90.1% proficient) and Info Technology (89.0% proficient). The lowest percent proficiency was in the Manufacturing program area with 38.4% proficient.

Table 2: Technical Proficiency by Program Area

Program Area	Number Assessed	Percent Proficient
Sci. Research & Engineering	128	91.4%
Health Science	192	90.1%
Info. Technology	82	89.0%
Agriculture, Nat. Resources	466	85.2%
Business Admin.	76	81.6%
Arts, AV Tech & Comm.	215	81.4%
Human Services	97	80.4%
Architecture & Construction	386	76.2%
Finance	105	75.2%
Retail & Wholesale Sales	70	71.4%
Hosp. & Tourism	270	61.1%
Transportation, Distribution & Logistics	112	48.2%
Manufacturing	211	38.4%
Law & Public Safety*	--	--
Education & Training*	--	--
Gov. & Public Admin.*	--	--

\*Proficiency levels not provided for program areas with less than 10 participants

#### Sub-Populations:

The 2S1 indicator reports the percent of CTE concentrators who passed technical skill assessments that are aligned with industry-recognized standards, if available and appropriate.

Highlights and key findings from the 2014-15 data collection for indicator 2S1 by the subgroup of special populations include:

- Results by gender show that a higher percentage of females (79.3%) met the technical skill proficiency target than males (71.4%).

- The highest proportion of special population students to meet the 2S1 indicator was non-traditional at 82.7%.

- The highest percentage of students meeting the technical skill proficiency target were Black (85.7%) and Asian (81.8%).

## 2. During the reporting year, did your state use Perkins funds to develop or enhance data systems to collect and analyze data on secondary and postsecondary academic and employment outcomes?

No

# Consolidated Annual Report, Program Year 2014 - 2015 Wyoming

## Step 3: Use of Funds: Part B

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### 1. During the reporting year, how did your state assess the career and technical education programs funded under Perkins IV?

Sixteen school districts and two community colleges were monitored during the program year. Monitoring currently occurs on a cyclical basis. Starting in the 2015-2016 program year, Wyoming will be transitioning to a risk-based process for all federally funded education grant monitoring. In 2014-2015, subrecipients monitored were required to submit documentation that supported the following:

Perkins CTE grant activities approved for funding in the 2014-2015 Perkins Grant application were completed;

Grant expenditures were used for allowable activities, accurately charged by program, and used for identified students and/or staff;

Equipment and non-expendable property purchased with Perkins funds were marked and inventoried;

Personnel whose salary was funded 100% from a single federal fund submitted a bi-annual certification, and personnel whose salary was split funded maintained accurate Personnel Activity Reports;

Academics were integrated with CTE programs through a coherent sequence of courses to ensure learning in the core academic and CTE subjects;

Students were provided with experience and understanding of an industry;

The employment needs of the region were considered by the Perkins advisory committee in the planning of CTE programs;

Career guidance and academic counseling was provided for students participating in CTE programs;

Professional development activities for teachers, counselors and administrators in best practices for CTE programs and techniques were provided.

The districts and colleges that weren't able to provide adequate documentation were visited by CTE consultants who assessed the CTE programs on-site and provided technical assistance. They were required to follow up with corrective action plans for the monitoring items that were not in compliance.

A new policy was initiated in the 2014-2015 program year requiring all subrecipients to provide detailed expenditure descriptions and, if necessary, supporting documentation when submitting cash requests to the WDE to draw down Perkins funds. This policy was developed to ensure that expenditures align with the budgets approved in the Perkins grant applications.

The districts and colleges are required to report annually on Perkins program activities, including activities of the advisory committee, project results/accomplishments, performance indicator results, and sustainability. Schools and colleges that do not meet one or more of the performance indicators at the 90% threshold or higher are required to submit Performance Improvement Plans for each indicator not met.

In addition to monitoring and reporting requirements, school and college site visits were scheduled throughout the 2014-2015 program year. CTE consultants visited subrecipients to view programs, talk with educators, administrators and grant managers about program improvement, and to provide technical assistance when needed or requested. During these visits, opportunities for program growth and innovation were explored, and books and resources were provided by the WDE.

### 2. During the reporting year, how did your state develop, approve, or expand the use of technology in career and technical education?

Technology integration and the expansion of existing technological frameworks to include new and innovative technology were central themes of the 2015 Roadmap to STEM (Science, Technology, Engineering & Mathematics) conference sponsored by the Wyoming Department of Education (WDE), CTE section.

Professional development workshops and hands-on sessions covered various technological topics/resources relevant to CTE, including: virtual field trips; innovative agricultural technology utilizing vertical gardening, hydroponics and aquaponics in learning environments; integration of robotics curriculum and resources at various educational levels; coding and programming; music technology; utilizing 3-D printers for design/production of prosthetics; nanotechnology; and others.

Conference attendees toured Kennon Engineering, a company that specializes in the design and manufacturing of military aircraft covers. They also toured the Wyoming Simulation Center, a health sciences education facility that integrates state-of-the-art simulation technology to enhance student learning. Finally, they toured highly technical programs offered at Northern Wyoming Community College, where innovative technology supporting CAD, machine tool technology, welding and dental hygiene programs was demonstrated.

Participants were also able to engage in half-day STEM Experiences that allowed them to participate in the application of various technologies including applied technology and water chemistry at the Story Fish Hatchery; plant tissue culture and biotechnology; and others. Educators were encouraged to take the concepts learned during these experiences and incorporate them into real-world examples of applied STEM content in the classroom. Approximately 250 educators, administrators, counselors and curriculum coordinators attended the conference.

The CTE section continues to work closely with the WDE Communications team to work collaboratively on leveraging social media platforms and audio-visual technologies. For example, an electronic newsletter is deployed on a quarterly basis to over 2,600 CTE teachers and constituents throughout the state. Grant information, spotlight CTE programs, new opportunities for innovation in CTE, technical assistance and professional development opportunities, Perkins and state CTE legislative updates, among many other topics are covered in the newsletter.

The CTE section facilitated delivery of the Career Development Facilitator course in June, 2015. This course was taught in a blended format, which allowed educators and counselors from all over Wyoming to access content and participate remotely.

Local education agencies are utilizing and expanding innovative technologies in their CTE programs of study. For example, "MakerSpaces" and fabrication labs are being developed at several schools in Wyoming. These facilities help enhance facilitation of creativity, innovation, and integration of highly technological equipment in CTE. They are equipped with CNC milling machines, 3D printers, CAD software and computers, laser engravers, and other engineering supplies/equipment. In addition to the larger MakerSpaces, some schools are also implementing mini MakerSpaces that expose students to specific technologies (e.g. 3D modeling and 3D printing) in order to familiarize them with the technologies prior to moving on to larger MakerSpaces.

Funding was provided to the Wyoming Boys School, which enabled the purchase of equipment and technology necessary to support a new computer coding and programming curriculum.

In addition, many CTE programs have incorporated a one-to-one model for technology integration, providing CTE students with Chromebooks, iPads, or other portable devices to utilize within the programs. Also, some of the traditional welding programs in the state are utilizing web cameras within the welding booths in order to more effectively facilitate instruction on various welding techniques. Finally, an adult technical training facility in Wyoming is implementing virtual heavy equipment operating equipment for their Heavy Equipment Operator program. These are just a few examples of how technology is being integrated, with the support of Perkins funding, in the LEAs and IHEs in Wyoming.

**3. During the reporting year, what professional development programs did your state offer, including providing comprehensive professional development (including initial teacher preparation) for career and technical education teachers, faculty, administrators, and career guidance and academic counselors at the secondary and postsecondary levels? On what topics?**

The WDE CTE section provided two, two-day workshops focused on Project-Based Learning (PBL) for teachers, faculty, administrators, and career guidance and academic counselors at the secondary level to collaborate in creating an authentic project relevant to classroom instruction. The two-day workshop focused on pedagogy, partnerships, classroom innovation and hands-on learning. Participants worked together to identify elements a project that could be embedded throughout the school into other forms of instruction, across curriculum and assessment. The workshop provided participants a toolkit including bell-ringers/warm-ups through short and medium cycle formative assessments such as stations and labs, building a progression to support school-wide, community-wide partnerships and project-based learning in classrooms and throughout the school.

As mentioned above, the WDE CTE section and Sheridan College offered a professional development conference in Sheridan, Wyoming entitled "Roadmap to Science, Technology, Engineering & Mathematics (STEM)." Wyoming educators, counselors, education administrators, and curriculum coordinators from pK-16 were invited to the conference to gain practical information about STEM program implementation (including activities, hands-on application, resources, funding opportunities, etc.). Presenters, which included STEM educators from Wyoming as well as STEM experts from around the country, were encouraged to provide attendees the tools needed to sustain STEM programs long-term. Other emphases included innovation in education, active and project-based learning (in and outside of the classroom), and the integration of core academics with CTE. The conference provided opportunities for the University of Wyoming and many of the Wyoming community colleges to engage LEAs with opportunities for collaboration, including the delivery of many STEM and CTE resources and shared learning opportunities. Local business and industry representatives, including Holly Seed research and development company, Kennon Engineering, the WY Culinary Institute and the WY Simulation Center, also attended, facilitated tours, and/or presented at the conference in an effort to make meaningful connections and build partnerships with Wyoming educators.

Approximately 250 educators attended the conference. Sessions included "Trout Rerouting" (Park County SD #16), "Intro to Nanotechnology" (Wyoming STARBASE), "STEM on a Shoestring" (Idaho National Laboratory), "The M in STEM" (University of Wyoming), "Using STEM with Farm to School" (WDE), "Electronic Origami" (WY Art Education Association), "Intro to Programming LEGO Mindstorm EV-3" (Casper College), "Cultivation of Fruits & Vegetables" (Sheridan County Extension), "Sounds Like STEAM to Me" (Platte County SD #1), FACS & STEM; the Proof is in the Bread" (Laramie County SD #1), "Field Trips Gone Virtual" (Educational Service Unit #6, NE), "Inspiring Students to Scientific Innovation" (Bright Agrotech, LLC), and many more. A new addition to the STEM conference this year was the Share-A-Thon, which consisted of 33 displays or exhibits provided by Wyoming STEM/CTE educators, business/industry representatives, military and college representatives, and others. The focus of this event was to encourage networking and sharing of free or low cost educational resources and take-away items specific to STEM Education.

The conference continues to be a platform for changing perspectives on CTE, and highlighting excellence in CTE and STEM Education. The purpose was to inspire and motivate educators to form partnerships and work together to deliver content in the best possible ways to Wyoming youth, and to provide practical ideas for the integration of STEM education principles in all classrooms.

Also, the CTE section in collaboration with the National Career Development Association (NCDA), offered another course for educators, counselors, and others to become certified as Global Career Development Facilitators (GCDF).

Career development facilitation is a best practice certification training developed by the NCDA to ensure career advisors and counselors have a high level of competency when providing career guidance (for some of our schools this may be a CTE teacher providing career guidance).

The CTE section continues to offer this course to develop a Wyoming network of educators, counselors, career advisors, workforce developers, placement specialists and other stakeholders with common principles and terminology. It is the goal that career development will be a shared responsibility among many professionals within the schools and colleges.

Twelve Wyoming educators attended and successfully completed this course during the summer of 2015, and are following up with the GCDF credential application, which (if approved) will provide the certification. Two consultants in the CTE section are moving forward to become certified as CDF trainers. This will allow the curriculum for the course to be enhanced with Wyoming-specific labor market examples and real-world application of concepts that are relevant to the various regions of Wyoming. It will also allow the course to be delivered more cost-effectively.

The Wyoming Association for Career and Technical Education (WACTE) provides activities for teachers, counselors, and administrators that both support and enhance career and technical education programs throughout the state. Members obtain staff development through local, regional, and national conferences and workshops. WACTE hosts a state conference every June. This year, the WDE provided grant opportunities for all seven divisions within WACTE for enhanced professional development specific to each division's educational needs. The CTE section also directly facilitated multiple conference sessions.

The purpose of WACTE is to support teachers and students by fostering excellence in career and technical education, advocating public policy to benefit career and technical education, providing access to professional development, and creating public awareness of career and technical education in Wyoming. The WDE, CTE section is dedicated to supporting and encouraging the mission of the WACTE.

The WDE CTE section sponsored school district personnel to facilitate a session at the 2015 School Improvement Conference. Their topic was focused on the new Center for Advanced & Professional Studies (CAPS) in Natrona County School District (one of the largest school districts in Wyoming), which will open in the 2016-2017 school year. This facility will house a new model of learning, serving approximately 700 students in the district who will have opportunities to participate in hands-on projects. They will take classes in the following academies:

- \* an Academy of Creative Arts, Communication & Design;
- \* an Academy of Business, Agriculture & Natural Resources;
- \* an Academy of Architecture, Construction, Manufacturing & Engineering; and
- \* an Academy of Health Sciences and Human Services.

The goal of this new learning environment is to focus on providing the best conditions to foster success in the workplace and other postsecondary settings. This project has been a collaboration among multiple schools in the district, community members, business/industry members, and other stakeholders, and the facility will be open to all students interested in pursuing career and technical pathways and/or academies.

**4. During the reporting year, how did your state provide preparation for non-traditional fields in current and emerging professions, and other activities that expose students, including special populations, to high skill, high wage occupations?**

The WDE CTE section and Sheridan College offered an educator professional development conference in Sheridan, Wyoming entitled "Roadmap to Science, Technology, Engineering & Mathematics (STEM)." Wyoming educators, counselors, education administrators, and curriculum coordinators from pK-16 were invited to the conference to gain practical information about STEM program implementation (including activities, hands-on application, resources, funding opportunities, etc.). One well known professional and speaker in the STEM field, Deborah Berebichez Ph.D., aka the "Science Babe," presented a keynote address titled "Changing the World One Equation at a Time." Attendees were given statistical information on women in STEM-related occupational fields which reflected the underrepresentation of women in these fields. Dr. Berebichez shared strategies for engaging girls in STEM activities at young ages, as well as ideas for more-effectively recruiting females into STEM pathways that will lead to STEM occupations.

Additional resources that were provided at the STEM Conference came through an idea of how information can be shared. Born was the idea, "Share-A-Thon." There were numerous vendors, Navy recruiters, WDE Hathaway Scholarship representatives, and industry partners with tables of information to be shared with attendees. There was a three hour block of time that attendees could share and receive information on best practices and recruitment of students into STEM programs/fields. These included emphases on special considerations for nontraditional and special populations. This was an excellent way for attendees to put items into their toolbox and take that back to their classrooms.

The CTE team provided support, using Perkins leadership funds, to the Wyoming Boys School in the establishment of a Computer Science program early in the 2014-2015 program year. The Boys School is a correctional facility that serves approximately 80 students at any given time throughout a calendar year, of which all students are determined to be at risk for a variety of reasons, including learning disabilities, economic difficulties, substance abuse, family dysfunction and mental health issues. The goal is to provide an opportunity to expand learning opportunities that will lead to post-secondary credentials or degrees and open the door to sustainable employment upon their release from the institution. The funding provided to the Boys School enabled the purchase of equipment and technology necessary to support the computer coding and programming curriculum.

The Wyoming Contractors Association (WCA) Regional Training Center in Casper, WY provides industry-aligned CTE programs for secondary students and adults in the Casper and surrounding communities. Their programs include: Heavy Equipment Operation; CDL Truck Diver A and B; OSHA 10 and 30; Forklift; Floor Hand (for oil and gas industry); IADC Rig Pass; Derrick Hand; Welding; Health Information Technology; DOT Log Book; and more. Almost all of the programs offered lead to occupations that are considered nontraditional for females, and the training center serves female students as well as male students. They partnered with a local nonprofit that provides career training to single mothers interested in entering the workforce to provide technical training for participants in the program. In the 2014-2015 program year, the WDE CTE section supported the WCA Regional Training Center by purchasing books, materials/supplies, and equipment to support their training programs.

The WDE state coordinator for the Methods of Administration attends the annual National Alliance for Partnerships in Equity (NAPE) - Professional Development Institute. Each year, NAPE holds a National Summit for Educational Equity (formerly Professional Development Institute) in Washington, D.C., to provide a variety of robust, research-based, effective and promising practices for every audience interested in advancing student achievement. NAPE's professional development focuses on improving underserved populations' access to and success in educational and training programs that lead to high-skill, high-wage, and high-demand careers. Ideas are brought back that may be incorporated into professional development.

In September of 2014, the CTE section facilitated a series of regional technical assistance opportunities for new and returning Perkins Coordinators (each LEA and IHE has a designated coordinator for Perkins/CTE in Wyoming). All Perkins staff responsible for technical skills assessments, data collection and reporting, grant administration, and program coordination were invited to attend the technical assistance training sessions in their respective regions. Content included: timeline for various Perkins accountability items; guidance on Perkins Annual Reports and data collection/reporting; information on Perkins assessments and data collection; nontraditional definition and relevance to Perkins funding; and special populations in CTE.

##### **5. During the reporting year, how did your state provide support for programs for special populations that lead to high skill, high wage and high demand occupations?**

In September of 2014, the CTE section facilitated a series of regional technical assistance opportunities for new and returning Perkins Coordinators (each LEA and IHE has a designated coordinator for Perkins/CTE in Wyoming). All Perkins staff responsible for technical skills assessments, data collection and reporting, grant administration, and program coordination were invited to attend the technical assistance training sessions in their respective regions. Content included: timeline for various Perkins accountability items; guidance on Perkins Annual Reports and data collection/reporting; information on Perkins assessments.

The WDE assigned a state coordinator to perform the duties mandated by U.S. Department of Education's Office of Civil Rights (OCR) under the program guidelines of MOA. The responsibilities include site visits to local education agencies and community colleges to ensure mandatory compliance with Title VI of the Civil Rights Act, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794 (Section 504). Under the provisions of MOA there are two areas reviewed, 1) documentation and interviews, and 2) facilities. Under document review there are areas such as admissions, student financial assistance, career counseling programs, and work studies. Under the compliance of federal laws the MOA program has ensured the access to programs for special populations is allowed.

Wyoming Career Technical Assessment (WyCTA) collected data from the secondary schools and postsecondary institutions on special populations. The special population areas reported on include; economically disadvantaged, disability, single parent, limited English proficiency, nontraditional, other educational barriers, and displaced homemaker categories.

Special populations in career technical course sequences and career technical certificate and degree programs are also reported in the data collection. Each special population subgroup is monitored for progress and overall career technical results.

The CTE team provided support, using Perkins leadership funds, to the Wyoming Boys School in the establishment of a Computer Science program early in the 2014-2015 program year. The Boys School is a correctional facility that serves approximately 80 students at any given time throughout a calendar year, of which all students are determined to be at risk for a variety of reasons, including learning disabilities, economic difficulties, substance abuse, family dysfunction and mental health issues. The goal is to expand learning opportunities that will lead to post-secondary credentials or degrees and open the door to sustainable employment upon their release from the institution. The funding provided to the Boys School enabled the purchase of equipment and technology necessary to support the computer coding and programming curriculum.

#### **6. During the reporting year, how did your state offer technical assistance for eligible recipients?**

In September of 2014, the CTE section facilitated a series of regional technical assistance opportunities for new and returning Perkins Coordinators (each LEA and IHE has a designated coordinator for Perkins/CTE in Wyoming). All Perkins staff responsible for technical skills assessments, data collection and reporting, grant administration, and program coordination were invited to attend the technical assistance training sessions in their respective regions. Content covered included: timeline for various Perkins accountability items; guidance on Perkins Annual Reports and data collection/reporting; information on Perkins assessments; and nontraditional and special populations.

In addition to the scheduled regional opportunities for technical assistance, the WDE CTE section offered technical assistance to LEAs and community colleges across the state on an as-needed basis. There were eight LEAs that were provided technical assistance in their CTE programs. The reasons the LEAs and IHEs requested technical assistance varied, but most were due to a turnover of key staff members responsible for the administration of Perkins funding at the local level. The new staff members were provided training on all Perkins accountability and administration requirements, and were given resources such as the Perkins Act of 2006: The Official Guide and the new Uniform Grant Guidance/EDGAR. Technical assistance was also offered to LEAs receiving additional state-funded grants for CTE demonstration projects.

In an attempt to increase communication and collaboration between the WDE and CTE teachers statewide, the WDE CTE section in partnership with the WDE communications team, creates a quarterly email newsletter is sent to over 2600 teachers, faculty, administrators, and career guidance and academic counselors at the secondary and postsecondary levels highlighting exemplar programs throughout the state, news articles connecting business/industry to CTE curriculum, grant notices, Perkins and other legislative updates, and professional development opportunities. The WDE communications team continues to enhance CTE exposure via social media blasts and mail outs on special topics.

In September 2014 the WDE CTE Section offered a leadership meeting for its Career and Technical Student Organization (CTSO) state advisors. This meeting was structured in a round robin format to help advisors network and collaborate and helps to improve quality. Discussion topics included; how to improve business/industry partnerships, recruitment of new members/chapters, sharing of resources to provide to educators statewide; and how to more efficiently incorporate learning opportunities that support reading/writing/math standards. Technical assistance for the five CTSO advisors helps to improve the quality of the programs that are offered in the state.

#### **7. Serving individuals in state institutions**

##### **Part I: State Correctional Institutions**

##### **Amount of Perkins funds used for CTE programs in state correctional institutions:**

0

##### **Number of students participating in Perkins CTE programs in state correctional institutions:**

0

##### **Describe the CTE services and activities carried out in state correctional institutions.**

N/A

**Part II: State Institutions Serving Individuals with Disabilities****Amount of Perkins funds used for CTE programs in state institutions serving individuals with disabilities:**

11000

**Number of students participating of Perkins CTE programs in institutions serving individuals with disabilities:**

80

**Describe the CTE services and activities carried out in institutions serving individuals with disabilities.**

The CTE unit used Perkins leadership funds to purchase MacBook Airls, iPad Airls, and Apple AirPort Routers to support the development of a new Computer Science program at the Wyoming Boys School, which is a juvenile correctional facility serving students who are determined to be at risk for a variety of reasons, including learning disabilities, economic difficulties, substance abuse, family dysfunction and mental health issues.

**8. During the reporting year, did your state use Perkins funds to support public charter schools operating career and technical education programs?**

No

**9. During the reporting year, did your state use Perkins funds to support family and consumer sciences programs?**

Yes

The state, through the WDE, continues to support its career technical education demonstration project grant program with \$500,000 per biennium over and above its standard CTE funding for LEAs from the Education Resource Block Grant model. During the 2014-15 program year, funds remaining from the initial demonstration project grant were made available to LEAs as small competitive mini-grants. Projects selected for the 2014-2015 year that support family and consumer sciences programs were; Fashion Design, Production and Merchandising, Textile Arts: Bridging the Gap of Core Curriculum and CTE, and Creating E-Books in the Culinary Classroom. The competitive demonstration project grant helps to prepare high school students for postsecondary options, which connect academic and technical curriculum grounded in academic and industry standards and provide innovative strategies for ensuring students access to career choices.

The WDE CTE section also supports FCCLA (Family, Career, Community Leaders of America) in a variety of ways. The CTE section has provided resources and professional development for the FCCLA state advisor and has participated in the FCCLA state conference as judges for multiple competitions. This career technical student organization (CTSO) has approximately 485 Wyoming chapter members, 33 high school chapters and is directly connected to FACS classroom curriculum.

**10. During the reporting year, did your state use Perkins funds to award incentive grants to eligible recipients for exemplary performance or for use for innovative initiatives under Sec. 135(c)(19) of Perkins IV?**

Yes

The WDE CTE section and Sheridan College offered an educator professional development conference in Sheridan, Wyoming entitled "Roadmap to Science, Technology, Engineering & Mathematics (STEM)." Since the start of the annual STEM conference we recognize educators in the Elementary, Secondary, and Postsecondary institutions the "STEM Educator of the Year" award at a gala. These highly motivated and diligent educators are not only rewarded for what they do, but do so in an environment of their peers. Small travel grants were awarded to the individuals recognized so that they were able to attend the conference and gala.

Small travel grants, which covered all travel expenses, were awarded to those representatives who were able to showcase their programs as models of best practice in CTE and STEM. Grant awardees included University of Wyoming, Northern Wyoming Community College District, Sublette County School Districts #1 and #9, Platte County School District #1, Casper College, Natrona County School District #1, Laramie County School District #1, Niobrara County School District #1, and more.[1]

**11. During the reporting year, did your state use Perkins funds to provide career and technical education programs for adults and school dropouts to complete their secondary school education?**

No

**13P. During the reporting year, did your state use Perkins funds to provide assistance to individuals who have participated in Perkins assisted services and activities in continuing their education or training or finding appropriate jobs?**

Yes

As discussed previously, the WDE CTE section facilitated a Career Development Facilitator course (CDF) for counselors and educators in the summer of 2015. This course provided best practices for career development, with a focus on helping students understand all postsecondary options for college, apprenticeship, career, military, etc. The course also provided information on preparing students for the next step utilizing existing resources, such as the Bureau of Labor Statistics' Occupational Outlook Handbook and O\*NET, to determine minimum education requirements and job outlook information for various occupations.

As part of the monitoring process, WDE CTE consultants evaluate the articulation/transfer agreements established between LEAs and postsecondary institutions, and between community colleges and four-year institutions. The large majority of LEAs have articulated dual and/or concurrent enrollment for CTE and academic core courses, and all seven community colleges have transfer agreements in place with multiple four-year institutions for those CTE programs (i.e. Engineering) in which bachelor's degrees or higher are available. Some technical assistance was provided to LEAs and IHEs on establishing articulation agreements, as well as on reviewing and updating the agreements. The CTE section plans to facilitate more in-depth technical assistance opportunities on these topics during the 2015-2016 program year, as some requirements have changed given new accreditation regulations (released fall 2015) at the postsecondary level.

Many high schools and colleges have fully-staffed on-campus career centers specifically designed to provide students with services related to post-secondary and job/career transitions. Counselors and staff work with CTE special population students and provide them with resources such as resume' development, interest inventories and a Career Information Services (CIS) inventories to prepare them for high-skill, high wage, and high demand occupations.

In addition, the Hathaway Scholarship is available to all Wyoming high school graduates, as well as Wyoming students who earn a GED. During the 2014-2015 program year, the CTE section worked extensively with the WDE Hathaway Scholarship section to develop an 8th Grade Unit of Study curriculum guide that would incorporate more robust career development resources that could be utilized by facilitators of the course to help students transitioning into high school. This is relevant because the Hathaway Scholarship requires that students, including CTE students, follow what is called the "Hathaway Success Curriculum" in order to be eligible to receive the scholarship upon graduation. The idea is that helping students determine their interests prior to high school will enable them to make an informed decision about pursuing pathways/programs in high school that will prepare them more effectively for post-secondary options. That partnership will continue, as the need for continued career development that spans K-16 is of primary focus moving into the 2015-2016 program year.

# Consolidated Annual Report, Program Year 2014 - 2015

## Wyoming

### Step 3: Use of Funds: Part C

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#### 1. During the reporting year, how did your state provide support for career and technical education programs that improve the academic and career and technical skills of students through the integration of academics with career and technical education?

Perkins funds are used for the integration of academics with career and technical education at the state level in the form of technical assistance and professional development. Local school districts also use Perkins funds for academic/CTE integration.

The WDE CTE section provided two, two-day workshops focused on PBL presented by Marty Sugerik, a PBL Specialist and Trainer. The two-day workshop focused on pedagogy, partnerships, classroom innovation and hands-on learning. The WDE encouraged districts, schools or institutions to bring a team of representatives to collaborate in creating an authentic project relevant to classroom instruction. Participants worked together to identify elements of the project that can be embedded throughout the school into other forms of instruction, across curriculum and assessment. The workshop provided participants a toolkit include bell-ringers/warm-ups through short and medium cycle formative assessments such as stations and labs, building a progression to support school-wide, community-wide partnerships and project-based learning in classrooms and throughout the school.

Attendance at the two workshops included representatives from 24 Wyoming school districts, the University of Wyoming and two community colleges. Marty Sugerik is scheduled for a follow-up workshop with these participants, and two additional workshops are scheduled for the spring in new locations throughout Wyoming to provide opportunity for wider geographic participation. Marty's background in CTE and Mathematics was the perfect gateway for modeling collaborative instruction, teaching mathematics and language arts across curriculum and providing a multitude of resource to the participants for immediate incorporation within their classroom.

The National FFA Agriscience Fair is a competition for FFA chapter members who are interested in the science and technology of agriculture. To participate, the FFA member conducts a scientific research project pertaining to agriculture and/or food science industries. They then present their finding to a panel of judges with a display and a report. WDE CTE consultants judged at both the state and national levels. The Agriscience fair and the Wyoming State Science Fairs are quality examples of the collaboration and integration of core subjects within the CTE curriculum. FFA is a CTSO that is intimately tied to the agriculture curriculum. Wyoming currently has 2572 FFA chapter members representing 52 chapters.

Wyoming has many examples of school districts and colleges that effectively integrate academics and CTE. For example, Crook County School District has given charge to their agriculture, science, and construction courses in the development of integrated curriculum to research, design and build a greenhouse/hydroponics system which has lead to collaborative instruction in the areas of biology, construction, math, engineering, technology and agriculture. The expected outcome of the project is to provide opportunities for students to develop critical-thinking, real world problem solving, collaboration, communication skills leading to future job success.

Star Valley High School, as another example, has begun training in Project Lead The Way (PLTW) focusing on engineering design, civil engineering and architecture, utilizing Robotics as a mechanism for project-based learning. The natural integration of mathematics, physical sciences, technical reading and writing, and other academics into the engineering programs is fundamental to the curriculum adopted by the school.

As stated previously, the state continues to support its career technical education demonstration project grant program with \$500,000 per biennium over and above its standard CTE funding from the Education Resource Block Grant model. Projects selected for the 2014-2015 year that directly support integration between CTE and academic core are: 1) Textile Arts: Bridging the Gap of Core Curriculum and CTE (mathematics and reading); 2) Creating E-Books in the Culinary Classroom (reading/writing); and 3) The Future of Work (business ready skills, communication). The competitive demonstration project grant helps to prepare high school students for postsecondary options, which connect academic and technical curriculum grounded in academic and industry standards and provide innovative strategies for ensuring students access to career choices.

As mentioned previously, the “Roadmap to Science, Technology, Engineering & Mathematics (STEM)” Conference in Sheridan was for Wyoming educators, counselors, education administrators, and curriculum coordinators from pK-16 to gain practical information about STEM program implementation (including activities, hands-on application, resources, funding opportunities, collaboration, and integration, etc.). Multiple sessions specifically focused on integration and cross-curricular collaboration. Some examples of the integrated sessions include; “Engineering Design and the Next Generation Science Standards,” “FACS & STEM,” “Anyone Can Code!,” “Sounds like STEAM to Me,” “Project Lead the Way,” “STEM and Inquiry Based Learning.” The half-day Outdoor/Indoor STEM experiences provided opportunities for attendees to further explore a variety of ways to integrate academics and career technical education.

The conference continues to be a platform for changing perspectives on CTE, and highlighting excellence in CTE and STEM Education. The purpose was to inspire and motivate educators to form partnerships and work together to deliver blended content in the best possible ways to Wyoming youth, and to provide practical ideas for the integration of STEM education principles in all classrooms including academic and CTE.

**2. During the reporting year, how did your state support partnerships among local educational agencies, institutions of higher education, adult education providers, and, as appropriate, other entities, such as employers, labor organizations, intermediaries, parents, and local partnerships, to enable students to achieve state academic standards, and career and technical skills.**

Early in the 2014-2015 program year, the WDE CTE section partnered with the Wyoming Department of Workforce Services (DWS), Wyoming Department of Corrections (DOC), U. S. Department of Labor Office of Apprenticeship, Wyoming Community College Commission (WCCC), Adult Education, Wyoming Business Council, and others to begin discussion and development of a unified plan for the Workforce Innovation and Opportunity Act (WIOA).

Regular WIOA Partners monthly meetings were held by DWS to inform its partners about the requirements of the new law, transition from the old law (WIA), development of the state vision for the workforce one-stop delivery system and development of the state WIOA plan. Discussions also took place concerning a more unified and collaborative approach to providing students with the resources and information necessary to develop academic and CTE skills to achieve employment in Wyoming and beyond.

The WDE CTE section is represented on the Wyoming Workforce Development Council which is the single workforce investment board for the state. As the implementation stage of WIOA draws nearer, these partnerships will be key in carrying out and sustaining the plan in future years.

The WDE CTE section collaborated further with the U. S. Department of Labor Office of Apprenticeship in Wyoming to raise awareness of registered apprenticeships as postsecondary options for students and adults interested in pursuing high skill, high demand occupations. For these apprenticeships, requiring highly technical training, the WDE CTE section and the Office of Apprenticeship worked closely with LEAs to develop pre-apprenticeship programs for high school students interested in transitioning to apprenticeship. These pre-apprenticeship programs have been highly successful, and many schools have plans to expand the programs to include more apprenticeship areas (i.e. construction trades, electrical, plumbing, etc.).

As mentioned previously, the CTE section also supported the WCA Regional Training Center in the development and expansion of CTE training programs. In working to expand programs, the Training Center is reaching out to develop more partnerships with secondary schools in the region, including the Wyoming Cowboy Challenge Academy (WCCA). The WCCA is a two-phased voluntary program geared toward helping at-risk Wyoming youth ages 16 through 18 develop teamwork, self-control, leadership, personal health, life skills, job skills and academic success. The WCCA and WCA Regional Training Center are working together to develop intensive, short-term residential CTE training programs specifically for the youth involved in the WCCA.

For the past five years, the WDE has been working closely with the University of Wyoming (UW) and other stakeholders on an initiative called "WYSTEM." Initially, WYSTEM was a collaborative effort to create a central web-based repository for all K-16 STEM curriculum and lesson plan options, grants, professional development opportunities, business/industry partnership opportunities, and other STEM related resources. The WYSTEM site was developed and housed on the University of Wyoming server system, though there were some challenges with maintaining the site as a reflection of the most current information available. During the 2014-2015 program year, the WDE CTE Section worked very closely with UW, the Wyoming Afterschool Alliance, and others to reinvigorate the WYSTEM initiative, and to expand it to include K-12 outreach projects facilitated by UW staff and faculty. This initiative is moving forward, and will enable UW to reach out to K-12 educators with STEM resources that are high quality, low-cost, effective and can be immediately incorporated into classrooms.

An active partnership between the WDE and the Wyoming Afterschool Alliance exists to help create more CTE and STEM opportunities for students participating in before and afterschool programs. Informal education settings are often very well primed to incorporate quality CTE and STEM activities, lessons, and experiences. These settings allow students to freely express creativity, curiosity, innovation and ideas through exploration of CTE/STEM outside of the classroom walls. The WDE CTE team has been an active partner in integrating standards and best practices into these programs.

The Wyoming Career/Vocational Education (C/VE) Content and Performance Standards review committee with representatives from community colleges, school districts and businesses completed their evaluation of the 2008 Career/Vocational Education Content and Performance Standards during summer of 2014 and submitted their recommendations and changes to the Wyoming State Board of Education. The state board forwarded those changes to the Governor's office with a recommendation for approval. The governor approved the new standards in January, 2015.

The state of Wyoming continued to fund the CTE demonstration projects with \$500,000 (per biennium). These projects prepare high school students for a full range of postsecondary college and career options. The projects are based on a three-part consortium consisting of secondary, postsecondary and business/industry partners. The consortia partners share in the development and outcomes of the project. Five CTE demonstration project grants were awarded for the 2014-2016 biennium both as large two-year grants and smaller, one-year mini-grants. The mini-grants were awarded in August, 2015 and 11 districts received funding to enhance, grow and support new, existing and innovative CTE programs.

### **3. During the reporting year, did your state use Perkins funds to improve career guidance and academic counseling programs?**

Yes

As mentioned previously, the CTE section in collaboration with the NCDA, offered another course in the summer of 2015 to become certified as a Global Career Development Facilitator (GCDF).

Career development facilitation is the best-practice certification training developed by the NCDA to ensure career advisors and counselors have a high level of competency and effective practices when providing career guidance.

One of the desired outcomes of this course was to develop a Wyoming network of educators, counselors, career advisors, workforce developers, and placement specialists and other stakeholders with common principles and terminology. The CDF training program was developed to provide standards, training specifications, and NCDA credentialing for these career guidance providers.

Attendees received in-depth training in the areas of career development in 120 class/instructional hours, provided by nationally trained and qualified instructors from NCDA. The GCDF title designates individuals working in a variety of career development settings. A GCDF may serve as a career group facilitator, educator, job search trainer, career resource center coordinator, career coach, career development case manager, intake interviewer, occupational and labor market information resource person, human resource career development coordinator, employment/placement specialist, or workforce development staff person.

The counseling profession has made great strides in defining professional counseling and career counseling. However, several professional groups recognized that many individuals who are currently providing career assistance have not received any formal, professional training. CDF training and certification can enhance the skills and knowledge of individuals who work in any type of career development setting.

CDF course participants received training in twelve competencies. The course included hands-on and interactive teaching methods and opportunities to interact with colleagues from a variety of work settings. The course offered opportunity to build skills and knowledge in areas that were new to participants, as well as enhance and develop those they already utilized in their work.

The twelve CDF competencies are:

1. Career resources and labor market information
2. Career planning processes
3. Basic helping and facilitation skills
4. Career development models and theories
5. Informal and formal assessment approaches
6. Diversity and specific population needs
7. Development and maintenance of an effective career resource center
8. Training others and program promotion
9. Case management and referral skills
10. Ethical and scope-of-practice issues
11. Professional and resource portfolios
12. Cutting-edge job searching

Twelve Wyoming educators, including one WDE CTE consultant, attended and successfully completed this course during the summer of 2015, and are following (or have followed) up with the GCDF credential application, which (if approved) provides the certification. Two CTE consultants are currently in the process of becoming CDF trainers, which will enable the delivery of the CDF course to future cohorts more cost-effectively and on a timeline that is more realistic for educators. Also, the course content will be updated to include supplementary information about Wyoming job outlook, labor market statistics, and regional business/industry needs.

During the 2014-2015 program year, the CTE unit worked extensively with the WDE Hathaway Scholarship department to develop an 8th Grade Unit of Study curriculum guide that would incorporate more robust career development resources that could be utilized by facilitators of the course to help students transitioning into high school. This is relevant because the Hathaway Scholarship requires that students, including CTE students, follow what is called the "Hathaway Success Curriculum" in order to be eligible to receive the scholarship upon graduation. The idea is that helping students determine their interests prior to high school will enable them to make an informed decision about pursuing pathways/programs in high school that will prepare them more effectively for post-secondary options. That partnership will continue, as the need for continued career development that spans K-16 is of primary focus moving into the 2015-2016 program year.

The CTE section has also worked closely with the Wyoming Counseling Association (WCA) to provide training and professional development to counselors in the areas of academic and career counseling.

**4. During the reporting year, did your state use Perkins funds to establish agreements, including articulation agreements, between secondary school and postsecondary career and technical education programs to provide postsecondary education and training opportunities for students?**

No

**5. During the reporting year, did your state use Perkins funds to support initiatives to facilitate the transition of sub baccalaureate career and technical education students into baccalaureate programs?**

No

**6. During the reporting year, did your state use Perkins funds to support career and technical student organizations?**

Yes

Approximately 30.7% of CTE concentrators (unduplicated N=1,073) participated in a Career Technical Student Organization (CTSO) during the 2014-2015 school year. This represents slight decrease in the percentage of students participating in CTSO as compared to 32.5% in 2013-14. The highest percent of concentrators participating in CTSO were members of FFA (56.7%) which indicates a slight increase from (53%) in 2013-14, the increase is consistent with past years. There was a small increase in SkillsUSA participation from 17.1% for 2013-2014 to 18.5% in 2014-2015.

CTE concentrators who participated in CTSOs had higher overall technical skill proficiency (80.9%) than those who did not participate in CTSOs (71.9%).

Wyoming supports five CTSOs - Distributive Education Clubs of America (DECA), Future Business Leaders of America (FBLA), Family, Career, and Community Leaders of America (FCCLA), Future Farmers of America (FFA) and SkillsUSA. Wyoming provides each organization a state advisor to oversee and coordinate ongoing programs, initiatives and conferences for students and local chapters.

Wyoming also employs a WDE consultant with funds to monitor activities of State CTSO Advisors and Career Technical Organizations (CTSOs). The WDE consultant maintains state advisor contracts, administers the advisor selection process, provides oversight, training, legislative updates and processes state advisor invoices for payment. All WDE CTE consultants provide technical support such as funding for professional development to CTSO local advisors, judging at and providing oversight for conferences, contests, workshops and conventions for the CTSOs. This year, one of the goals was to increase awareness of all CTSO organizations throughout Wyoming via media blasts, social media presence, and WDE being present at multiple local, state, and national events.

**7. During the reporting year, did your state use Perkins funds to support career and technical education programs that offer experience in, and understanding of, all aspects of an industry for which students are preparing to enter?**

Yes

Experience in all aspects of industry in STEM fields was a concept emphasized at the 2015 Roadmap to Science, Technology, Engineering, and Mathematics Conference sponsored by the WDE CTE section.

Conference attendees toured Kennon Engineering, a company that specializes in the design and manufacturing of military aircraft covers. They also toured the Wyoming Simulation Center, a health sciences education facility that integrates state-of-the-art simulation technology to enhance student learning. Tours were facilitated at King Ropes (exposed participants to the rope-making and leatherworking processes), and Holly Seeds (exposed participants to seed development, research, etc.). Finally, they toured highly technical programs offered at Northern Wyoming Community College, where innovative technology supporting CAD, machine tool technology, welding and dental hygiene programs was demonstrated. All of the tours provided opportunities for attendees to learn about business and industry needs and particular applications of skills learned in CTE, as well as to develop partnerships that would enable them to follow up with class field trips and mentorship opportunities.

The keynote speaker for the conference was Mick Ebeling, honored as one of the Top 50 Most Creative People of 2014 and the 2014 Muhammad Ali Humanitarian of the Year Award. Ebeling is CEO of Not Impossible Labs, an organization that develops creative solutions to address real-world problems. Not Impossible Labs was founded on Mick's firm belief that nothing is impossible. Not Impossible's first project was the development of the award-winning ocular tracking device, The EyeWriter, which enables individuals with paralysis to communicate and create art using only the movement of their eyes. Not Impossible's latest endeavor, Project Daniel, now celebrates its one-year anniversary. The subject of Intel's "Look Inside" campaign, Project Daniel enabled Ebeling to fly to Sudan to 3-D-print prosthetic limbs and fit them for children of the war-torn region. He then left the equipment behind with trained locals to continue his work, thus creating the world's first 3-D printing prosthetic lab and training facility. Mick's message to the STEM Gala attendees was to reiterate the importance of STEM and CTE education and utilized his real-life example to connect the classroom to real-world, making anything possible.

Many LEAs and IHEs offer robust work-based learning programs, including internships, pre-apprenticeships, job shadowing, school-based enterprises, business/industry field trips, and mentorship programs. In addition to these opportunities, many LEAs and IHEs use Perkins funding to support the facilitation of career/job fairs and CTE camps that are facilitated in collaboration with business/industry partners. Finally, Perkins funding is used for the development of school and college CTE advisory committees that are well-represented by local business and industry members. The WDE CTE section incorporated this topic (advisory committees) in several of the technical assistance programs offered throughout the program year. Two hundred copies of the book "Employer Engagement Toolkit: A Step-by-Step Guide to Building Strong & Sustainable Business/Education Partnerships for CTE, STEM, and Academy Leaders," by Pawlowski and Katz, were purchased and distributed to LEAs and IHEs in Wyoming.

Examples of excellence in work-based learning include Northern Wyoming Community College District's nursing practicum program, Sheridan County School District #2's health sciences internship program (partnership with local hospital), Teton County School District #1's engineering internship program, and Natrona County School District #1's pre-apprenticeship programs. These school districts and colleges have overcome common barriers to the development of work-based learning programs by working closely with local business and industry starting very early in the process of program development and implementation.

**8. During the reporting year, did your state use Perkins funds to support partnerships between education and business, or business intermediaries, including cooperative education and adjunct faculty arrangements at the secondary and postsecondary levels?**

Yes

Innovative models of effective partnerships between schools, colleges and business industry are found throughout Wyoming. One example is a partnership between Northern Wyoming Community College District and Campbell County School District #1 in the implementation of a machine tool technology program. The college employs an instructor who teaches on-site at one of the high schools in the district, offering courses for dual/concurrent enrollment that lead into the college-level machine tool technology (and other related) program(s). Much of the equipment provided for the program was donated by local business and industry. Together, all three partners were able to develop a highly effective and sustainable program that meets the needs of the local employers.

Perkins advisory boards are becoming more robust and representative of business/industry representatives, parents, academic/CTE teachers and students, community college representatives, and others from the community. The meetings are required to be held twice annually, and it is recommended that the content covered in the meetings include needs of local business/industry, recommendations for updated equipment and technology, curriculum updates, ideas for further development of partnerships that would expose students to the world of work relevant to their pathways, and others. The WDE CTE section provided technical assistance during the 2014-2015 program year that addressed the development of sustainable and meaningful partnerships.

Business/industry and education partnerships in STEM fields was a concept emphasized at the 2015 Roadmap to STEM Conference sponsored by the WDE CTE section.

Conference attendees toured Kennon Engineering, a company that specializes in the design and manufacturing of military aircraft covers. They also toured the Wyoming Simulation Center, a health sciences education facility that integrates state-of-the-art simulation technology to enhance student learning. Tours were facilitated at King Ropes (exposed participants to the rope-making and leatherworking processes), and Holly Seeds (exposed participants to seed development, research, etc.). Finally, they toured highly technical programs offered at Northern Wyoming Community College, where innovative technology supporting CAD, machine tool technology, welding and dental hygiene programs was demonstrated. All of the tours provided opportunities for attendees to learn about business and industry needs and particular applications of skills learned in CTE, as well as to develop partnerships that would enable them to follow up with class field trips and mentorship opportunities.

Many of the faculty and teachers hired by colleges and school districts have extensive experience in business and industry. A few of them are prior students who worked in business/industry and went back to their home schools or colleges to teach their trades. The Wyoming Professional Teaching Standards Board offers a Professional Industry Career (PIC) permit option for business/industry members interested in teaching. This trade and technical permit is valid for five years, and individuals who hold this permit are eligible to teach grade levels 6-12 only in the fields of the occupational specialty for which the applicant has met all of the requirements. Permit requirements include:

\*High School Diploma or GED

\*Minimum two years work experience for EACH field of occupational specialty for which the applicant is seeking a PIC. Work experience must be as a wage earner and is in addition to any educational training the applicant may have obtained in his/her field of occupational specialty.

\*Verification of Employment Forms (found in the application), for EACH field of occupational specialty in which the applicant is seeking a PIC, must be filled out completely and accurately and submitted as part of the complete application packet.

\*Current and valid license(s) in EACH of the applicant's occupational specialties when one is required by state or federal statutes.

\*Plan for Continued Professional Advancement.

A Bachelor's Degree, or higher degree, in the specific discipline is required for applicants seeking a permit in:

\*Agriculture

\*Business

\*Family and Consumer Science

\*Technology

\*Trade and Technical (formerly Industrial Arts)

This option has been a good way for schools to recruit CTE teachers who have real-world experience in their occupational areas. The teaching pedagogy and other professional development needs are recommended to be fulfilled in the first five years.

As mentioned in previous sections, the WDE CTE section provided two, two-day workshops focused on PBL. The two-day workshop focused on pedagogy, partnerships, classroom innovation and hands-on learning. Participants were encouraged to work together to identify a project that could be embedded throughout the school into other forms of instruction, across curriculum and assessment. The workshop provided participants a toolkit include bell-ringers/warm-ups through short and medium cycle formative assessments such as stations and labs, building a progression to support school-wide, community-wide business and industry partnerships and project-based learning in classrooms and throughout the school.

**9. During the reporting year, did your state use Perkins funds to support the improvement or development of new career and technical education courses and initiatives, including career clusters, career academies, and distance education?**

Yes

The two, two-day Project-Based Learning professional development workshops focused on pedagogy, partnerships, classroom innovation and hands-on learning. Participants worked together to identify elements within their classroom management, curriculum, project and assessment development and delivery to collaborate in creating authentic projects. The facilitator challenged the participants to increase student engagement, create hands-on collaborative projects that increase student learning, develop effective assessment tools, engage business/industry partners (both local and virtual) and incorporate the use of technology as a tool to expand knowledge. The workshop provided participants a toolkit include bell-ringers/warm-ups through short and medium cycle formative assessments such as stations and labs, building a progression to support school-wide, community-wide partnerships and project-based learning in classrooms and throughout the school.

As mentioned above, the "Roadmap to Science, Technology, Engineering & Mathematics (STEM) Conference in Sheridan was for Wyoming educators, counselors, education administrators, and curriculum coordinators from pK-16 to gain practical information about STEM program implementation (including activities, hands-on application, resources, funding opportunities, collaboration, and integration, improvement or development of new career and technical education courses and initiatives, including career clusters, career academies, and distance education, etc.). Some examples of the integrated sessions include; "Field Trips Gone Viral," "Engineering Design and the Next Generation Science Standards," "FACS & STEM," "Inspiring Students to Scientific Innovation," "ADOBE Voice as a Powerful Tool for Learning," "Robotics for High School," "Unleashing K-12 STEM Learning Opportunities via Internet2 and the Global Fabric of Advanced Research & Education Networks," "Project Lead the Way," "An Interactive Introduction to Programming LEGO Mindstorm EV-3," and others. Although the sessions provided a large variety of opportunities for educators to pick and choose specific topics of interest, the Share-A-Thon was an eclectic mix of educators, administrators, business/industry, WDE representatives and education policy-makers taking the time to network across job responsibilities to provide each other with insight to the needs/wants of the other stakeholders in STEM and CTE education. The Share-A-Thon removed barriers and opened doors for conversation about education as a whole in Wyoming.

The WDE CTE section sponsored school district personnel to facilitate a session at the 2015 School Improvement Conference. Their topic was focused on the new Center for Advanced & Professional Studies (CAPS) in Natrona County School District (one of the largest school districts in Wyoming), which will open in the 2016-2017 school year. This facility will house a new model of learning, serving approximately 700 students in the district who will have opportunities to participate in hands-on projects. They will take classes in the following academies:

- \* an Academy of Creative Arts, Communication & Design;
- \* an Academy of Business, Agriculture & Natural Resources;
- \* an Academy of Architecture, Construction, Manufacturing & Engineering; and
- \* an Academy of Health Sciences and Human Services.

The goal of this new learning environment is to focus on providing the best conditions to foster success in the workplace and other postsecondary settings. This project has been a collaboration among multiple schools in the district, community members, business/industry members, and other stakeholders, and the facility will be open to all students interested in pursuing career and technical pathways and/or academies.

There has been tremendous growth in the Geometry and Construction integrated programs over the past year. LEAs have used a combination of Perkins and state grant funding to develop and sustain these programs, and are reporting higher levels of student academic attainment in mathematics and geometry for those who participate in these programs. Many of the schools offering these programs have also partnered with local non-profits, such as Habitat for Humanity, to build sheds, houses and other structures that benefit the community. Also, in the 2014-2015 program year, the very first biomedical engineering academy was started in Campbell County School District #1. This program utilized the PLTW curriculum and is currently entering year two of implementation. Perkins funding was utilized to purchase the curriculum, as well as to train the teachers hired to deliver the curriculum.

**10. During the reporting year, did your state use Perkins funds to provide activities to support entrepreneurship education and training?**

Yes

At the 2015 Roadmap to STEM Conference, several sessions were facilitated that integrated entrepreneurial concepts, ideas, and lessons. One session in particular, titled “The Ice House Entrepreneurial Mindset,” focused exclusively on helping students develop entrepreneurial skills in the secondary and postsecondary educational settings. Attendees walked away with resources that could be immediately incorporated into existing curriculum.

Many LEAs offer CTE programs, many times in collaboration with CTSOs, that blend student enterprises with course curriculum to provide for real-world experience in entrepreneurship. Examples of these programs include student-run cafes, stores, greenhouses (flower, plant sales), farm to school programs, supervised agricultural experience (SAE) programs, service learning programs, and others.

As mentioned previously, the CTE section also supported the development of partnerships between schools and business/industry representatives in order to more fully develop work-based learning programs. Many of those programs provide students with exposure to entrepreneurial concepts and best practices in a real-world setting. Many schools have also implemented mentorship programs so that students can hear stories, advice and ideas from employers who have established privately-owned businesses.

**11. During the reporting year, did your state use Perkins funds to improve the recruitment and retention of career and technical education teachers, faculty, administrators, or career guidance and academic counselors, and the transition to teaching from business and industry, including small business?**

No

**12. During the reporting year, did your state use Perkins funds to support occupational and employment information resources?**

Yes

The WDE CTE section used Perkins funds to support occupational and employment information distribution in a variety of ways. First, two hundred copies of the book “Employer Engagement Toolkit: A Step-by-Step Guide to Building Strong & Sustainable Business/Education Partnerships for CTE, STEM, and Academy Leaders,” by Pawlowski and Katz, were purchased and distributed to LEAs and IHEs in Wyoming. This includes information about collecting employment/occupational information to share with students.

Secondly, as mentioned previously, twelve Wyoming educators, including one WDE CTE consultant, attended and successfully completed the CDF course during the summer of 2015, and are following (or have followed) up with the GCDF credential application, which (if approved) provides the certification. Two CTE consultants are currently in the process of becoming CDF trainers, which will enable the delivery of the CDF course to future cohorts more cost-effectively and on a timeline that is more realistic for educators. Also, the course content will be updated to include supplementary information about Wyoming job outlook, labor market statistics, and regional business/industry needs.

Third, the CTE section continues to work closely with the WDE Communications team to work collaboratively on leveraging social media platforms and audio-visual technologies. For example, an electronic newsletter is deployed on a quarterly basis to over 2,600 CTE teachers and constituents throughout the state. Grant information, spotlight CTE programs, occupational and employment information, among many other topics are covered in the newsletter.

Also, early in the 2014-2015 program year, the WDE CTE section partnered with the Wyoming Department of Workforce Services (DWS), Department of Corrections (DOC), Office of Apprenticeship, Wyoming Community College Commission (WCCC), Adult Education, Wyoming Business Council, and others to begin discussion and development of a unified plan for the Workforce Innovation and Opportunity Act (WIOA). Regular meetings were held to discuss a more unified and collaborative approach to providing students with the resources and information necessary to develop academic and CTE skills to achieve employment in Wyoming and beyond. As the implementation stage of WIOA draws nearer, these partnerships will be key in carrying out and sustaining the plan in future years.

Finally, additional resources that were provided at the previously mentioned STEM Conference came through an idea of how information can be shared. Born was the idea, “Share-A-Thon.” There were numerous vendors, Navy recruiters, WDE Hathaway Scholarship representatives, and industry partners with tables of information to be shared with attendees. There was a three hour block of time that attendees could share and receive information on best practices and recruitment of students into STEM programs/fields. These included emphases on special considerations for nontraditional and special populations. This was an excellent way for attendees to put items into their toolbox and take that back to their classrooms.

# Consolidated Annual Report, Program Year 2014 - 2015

## Wyoming

### Step 4: Technical Skills Assessment

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Provide a summary of your state's plan and timeframe for increasing the coverage of programs entered above.

Enter the number of students assessed for technical skill attainment, and the total number of CTE concentrators reported for the program year. The percent of students assessed for technical skill attainment will be automatically calculated.

Population	Number of Students in the Numerator	Number of Students in the Denominator	Percent of Students Assessed
Secondary Students			
Postsecondary Students			

# Consolidated Annual Report, Program Year 2014 - 2015 Wyoming

## Step 8: Program Improvement Plans

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### Extension Requested?

No

### Required Program Improvement Plans

Your state has met at least 90% of the state adjusted level of performance for all core indicators of performance. You do not need to provide state program improvement plans.

### Local Program Improvement Plans

The total number of eligible recipients that failed to meet at least 90 percent of at least one agreed upon local adjusted level of performance and that will be required to implement a local program improvement plan for the succeeding program year is 46, 39 LEAs and seven community colleges.