Wyoming State Department of Education

Carl Perkins IV State Report

Secondary Schools and Students
2009-2010

Submitted by PRES Associates, Inc
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For inquiries, please contact PRES Associates at:
info@presassociates.com
(307) 733-3255

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Introduction to Carl Perkins IV

First, for far too long, CTE has been the neglected stepchild of education reform. That neglect has to stop. And second, the need to re-imagine and remake career and technical education is urgent. CTE has an enormous, if often overlooked impact on students, school systems, and our ability to prosper as a nation.

--US Secretary of Education, Arne Duncan, 2011

The Carl Perkins Act provides federal support for rigorous career and technical education (CTE) programs that provide students with knowledge and skills to keep the United States competitive. States are provided with funds which are in turn distributed to eligible recipients, such as local educational agencies (LEAs) and postsecondary institutions, to develop more fully the academic, and career and technical education knowledge and skills of secondary and postsecondary education students who elect to enroll in career and technical education programs.

In keeping with the evolving trends in career and technical education, the Perkins Act was revised in 2006. One of the notable provisions of the Carl D. Perkins Career and Technical Education Improvement Act (Perkins IV) is the call for "programs of study." The law requires states to offer high school students a new kind of career and technical education that helps prepare them for both college and career, not just for success in entry-level occupations. In addition to the programs of study, the Perkins Act of 2006 has several other features that have significantly impacted state and local recipients of Perkins funds. This includes, but is not limited to: a) an increased emphasis on local accountability; b) changes to federal performance measures and definitions of student populations; c) development and recognition of CTE Programs of Study[1]; d) an emphasis on increasing coordination between the different programs within CTE as well as integration with academics; and e) focusing CTE so that students are being prepared for future employment in high-demand, high-skill, and/or high-wage jobs.

The following report presents data collected during the 2009-2010 school year from Wyoming high schools under the guidelines set forth under the second year of Perkins IV. The information contained in this report illustrates how CTE programs are working in the state of Wyoming and also provides invaluable data to inform future planning.

[1] Such Programs of Study should explicitly address: 1) connections between secondary and postsecondary education; and 2) integration of academic and technical skills.

CTE Concentrators and Participants

Demographic information was collected from 66 secondary schools with students participating in CTE programs in Wyoming during the 2009-10 school year. Specifically, this information was collected from CTE Concentrators and CTE Participants. The table below describes how these categories are defined under Perkins IV. The charts and tables in this section summarize the demographic information available for these CTE students.

Table 1. Perkins Student Definitions

Perkins IV Definitions
At the *secondary level*, a **CTE concentrator** is defined as a secondary student who has completed three or more courses in a CTE program, including those who may be currently enrolled in their third course.
At the *secondary level*, a **CTE participant** is defined as a secondary student who has *completed* one or more courses in a CTE program sequence.

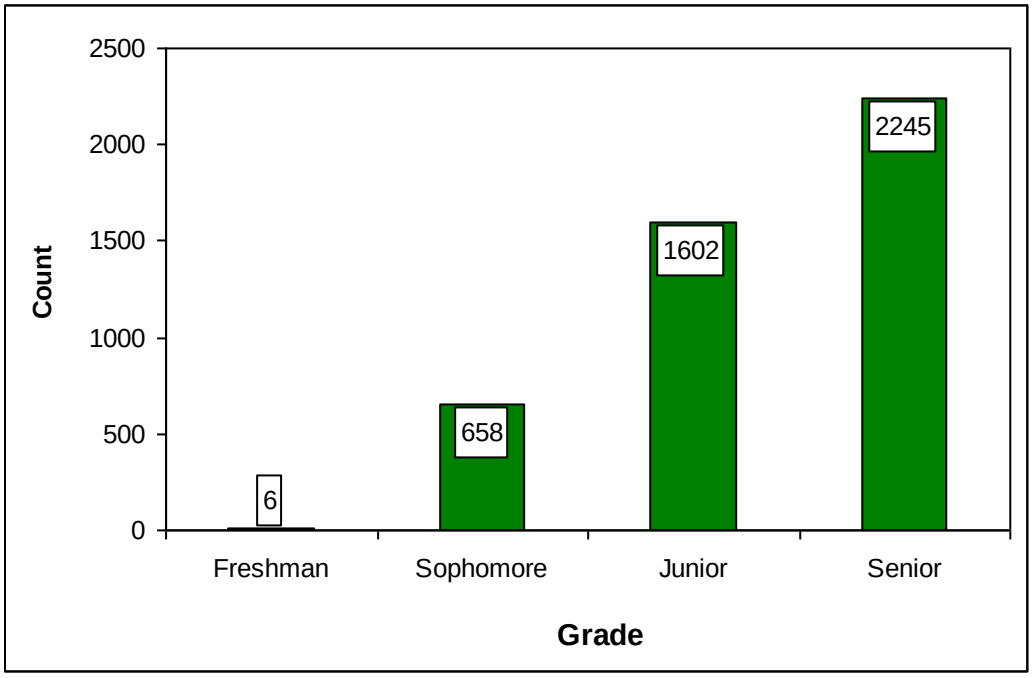
CTE Concentrators

At the secondary level, a **CTE concentrator** is defined as a secondary student who has completed three or more courses in a CTE program, including those who may be currently enrolled in their third course.

There were 4,511 total students reported as CTE concentrators during the 2009-2010 school year. The charts and tables that follow show the demographic information reported on CTE concentrators by grade level, gender, ethnicity, eligibility category, number of CTE program courses taken, and career cluster/program area.

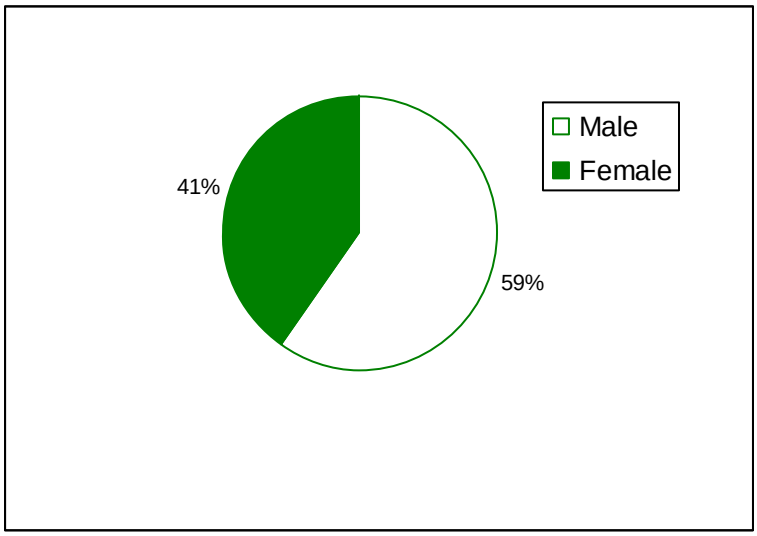
Grade Level. Among CTE concentrators, the majority of students (50%) were seniors, followed by 36% who were juniors. Only 15% of CTE concentrators were sophomores, and very few freshman students (0.1%) met the definition of a CTE concentrator. Such a grade level distribution is to be expected given that CTE concentrators must have at least completed 2 courses and currently enrolled in a 3rd course.

Figure 1. CTE Concentrator by Grade



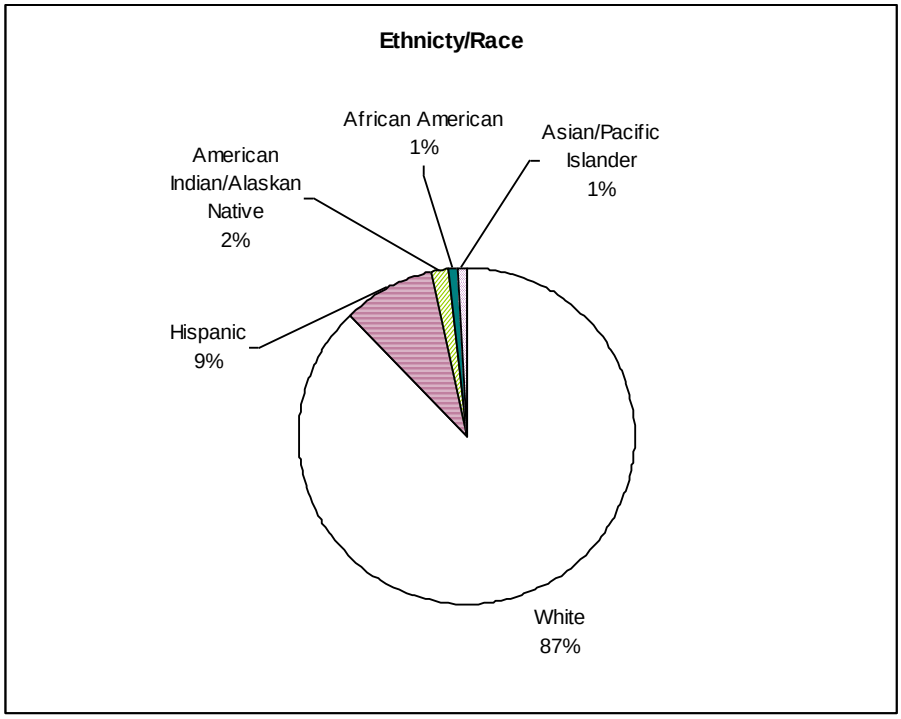
Gender. During the 2009-2010 year, it was reported that 2,680 (59%) CTE concentrators were male and 1831 (41%) were female. The proportion of males to females was very consistent with what was reported during the 2008-2009 school year (58% males; 42% females).

Figure 2. CTE Concentrator by Gender



Ethnicity. The majority of CTE concentrators are White (87.7%), followed by Hispanics (9%). Note that these figures are consistent with the ethnic/racial distribution of the student population statewide (89% White; 7% Hispanic; and Other 4%). Thus, although there are relatively few minority CTE concentrators, this is consistent with the statewide composition and remains stable with the 2007-2008 and 2008-2009 school years.

Figure 3. CTE Concentrator by Ethnicity



* Two or More Races = .4%

Eligibility Category. Within the subpopulations, most concentrators fell into the economically disadvantaged category (18.2% of total concentrators). In addition, compared to last year's eligibility category composition, the distribution of the subpopulations has remained stable.

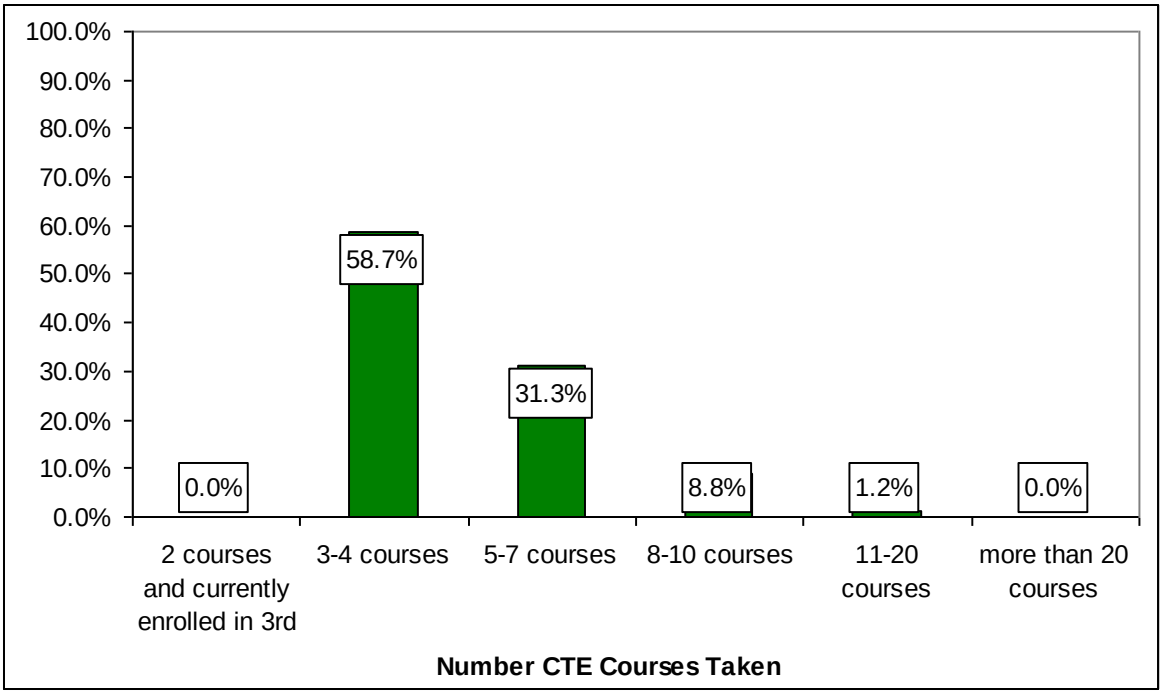
Table 2. CTE Concentrator by Eligibility Category

Category*	Count	Percent of Total
Economically Disadvantaged	823	18.2%
Disability	339	7.5%
Single Parent	189	4.2%
Other Educational Barriers	78	1.7%
Limited English Proficiency	61	1.4%
Corrections	50	1.1%
Displaced Homemaker	43	1.0%
Migrant	42	0.9%

*Students may have been eligible under more than one category.

Number of CTE program courses taken. The majority of CTE concentrators (58.7%) have taken 3-4 CTE courses.

Figure 4. CTE Concentrator by Number Courses Taken



Career/cluster/program area. For the seventh year in a row, architecture and construction, agriculture, business administration, and manufacturing were the most popular program areas with the highest enrollment among CTE concentrators. More than half (55.3%) of all CTE concentrators were enrolled in these four program areas.

Note that in line with these results, Wyoming prioritized the development of the new assessment system by first developing CTE assessments for pathways with the Architecture and Construction, Manufacturing, and Agriculture program areas.

Table 3. CTE Concentrator Enrollment by Program Area

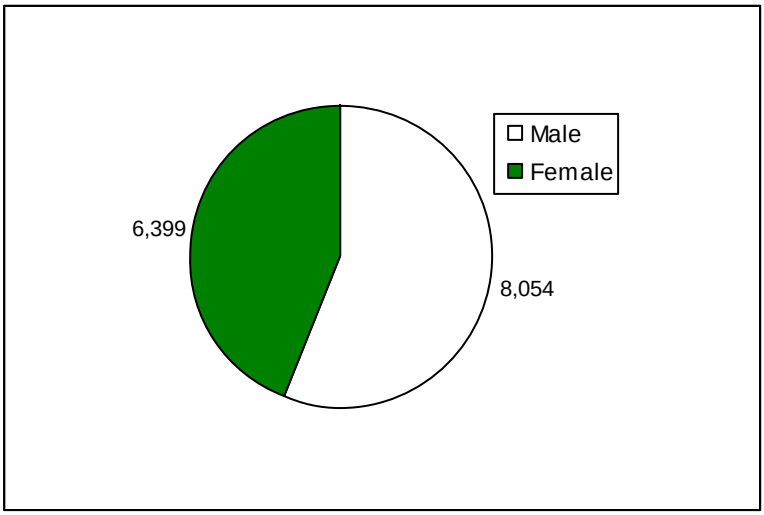
Program Area	Count	Percent
Architecture & Construction	788	17.5%
Agriculture, Nat. Resources	696	15.4%
Business Admin.	545	12.1%
Manufacturing	467	10.3%
Hosp. & Tourism	385	8.5%
Info. Technology	343	7.6%
Arts, AV Tech & Comm.	291	6.5%
Transportation, Distribution & Logistics	279	6.2%
Human Services	272	6.0%
Health Science	172	3.8%
Retail & Wholesale Sales	144	3.2%
Science Research & Engineering	45	1.0%
Education & Training	39	0.9%
Finance	28	0.6%
Gov. & Public Admin.	14	0.3%
Law & Public Safety	1	0.0%

CTE Participants

At the secondary level, a **CTE participant** is defined as a secondary student who has *completed* one or more courses in a CTE program sequence.

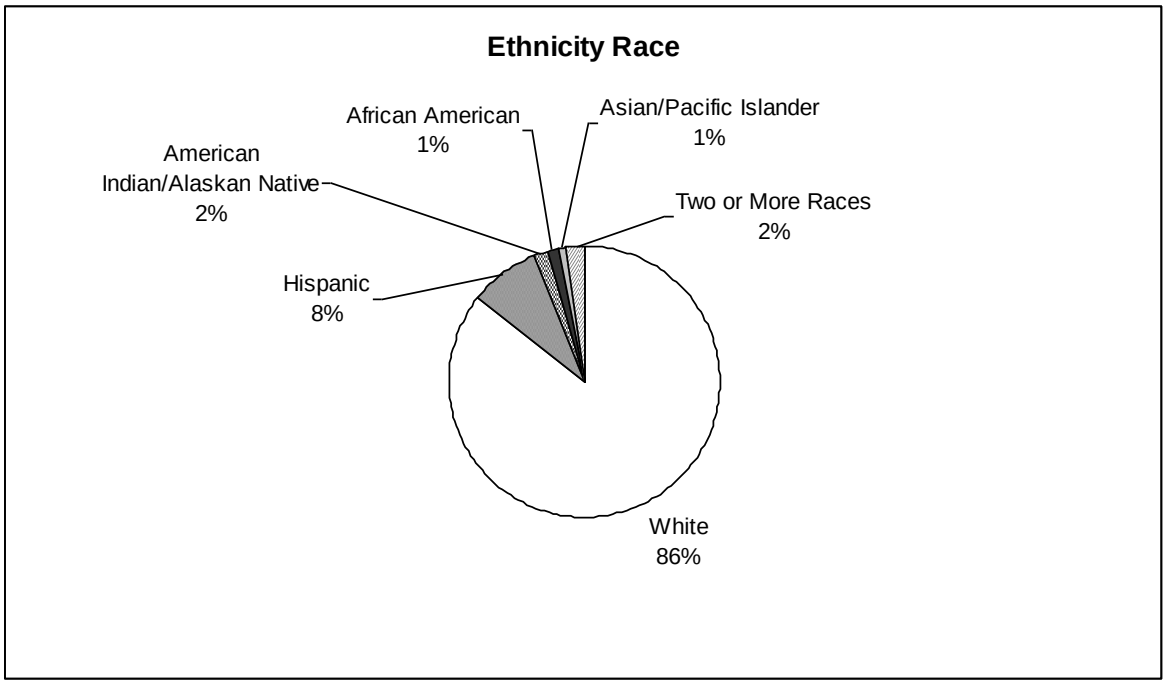
Gender. During the 2009-2010 school year, it was reported that 8,045 (55.6%) males and 6,399 (44.3%) females were CTE participants.

Figure 5. CTE Participants by Gender



Ethnicity. As noted previously, due to limited ethnic diversity overall in Wyoming, the ethnic distribution of CTE participants consists of 86% White students.

Figure 6. CTE Participants by Ethnicity



Eligibility Category. Most CTE participants in a special population were categorized as non-traditional enrollees (59.4% of total).

Table 4. CTE Participants by Eligibility Category

Category*	Count	Percent of Total
Nontraditional Enrollees	8,580	59.40%
Economically Disadvantaged	2,994	20.72%
Disability	990	6.85%
Single Parent	265	1.83%
Limited English Proficiency	116	0.80%
Migrant Status	18	0.12%
Displaced Homemakers	13	0.09%

Federal Indicators

Summary of Results

The following table shows an overall summary of results statewide by each of the federal Perkins IV indicators. The sections that follow describe results for each of these indicators in more detail and by subgroup. As noted, with the exception of 1S1 (reading attainment) all targets were met.

Table 5. Summary of Federal Perkins IV Indicator Results: Statewide

Indicators	Perkins IV Measurement Definitions	2009-2010 Results	2009-2010 Targets
(1S1) Academic Attainment: Reading	Percent of CTE concentrators who have met the proficient or advanced level on the PAWS reading assessment administered by the State of Wyoming under Section 1111(b)(3) of the Elementary and Secondary Education Act (ESEA) as amended by the No Child Left Behind Act based on the scores that were included in the State's computation of adequate yearly progress (AYP)	66.37	67.00
(1S2) Academic Attainment: Math	Percent of CTE concentrators who have met the proficient or advanced level on the PAWS math assessment administered by the State of Wyoming under Section 1111(b)(3) of the Elementary and Secondary Education Act (ESEA) as amended by the No Child Left Behind Act based on the scores that were included in the State's computation of adequate yearly progress (AYP)	65.99	62.90
(2S1) Technical Skill Attainment	Percent of CTE concentrators who passed technical skill assessments that are aligned with industry-recognized standards, if available and appropriate, during the reporting year.	76.49	53.00
(3S1) Completion	Percent of CTE concentrators who earned a regular secondary school diploma, earned a General Education Development (GED) credential as a State-recognized equivalent to a regular high school diploma (if offered by the State) *or* other State-recognized equivalent (including recognized alternative standards for individuals with disabilities), *or* earned a proficiency credential, certificate, or degree, in conjunction with a secondary school diploma (if offered by the State) during the reporting year.	95.57	90.50
(4S1) Graduation Rate	Percent of CTE concentrators who, in the reporting year, were included as graduated in the State's computation of its graduation rate as described in Section 1111(b)(2)(C)(vi) of the ESEA	94.25	81.00
(5S1) Placement	Percent of CTE concentrators who left secondary education and were placed in postsecondary education or advanced training, in the military service, or employment in the second quarter following the program year in which they left secondary education.	96.93	95.00
(6S1) Non-Traditional Participation	Percent of CTE participants from underrepresented gender groups who participated in a program that leads to employment in nontraditional fields during the reporting year.	35.55	30.21
(6S2) Non-Traditional Completion	Percent of CTE concentrators from underrepresented gender groups who completed a program that leads to employment in nontraditional fields during the reporting year.	33.12	27.56

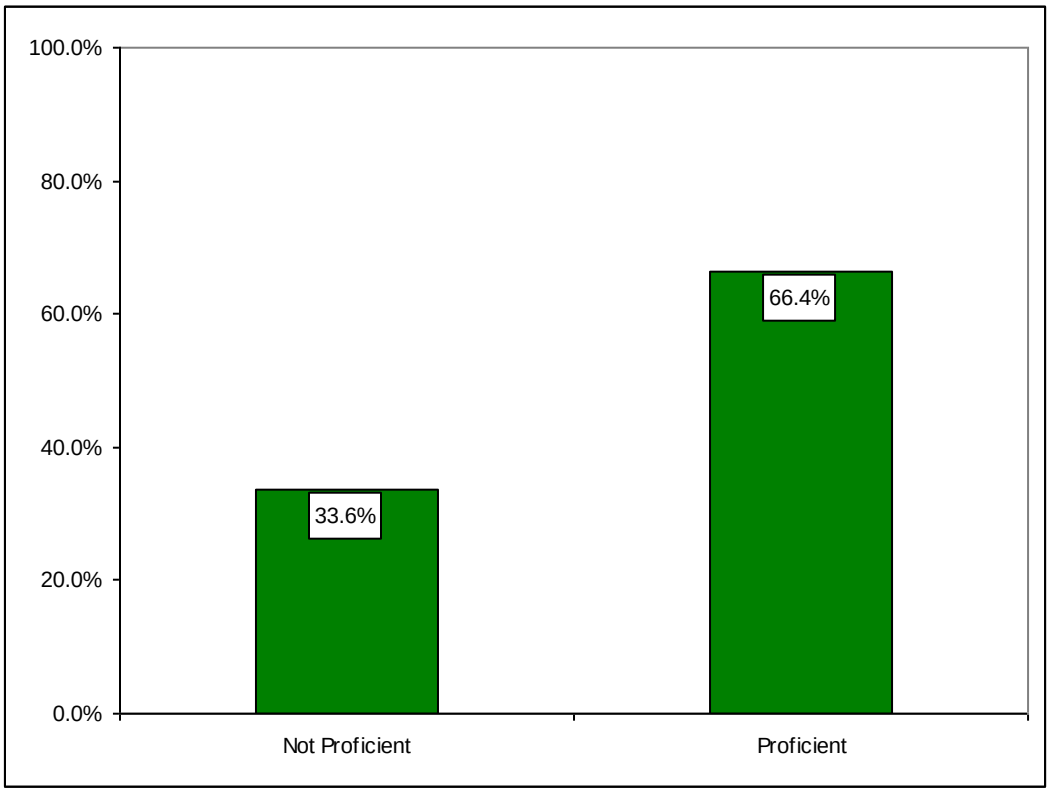
Note: Columns highlighted in yellow indicate that target goals were met for the 2009-2010 school year

1S1 – Academic Attainment: Reading

To compute academic attainment, CTE concentrators entered in the WyCTA database are matched with PAWS data received from the Wyoming Department of Education (*NOTE:* Per Federal guidelines, only students whose scores were included in statewide AYP computation are included). For example, for the 2009-10 school year, CTE concentrators from the WyCTA database were matched with all 11th graders who took the PAWS in Spring 2010. The indicator was then calculated by the number of CTE concentrators proficient on the reading portion of the PAWS.

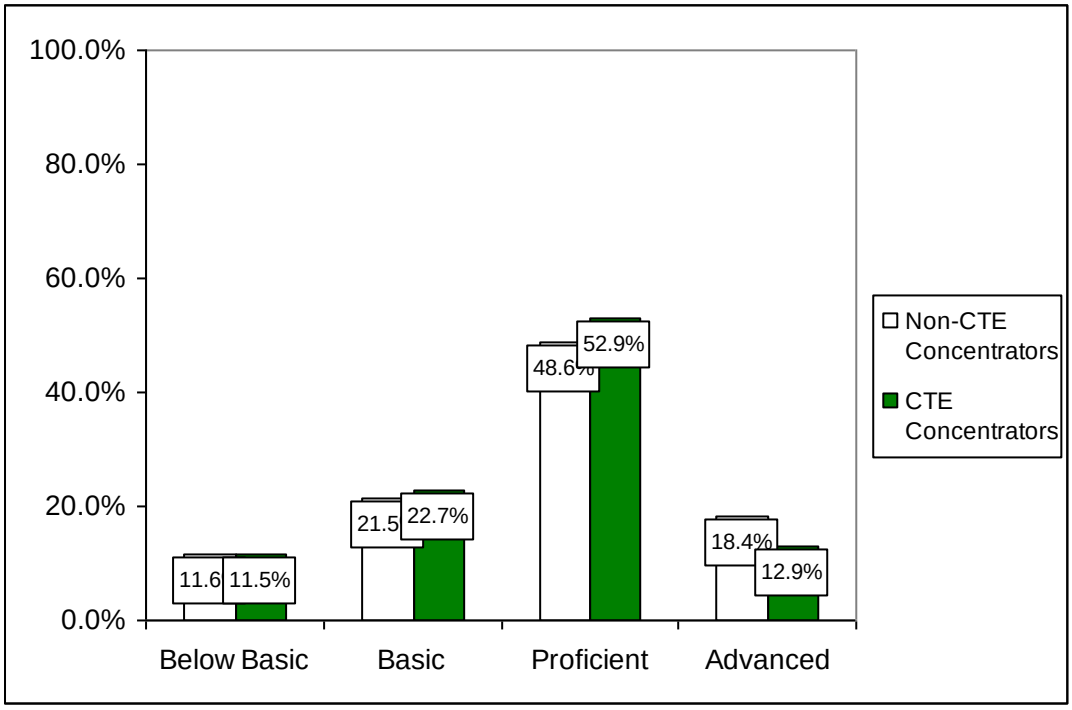
Overall, **66.4% of CTE concentrators were proficient on the reading** subtest as compared to 33.6% not proficient. This represents an increase from the prior year when 62% of concentrators were proficient.

Figure 7. Percent of CTE Concentrators Proficient on Reading Subtest of PAWS



Comparisons between CTE concentrators and non-CTE concentrators show that overall academic proficiency rates in reading were very similar (65.8% for concentrators and 67% for non-concentrators). While a slightly higher proportion of CTE concentrators (53%) were classified as Proficient than non-CTE concentrators (49%), there were more non-CTE concentrators in the Advanced proficiency level (18%) than CTE concentrators (13%).

Figure 8. PAWS Reading Proficiency Level by Type of Student



Indicator 1S1 by Subpopulations:

Results for indicator 1S1 by the subgroups of gender, ethnicity and special populations are reported in the following table. Highlights and key finding include:

- 70.93% of females were proficient in reading as compared to 63.32% of males.
- Students in the ethnicity categories of White (67.18%) and Asian/Hawaiian/Pacific Islander (66.67%) had the highest percentages of students meeting reading proficiency targets for reading.
- The highest proportion of special population students to meet this indicator were non-traditional students (76.53%).

Table 6. Indicator 1S1 Results by Subpopulations

(1S1) Academic Attainment: Reading			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students Meeting Indicator**
Male	592	935	**63.32%**
Female	444	626	**70.93%**
Ethnicity			
American Indian	16	25	**64.00%**
Asian/ Hawaiian/Pacific Islander	8	12	**66.67%**
Black	2	10	**20.00%**
Hispanic	87	141	**61.70%**
White	917	1,365	**67.18%**
Two or more races	*	*	*
Special Populations			
Individuals With Disabilities	41	126	**32.54%**
Economically Disadvantaged	167	285	**58.60%**
Single Parents	40	73	**54.79%**
Displaced Homemakers	10	20	**50.00%**
Limited English Proficient	12	28	**42.86%**
Migrant	10	21	**47.62%**
Non-Traditional	199	260	**76.53%**

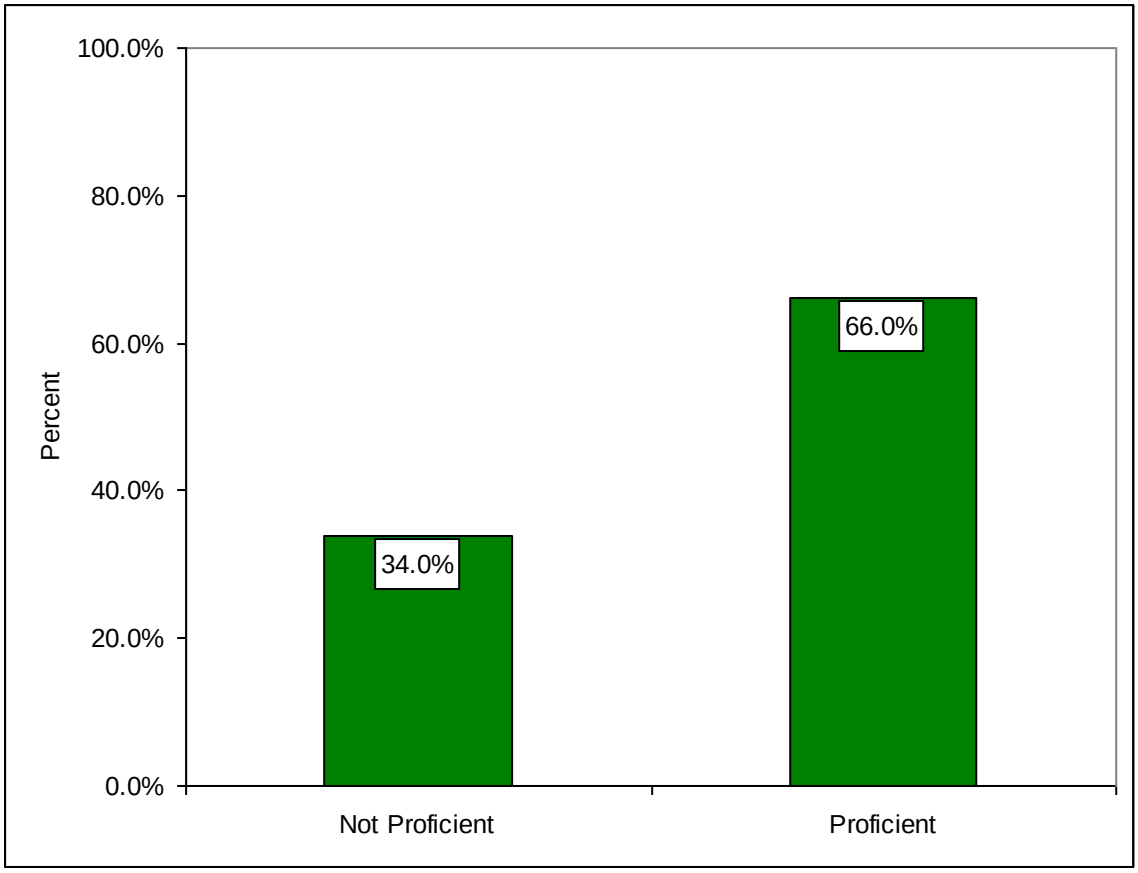
NR: Not Reported means that there were no concentrators, completers or participants reported in this category.
* An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

1S2 – Academic Attainment: Mathematics

Like indicator 1S1, in order to determine academic skill attainment in mathematics per Perkins IV guidelines, data from the Proficiency Assessment for Wyoming Students (PAWS) was obtained from the Wyoming Department of Education. The indicator is then calculated the same way (i.e. number of CTE concentrator's proficient on the mathematics portion of the PAWS). Again, it should be noted that these results include concentrators assessed via the PAWS during the 09-10 school year.

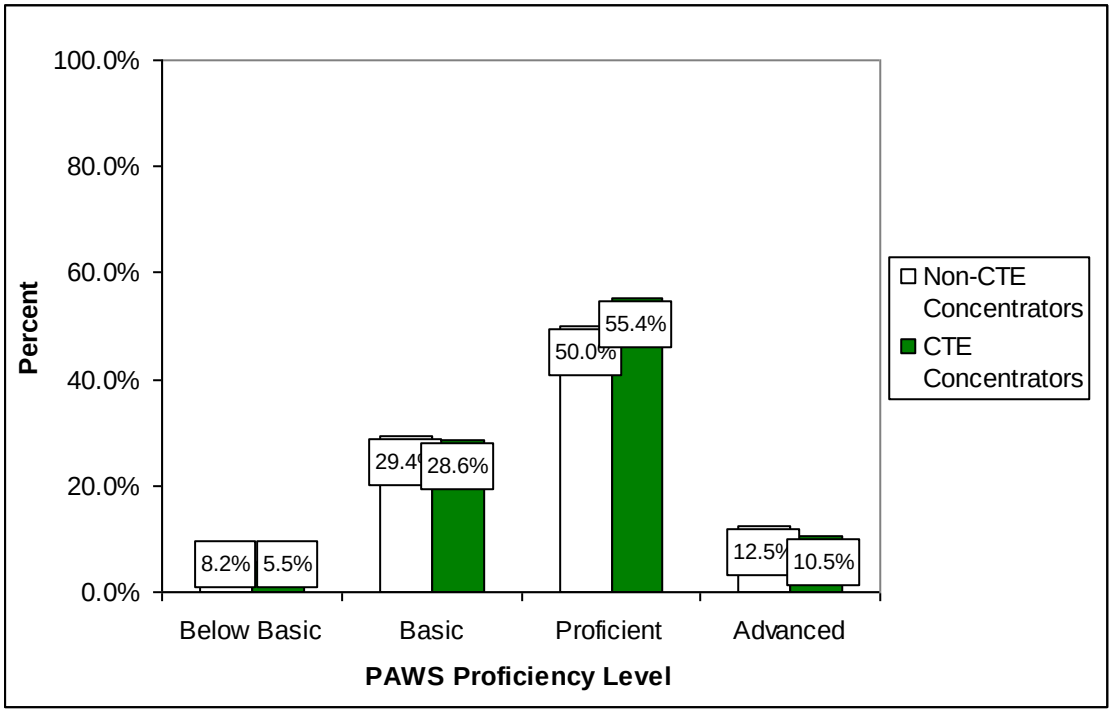
Statewide results show that **66.0% of CTE concentrators were proficient in math** as compared to 34.0% who were not proficient. This represents a decrease as compared to last year (69.6%)

Figure 9. Percent of CTE Concentrators Proficient on Math Subtest of PAWS



Comparisons between CTE concentrators and non-CTE concentrators show that overall academic proficiency rates in math were slightly higher concentrators (66%) as compared to non-concentrators (63%). As shown in the following figure, a higher percentage (55%) of CTE concentrators were under the Proficient category than non-CTE concentrators (50%); however, 12.5% of non-CTE concentrators were advanced as compared to 10.5% of CTE concentrators.

Figure 10. PAWS Math Proficiency Level by Type of Student



Indicator 1S2 by Subpopulations:

Results for indicator 1S2 by subgroups are shown in the table below. Highlights of these results include:

- Proficiency rates by gender show that the percent proficient was similar between females (66.08%) and males (65.92%).
- For ethnicity, Asian/Hawaiian/Pacific Islander students were most likely to meet the math proficiency targets (75.00%).
- Looking at special populations, students in the non-traditional (71.54%) category had the highest proportion of students meeting the proficiency target, while students with disabilities had the lowest percentage of students meeting the target (33.30%).

Table 7. Indicator 1S2 Results by Subpopulations

(1S2) Academic Attainment: Mathematics			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students Meeting Indicator**
Male	619	939	**65.92%**
Female	415	628	**66.08%**
Ethnicity			
American Indian	14	25	**56.00%**
Asian/ Hawaiian/Pacific Islander	9	12	**75.00%**
Black	2	10	**20.00%**
Hispanic	88	142	**61.97%**
White	914	1379	**66.28%**
Two or more races	*	*	*
Special Populations			
Individuals With Disabilities	42	126	**33.30%**
Economically Disadvantaged	162	286	**56.64%**
Single Parents	35	74	**47.30%**
Displaced Homemakers	9	20	**45.00%**
Limited English Proficient	11	28	**39.29%**
Migrant	9	21	**42.86%**
Non-Traditional	186	260	**71.54%**

NR: Not Reported means that there were no concentrators, completers or participants reported in this category.
* An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

2S1 – Technical Skill Attainment

Indicator 2S1 reports on the percent of CTE concentrators who passed technical skill assessments that are aligned with industry-recognized standards, if available and appropriate, during the reporting year. Wyoming continues to design a new assessment mechanism for programs that will allow measurement to occur at the industry-specific level to meet the requirement of the new Perkins law. 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." While Wyoming has historically had a statewide assessment of technical skill attainment, the prior statewide assessment of CTE skills was designed to tap generic workplace skills[2] solely and is not industry-specific. Wyoming has developed a multi-step, multi-year, phase-in of a new CTE assessment system. The general process for development of this new system consists of the following:

- Convene an oversight coordinating group.
- Create criteria for updating program standards.
- Convene expert content teams (educators and business) to review content standards to be assessed.
- For each program area, determine if existing assessments are appropriate and affordable; determine where new assessments need to be developed.
- Select and/or develop assessments to measure the articulated skills and competencies.
- Create and/or pilot versions of the new assessments.
- Apply criteria for test security, administration and reporting features.
- Train pilot-group of teachers in new assessment standards and processes.
- Train teachers in developing formative assessments based upon the program's tested competencies.
- Implement new assessments with pilot group of teaches and faculty.
- 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.

These processes began during the 2007-2008 school year for the program areas of Manufacturing, Agriculture and Natural Resources, and Architecture and Construction, three of Wyoming's highest enrollment program areas. In Spring 2010, students who were CTE concentrators within the following pathways were able to take assessments:

- Agriculture Mechanics
- General Agriculture (includes Agriculture Business, Animal Science, Plant Science)
- Cabinetmaking & Woodworking
- Residential & Commercial Carpentry
- Technical Drafting
- Architectural Drafting

[2] It should be noted that the new assessment system may still include generic workplace skills that transcend individual program areas, however, it is no longer considered sufficient that this is the only dimension of technical skill attainment measured by the state assessment. Measures of industry-specific competencies must also be built into any statewide assessment system designed to measure technical skill attainment.

- Welding

In addition to these industry-aligned assessments, data was obtained on students within a pathway that has an industry-certified exam available (e.g., Culinary ProStart, CNA certification, etc.). For Pre-Engineering concentrators, data on their performance in "Project Lead the Way", a course sequence specific for Pre-Engineering students was also obtained. For the remaining CTE concentrators, the existing WyCTA skills assessment was used (this test measures Affective & Thinking skills, Pre-Employment skills, and Employability skills) while the new assessment system continues to be developed. Of note is that we anticipate that in Spring 2011, the Automotive Technology assessment will be available.

During the 2009-2010 reporting year, determination of technical skill attainment was based on which CTE program area concentrators participated in and was calculated accordingly. See below:

1) ***If in a pathway that has CTE online assessment (i.e., General Ag, Ag Mechanics, Technical Drafting, Architectural Drafting, Residential & Commercial Carpentry, Cabinetmaking & Woodworking, Welding):***

   Calculation based on:

$$\frac{\text{Concentrators over proficiency cut score}}{\text{Concentrators who took CTE online assessment}}$$

2) If in the Engineering pathway and completed Project Lead the Way:

   Calculation based on:

$$\frac{\text{Number of concentrators with GPA >= than 3.0 in Project Lead the Way classes}}{\text{Number of concentrators who completed Project Lead the Way}}$$

3) If in a pathway that offers an industry-certified assessment:

   Calculation based on:

$$\frac{\text{Concentrators who passed an industry certified test}}{\text{Concentrators who took an industry certified test}}$$

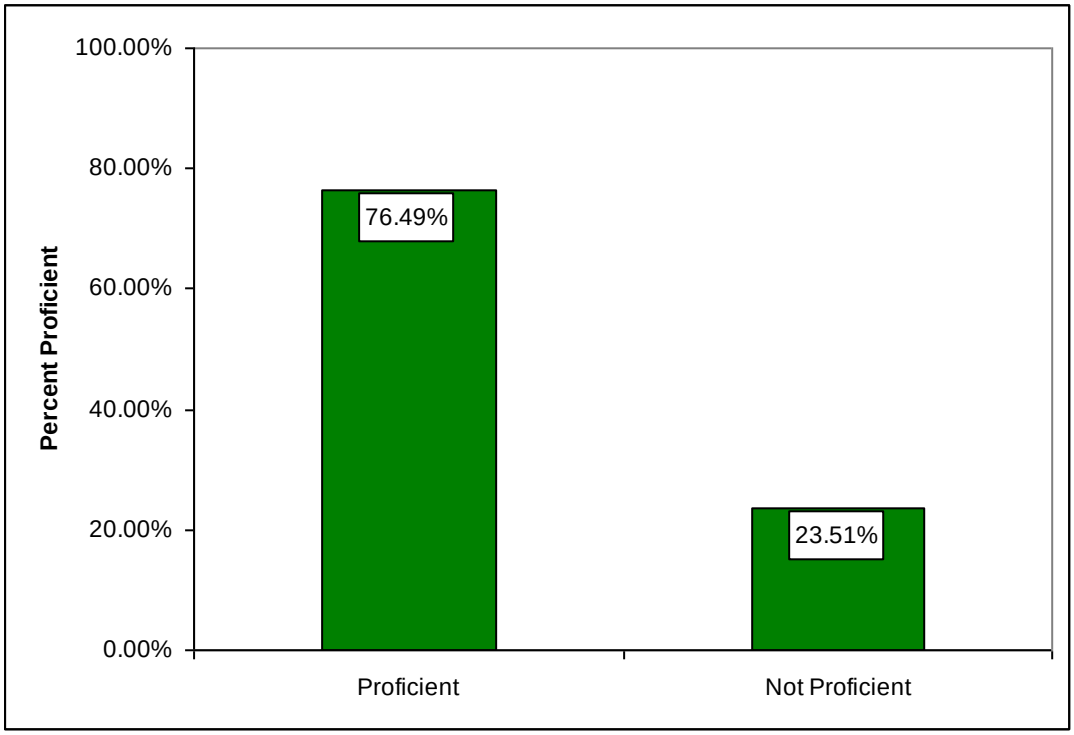
4) If in a pathway that is not listed above (i.e., no CTE online assessment is available, did not complete Project Lead the Way, or did not offer an industry-certified assessment):

   Calculation based on:

$$\frac{\text{Concentrators who were proficient on 2 out 3 WyCTA Content Areas}}{\text{Concentrators who took WyCTA Assessment}}$$

Results showed that 76.5% of CTE concentrators were proficient in technical skills compared to only 23.5% who were not proficient. During the 2008-2009 school year, 82% of CTE concentrators were proficient, however, during the 2008-2009 school year, technical skill attainment was based solely on the WyCTA assessment. As such 08-09 and 09-10 results are not directly comparable.

Figure 11. Total Technical Skill Proficiency



The table below shows results for proficiency in the various assessment categories. CTE concentrators did well on industry-certified exams, and among Pre-Engineering students, in the Project Lead the Way courses. In contrast, students had more difficulty on the new online assessments. However, this is to be expected during the first year of a new, more rigorous and industry aligned assessment system.

Figure 12. Overall Proficiency by Type of Assessment

	# Who Passed	# Who Took	Percent Proficient
WY CTE Online Assessment	415	844	49.2%
Project Lead the Way Courses (Pre-Engineering)	28	28	100.0%
Industry-certified exam	68	75	90.7%
WyCTA	2428	2884	84.2%
TOTAL*	**2893**	**3782**	**76.5%**

*Total is not sum of above categories. This is because students may have taken multiple tests (e.g., online assessment and WyCTA). In calculating technical skill attainment, preference was given to industry-aligned exams.

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) were the most proficient. Welding and Technical Drafting students were the least proficient.

Table 8. Technical Proficient by CTE Pathway Test

	Not proficient		Proficient	
	Count	**Row N %**	**Count**	**Row N %**
Agricultural Mechanics	5	29.4%	12	70.6%
Architectural Drafting	4	44.4%	5	55.6%
Cabinetmaking & Woodworking	82	41.6%	115	58.4%
General Agriculture	104	39.0%	163	61.0%
Residential and Commercial Carpentry	27	54.0%	23	46.0%
Technical Drafting	54	61.4%	34	38.6%
Welding	153	70.8%	63	29.2%
Total	**429**	**50.8%**	**415**	**49.2%**

Among CTE concentrators assessed, the program areas with the highest percent of proficient students were Retail and Wholesale (95.2% proficient), Science & Engineering (91.9% proficient) and Education and Training (89.5% proficient). The lowest percent proficiency was in the Arts & AV program area with 61.7% proficient.

Table 9. Technical Proficiency by Program Area

	Number Assessed	Percent Proficient
Retail & Wholesale Sales	124	95.2%
Sci. Research & Engineering	37	91.9%
Education & Training	38	89.5%
Hosp. & Tourism	362	87.6%
Business Admin.	534	86.9%
Finance	25	84.0%
Human Services	268	83.6%
Info. Technology	318	82.1%
Gov. & Public Admin.	14	78.6%
Health Science	149	78.5%
Transportation, Distribution & Logistics	274	77.7%
Agriculture, Nat. Resources	467	71.3%
Architecture & Construction	557	65.7%
Arts, AV Tech & Comm.	614	61.7%
Law & Public Safety*	--	--
Manufacturing*	--	--

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

Indicator 2S1 by Subpopulations:

Highlights of results for technical skill attainment by subpopulation include:

- Results by gender show that a higher percentage of females (84.9%) met the technical skill proficiency skill targets than males (70.1%)
- The highest percentage of students meeting technical skill proficiency targets were Asian/Pacific Islander students (88.9%). Hispanic students had the fewest (69.3%) proficient on the total WyCTA scale.
- Non-traditional CTE concentrators showed the highest proficiency level at 83.45%.

Table 10. Indicator 2S1 Results by Subpopulations

(2S1) Technical Skill Attainment			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students Meeting Indicator**
Male	1,507	2,149	**70.13%**
Female	1,386	1,633	**84.87%**
Ethnicity			
American Indian	47	64	**73.44%**
Asian/ Hawaiian/Pacific Islander	24	27	**88.89%**
Black	22	29	**75.86%**
Hispanic	230	332	**69.28%**
White	2,559	3,315	**77.19%**
Other	11	15	**73.34%**
Special Populations			
Individuals With Disabilities	158	288	**54.86%**
Economically Disadvantaged	475	700	**67.86%**
Single Parents	107	163	**65.64%**
Displaced Homemakers	19	38	**50.00%**
Limited English Proficient	28	54	**51.85%**
Migrant	18	36	**50.00%**
Non-Traditional	575	689	**83.45%**

NR: Not Reported means that there were no concentrators, completers or participants reported in this category.

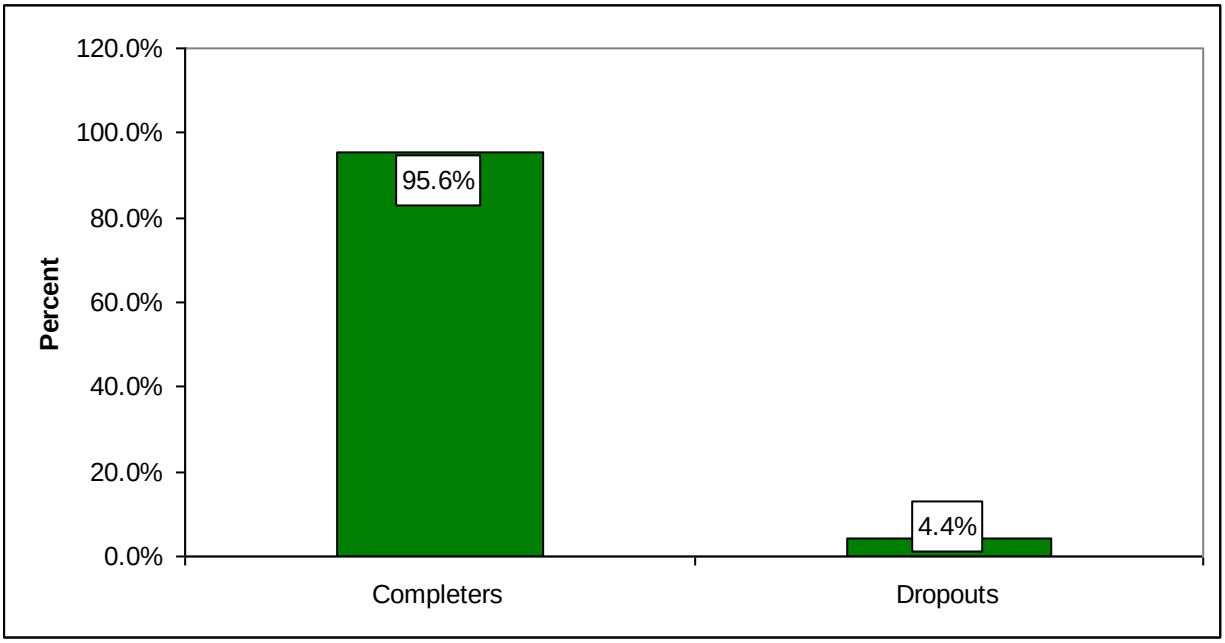
- An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

3S1 – Secondary School Completion

The indicator is calculated by identifying CTE concentrators who were noted as earning a diploma or dropping out of secondary education during the reporting year (2009-10). Students noted as receiving a diploma are included in the numerator while all students noted as leaving secondary education are included in the denominator.

Results show that 2,349 CTE concentrators left secondary education during the 2009-2010 school year. This included 2,245 completers and 104 dropouts. Thus, 96% of CTE concentrators who left secondary education earned a diploma during the 09-10 school year. This represents an increase by 2% as compared to the prior year (94%)

Figure 13. Completion Rate for CTE Concentrators



Indicator 3S1 by Subpopulations:

Results by subpopulations for indicator 3S1 show a higher percentage of students meeting the indicator. Highlights of the results shown in the table below include:

- 96.6% of females met indicator 3S1 as compared to 94.8% of males.
- For ethnicity subgroups, White (97%) and Asian/Hawaiian/Pacific Islanders (94%) had the highest percentage of students meeting the indicator. American Indians (85%) showed the lowest completion rate.
- Non-traditional enrollees (95%) had the highest completion rates.

Table 11. Indicator 3S1 Results by Subpopulations

(3S1) Secondary School Completion			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students Meeting Indicator**
Male	1,276	1,346	**94.80%**
Female	969	1,003	**96.60%**
Ethnicity			
American Indian	34	40	**85.00%**
Asian/ Hawaiian/Pacific Islander	17	18	**94.40%**
Black	18	20	**90.00%**
Hispanic	181	204	**88.70%**
White	1,986	2058	**96.50%**
Other	11	11	**100.00%**
Special Populations			
Individuals With Disabilities	151	178	**84.80%**
Economically Disadvantaged	374	421	**88.80%**
Single Parents	81	92	**88.00%**
Displaced Homemakers	21	27	**77.80%**
Limited English Proficient	27	36	**75.00%**
Migrant	19	25	**76.00%**
Non-Traditional	398	419	**95.00%**

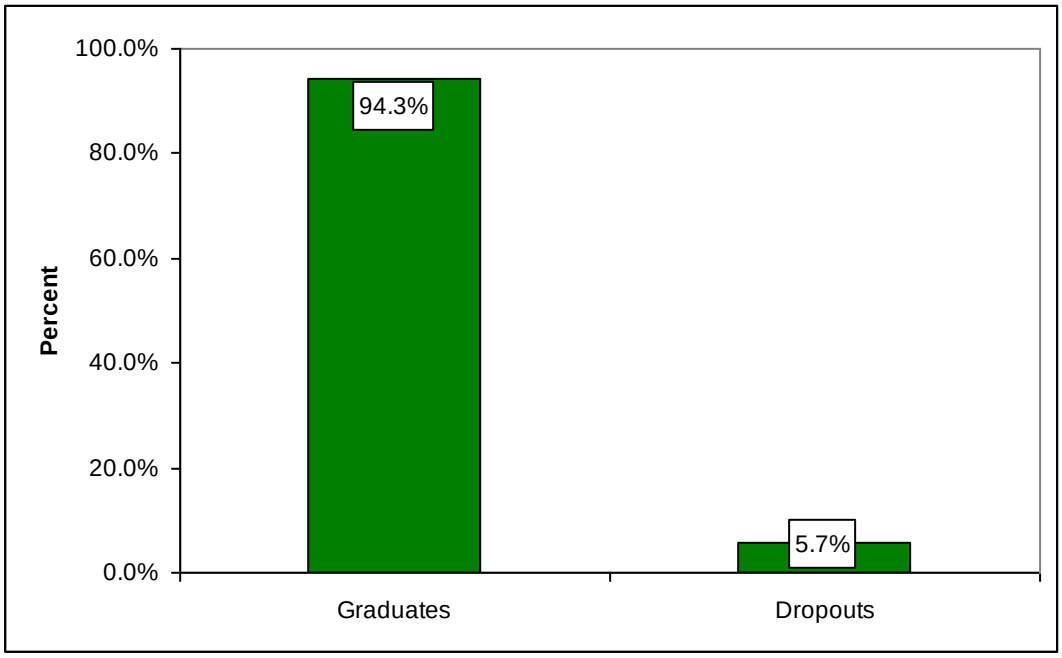
NR: Not Reported means that there were no concentrators, completers or participants reported in this category.
* An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

4S1 – Student Graduation Rates

To calculate indicator 4S1, graduation and dropout data was obtained from the Wyoming Department of Education and matched with identified CTE concentrators who in the reporting year, were included as graduated in the State's computation of its graduation rate as described in Section 1111(b)(2)(C)(vi) of the ESEA. This indicator varies from 3S1 in that the cohort of CTE concentrators used in the calculation of this indicator consists of last year's graduates. This is consistent with how the WDE calculates and reports graduation rates under NCLB for the reporting year.

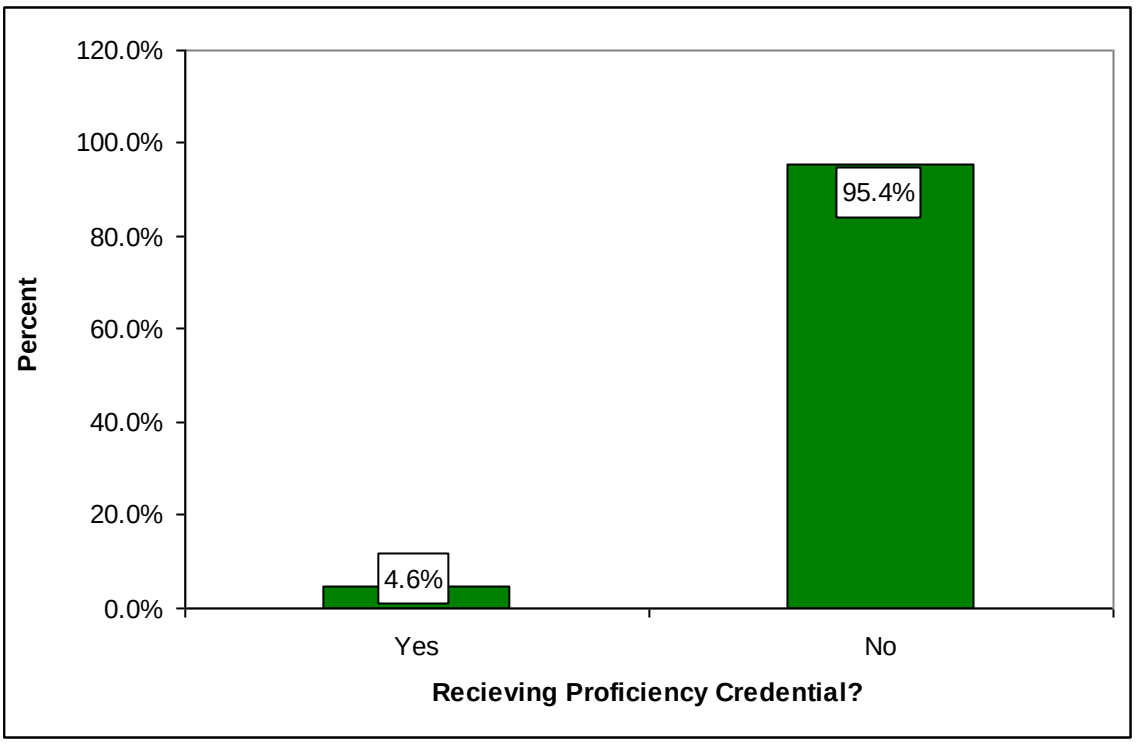
For 2009-2010, 94.3% (2,887 out of 3,063) of eligible CTE concentrators were reported as graduating as compared to 5.7% who were noted as dropping out. This represents an increase as compared to the prior year (91.3%).

Figure 14. Graduation Rate Among CTE Concentrators



Among CTE concentrators who graduated, 4.6% were eligible to receive or received a proficiency credential.

Figure 15. Receipt of Proficiency Credential Among CTE Graduates



The types and amounts of proficiency credentials awarded were consistent with past years. The majority of proficiency credentials or certificates awarded to Wyoming students are in the health field (134individual certificates awarded).

- CNA//CPR/1st Responder/NA (84)
- Diploma/Certificate Unspecified (8)
- Microsoft Office Specialist (7)
- ProStart & ServSafe Certification (10)
- OSHA (11)
- CISCO (3)
- NCEER (7)
- AWS Welding (3)
- Auto Mechanic (1)

Indicator 4S1 by Subpopulations:

Results for indicator 4S1 by subgroups of gender, ethnicity and special populations are shown in the table below. Highlights of these results include:

- Overall, females showed higher graduation rates (96.27%) than males (92.69%).
- White, American Indian and Black students had the highest rate with 95% and 94% of CTE concentrators graduating.
- Examination of special populations showed that single parent students had the highest proportion of concentrators who graduated (97.73%), while students with Limited English Proficiency constituted the lowest percentage of concentrators who graduated (87.50%).

Table 12. Indicator 4S1 Results by Subpopulations

(4S1) Student Graduation Rates			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students Meeting Indicator**
Male	1,597	1,723	92.69%
Female	1,290	1,340	96.27%
Ethnicity			
American Indian	51	54	**94.44%**
Asian/ Hawaiian/Pacific Islander	30	33	**90.91%**
Black	34	36	**94.44%**
Hispanic	175	192	**91.15%**
White	2,593	2,744	**94.50%**
Other	*	*	*
Special Populations			
Individuals With Disabilities	152	166	91.57%
Economically Disadvantaged	388	427	90.87%
Single Parents	86	88	97.73%
Displaced Homemakers	*	*	*
Limited English Proficient	21	24	87.50%
Migrant	*	*	*
Non-Traditional	520	537	96.83%

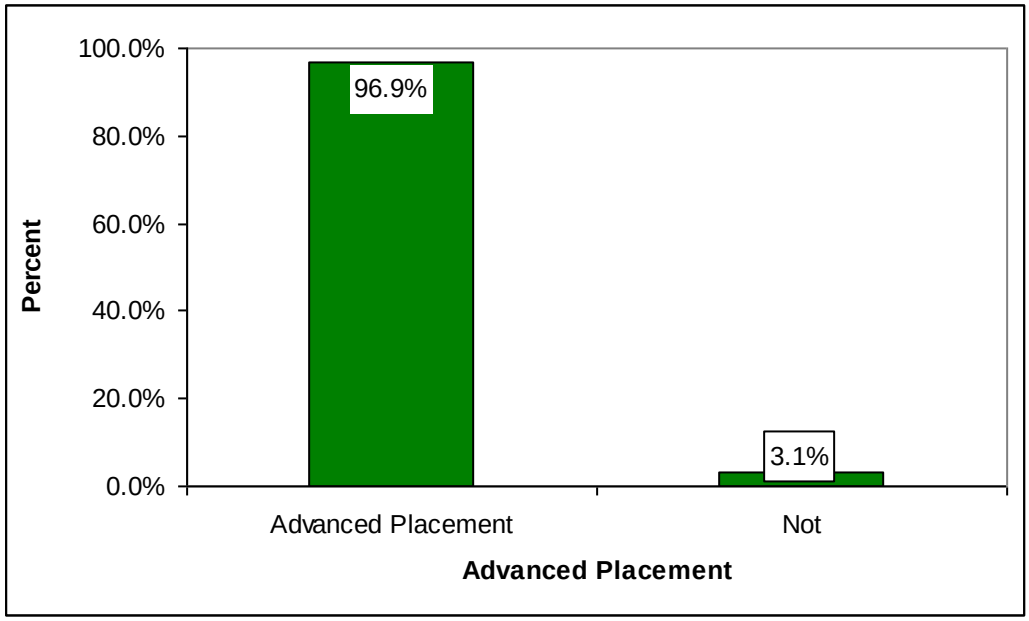
NR: Not Reported means that there were no concentrators, completers or participants reported in this category.
* An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

5S1 – Secondary Placement in employment, post-secondary/advanced education, or the military at follow-up

Under Perkins IV guidelines, follow-up data was required to be collected during the second quarter of the year (e.g., between October 1, 2009 to December 31, 2009 for students leaving secondary education in the 2008-09 school year). Data was collected on all students who leave secondary education, not only graduates. CTE concentrators who left secondary education during the prior year and were followed up are included in the calculation of this indicator (students for which follow-up was not completed are excluded).

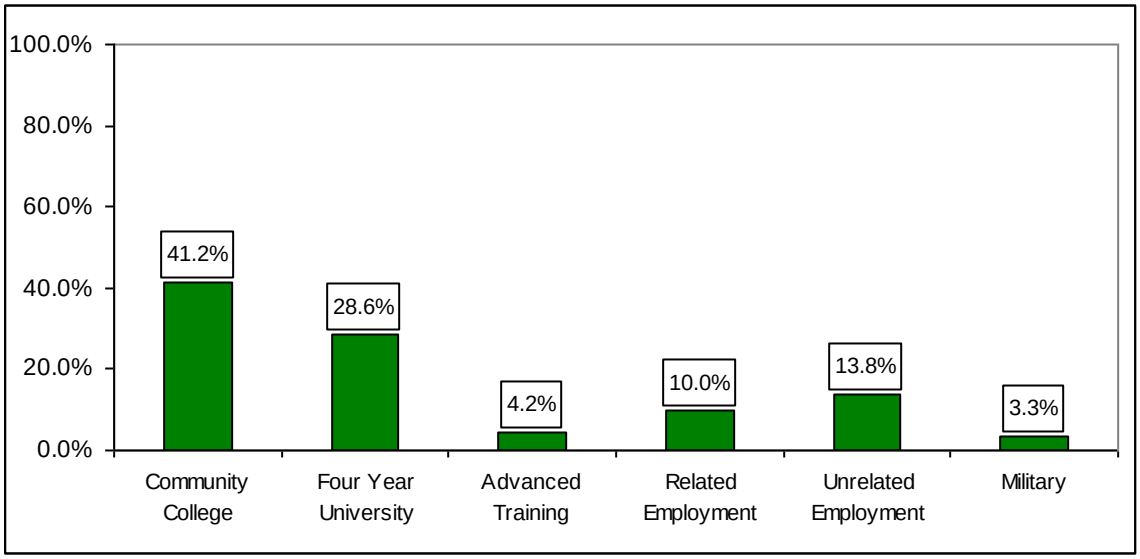
The following graph shows the percent of students in Advanced Placement (i.e. employment, post-secondary education, advanced training, or military) after leaving secondary education. Data was collected the second quarter of 2009 on 2,183 students who had left secondary education in 2008-2009. As shown, 96.9% of students were in advanced placement during the second quarter. This is higher than the prior year's placement result of 95%.

Figure 16. Percent Advanced Placement at Follow-up



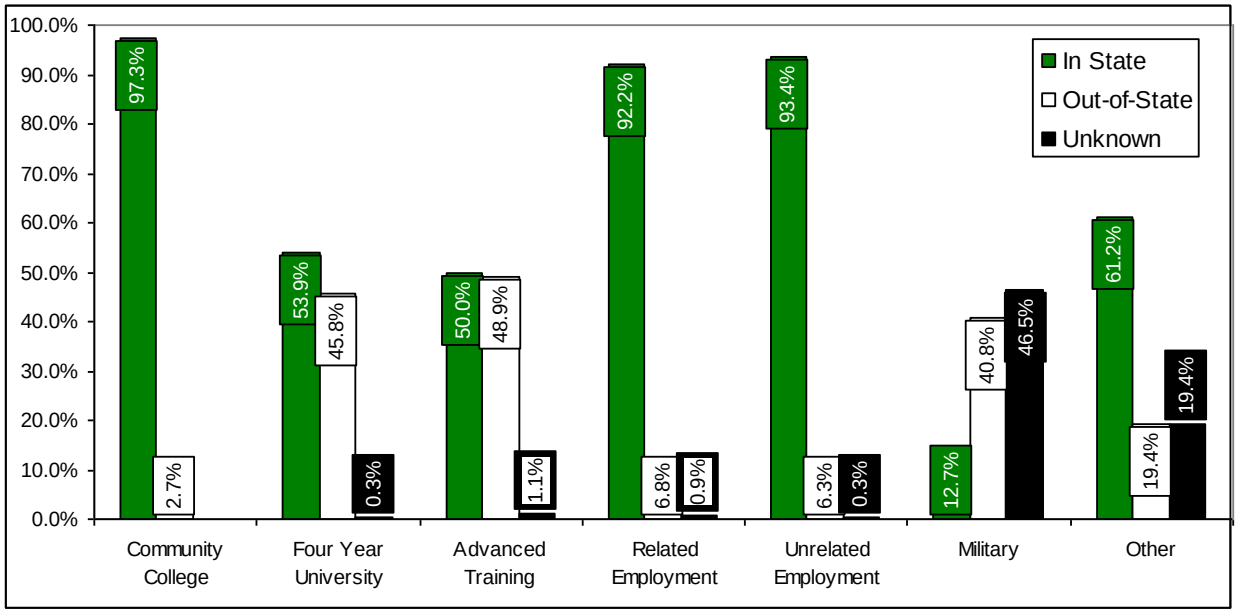
The majority of students were enrolled in community college (41.2%) or four-year university (28.6%) after leaving secondary education. Additionally, 23.8% were employed with 10.0% in employment related to their CTE and 13.8% in unrelated employment. The fewest students were in the military (3.3%) and advanced training (4.2%).

Figure 17. Type of Placement at Follow-up



Generally, students were located in Wyoming at follow-up. Follow-up students most likely to be located out of state were in advanced training, a four year university or in the military.

Figure 18. Placement at Follow-up by Location



Indicator 5S1 by Subpopulations:

Results by the subpopulations of gender, ethnicity and special populations are shown in the table below. Highlights of these results include:

- The percent of males and females in advanced placement were similar at 97% each.
- American Indian and Black students showed the highest rates for advanced placement (100%).
- Among subgroups, single parents (97.5%) and non-traditional enrollees (96.9%) showed the highest placement rates.

Table 13. Indicator 5S1 Results by Subpopulations

(5S1) Placement			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students Meeting Indicator**
Male	1,192	1231	**96.83%**
Female	924	952	**97.06%**
Ethnicity			
American Indian	40	40	**100.00%**
Asian/ Hawaiian/Pacific Islander	*	*	*
Black	18	18	**100.00%**
Hispanic	122	126	**96.83%**
White	1936	1999	**96.85%**
Other	*	*	*
Special Populations			
Individuals With Disabilities	119	125	**95.20%**
Economically Disadvantaged	266	279	**95.34%**
Single Parents	78	80	**97.50%**
Displaced Homemakers	*	*	*
Limited English Proficient	20	21	**95.24%**
Migrant	2	2	*
Non-Traditional	414	427	**96.96%**

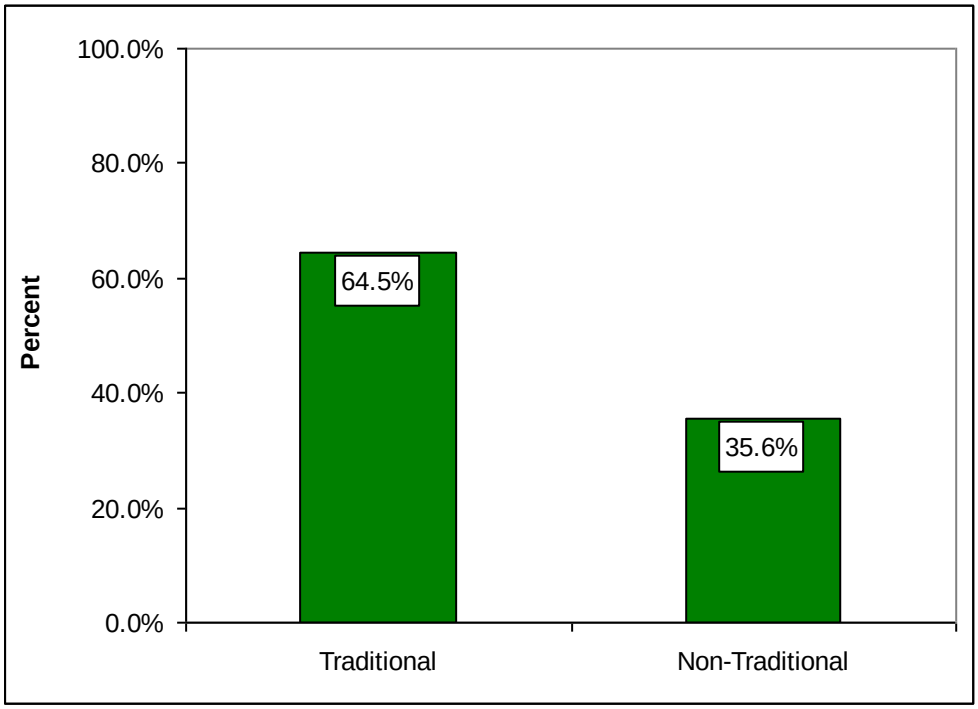
NR: Not Reported means that there were no concentrators, completers or participants reported in this category.
* An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

6S1 – Non-Traditional Participation

To calculate non-traditional CTE participation rates, data from the CTE Participant data table in the WyCTA database was analyzed. This data table required schools to report information on counts of CTE participants by CIP code and subpopulations. The total number of participants who were in a non-traditional occupational field (as determined by CIP code provided) were then counted. Note that the latest non-traditional guidelines were used to determine fields that are considered non-traditional for each gender. For example, nursing is a non-traditional male profession while engineering is a non-traditional female profession. Participants whose gender matches those in a non-traditional program (e.g. females pursuing an engineering field) are considered non-traditional participants whereas participants whose gender does not match a non-traditional program (e.g. a male pursuing an engineering field) are considered traditional participants.

For the 2009-2010 reporting year, approximately 35.6% of students in non-traditional programs were in under-represented gender groups. This figure is slightly higher than last year's result of 33.9%.

Figure 19. Percent of CTE Participants in Non-Traditional Programs by Student Status



Indicator 6S1 by Subpopulations:

Results for indicator 6S1 are reported by subgroup in the table below. Data by gender, ethnicity and special populations is included. Key findings from these results include:

- A significant difference in results by gender was observed. While 48.74% of female students participated in a non-traditional program, only 7.93% of males did so.
- Results by ethnicity were fairly comparable with the highest percent of students participating in a non-traditional program being Black (58.70%).
- Economically disadvantaged (36.94%) and single parent (34.92%) students had the highest rates of non-traditional participation.

Table 14. Indicator 6S1 Results by Subpopulations

(6S1) Non Traditional Participation			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students**
Male	220	2,774	**7.93%**
Female	2,830	5,806	**48.74%**
Ethnicity			
American Indian	83	197	**42.13%**
Asian/ Hawaiian/Pacific Islander	23	55	**41.82%**
Black	54	92	**58.70%**
Hispanic	232	695	**33.38%**
White	2,619	7,418	**35.31%**
Other	39	123	**31.71%**
Special Populations			
Individuals With Disabilities	156	677	**23.04%**
Economically Disadvantaged	645	1,746	**36.94%**
Single Parents	44	126	**34.92%**
Displaced Homemakers	*	*	*
Limited English Proficient	22	79	**27.85%**
Migrant	*	*	*

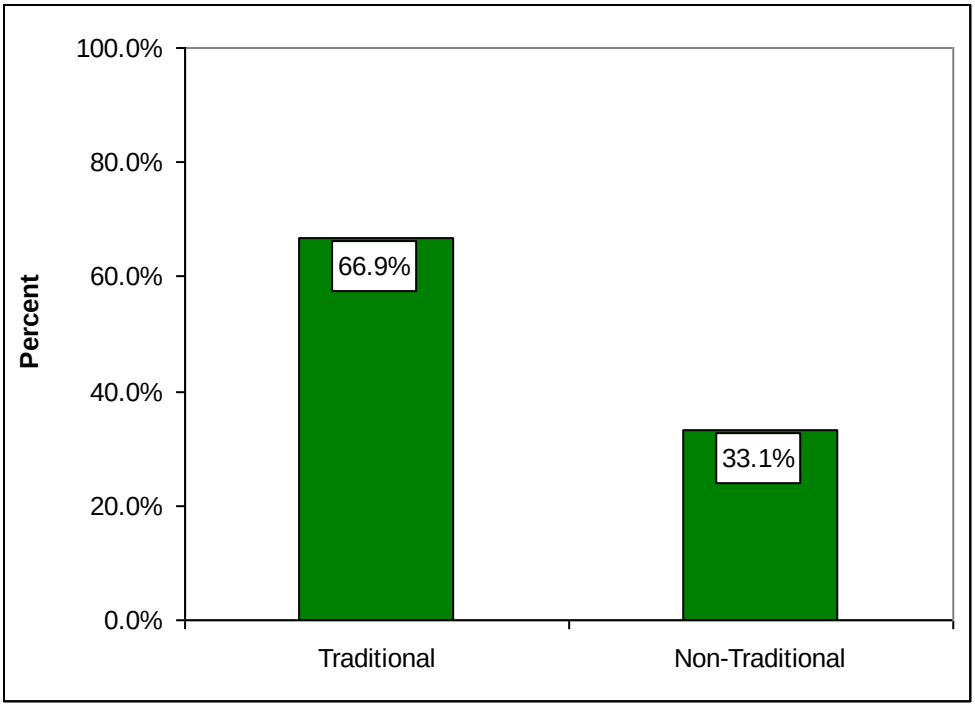
NR: Not Reported means that there were no concentrators, completers or participants reported in this category.
An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

6S2 – Non-traditional Completion

In order to calculate the non-traditional completion indicator, CTE concentrators who completed a non-traditional program during the reporting year were identified. The total number of concentrators in a non-traditional field (as determined by CIP code provided) was determined using the latest guidelines for occupational fields that are considered non-traditional for each gender. This is compared to each concentrator's gender to determine if a concentrator is a non-traditional student (see description of indicator 6S1 for examples).

Approximately 33.1% of students completing a non-traditional program were non-traditional students. This represents an increase compared to 2008-2009 results of 30.4%.

Figure 20. Percent of Students Completing Non-Traditional Programs by Student Status



Indicator 6S2 by Subpopulations:

Overall results by subpopulations are reported in the following table. Highlights of these results include:

- Similar to indicator 6S1, a significant difference in results by gender is observed. While 79.91% of female concentrators completed a non-traditional program, only 2.95% of males did so.
- Results by ethnicity ranged from 29.2% among Hispanics to 41.7% among American Indian students.
- Economically disadvantaged students showed the highest completion rates in programs (35.19%) while individuals with disabilities showed the lowest completion rates (18.37%)

Table 15. Indicator 6S2 Results by Subpopulations

(6S2) Non Traditional Completion			
Gender	**# of Students in Numerator**	**# of Students in Denominator**	**Percent of Students**
Male	20	679	**2.95%**
Female	350	438	**79.91%**
Ethnicity			
American Indian	10	24	**41.67%**
Asian/ Hawaiian/Pacific Islander	*	*	*
Black	*	*	*
Hispanic	26	89	**29.21%**
White	331	990	**33.43%**
Other	*	*	*
Special Populations			
Individuals With Disabilities	18	98	**18.37%**
Economically Disadvantaged	82	233	**35.19%**
Single Parents	23	68	**33.82%**
Displaced Homemakers	8	26	**30.77%**
Limited English Proficient	10	29	**34.48%**
Migrant	7	24	**29.17%**

NR: Not Reported means that there were no concentrators, completers or participants reported in this category.
* An asterisk means that there were less than 10 concentrators, completers or participants reported in this category.

CTSO Participation

Approximately 25.3% of CTE concentrators (unduplicated N=1,153) participated in a CTSO during the 2009-2010 school year. This represents a slight decrease in the percentage of students participating in CTSO as compared to 25.4% in 2008-09. The highest percent of concentrators participating in CTSO were members of FFA (47.6%), and this is consistent with past years. There was a small increase in USA-VICA participation from 15.4% for 2008-2009 to 17.9% in 2009-2010.

Table 16. CTSO Participation by Organization

Organization	Count*	Percent
FFA	594	47.6%
USA-VICA	223	17.9%
FBLA	186	14.9%
FCCLA	135	10.8%
DECA	111	8.9%
Total	**1249**	**100.0%**

*Students may have participated in more than one CTSO.

The following graphs shows the percent of students proficient on WyCTA content areas assessed during the 2009-2010 school year by CTSO participation.

Key findings include:

- During the 2009-2010 school year, CTE concentrators who participated in CTSO had higher overall WyCTA proficiency (91.9%) than those who did not participate in CTSO (81.9%).
- Higher proficiency among CTSO participants was observed for all three of the WyCTA content areas assessed: Affective & Thinking, Pre-employment and Employability.

Figure 21. Proficiency on Total WyCTA Scale by Participation in CTSO

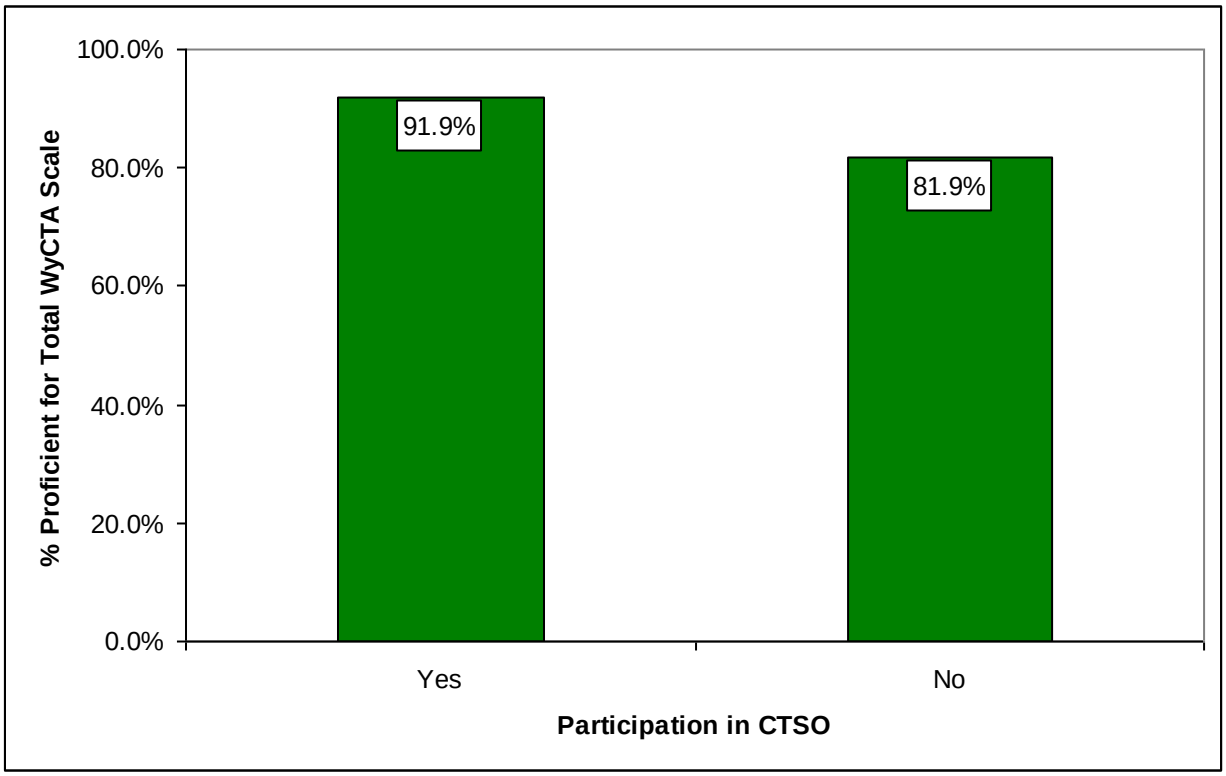
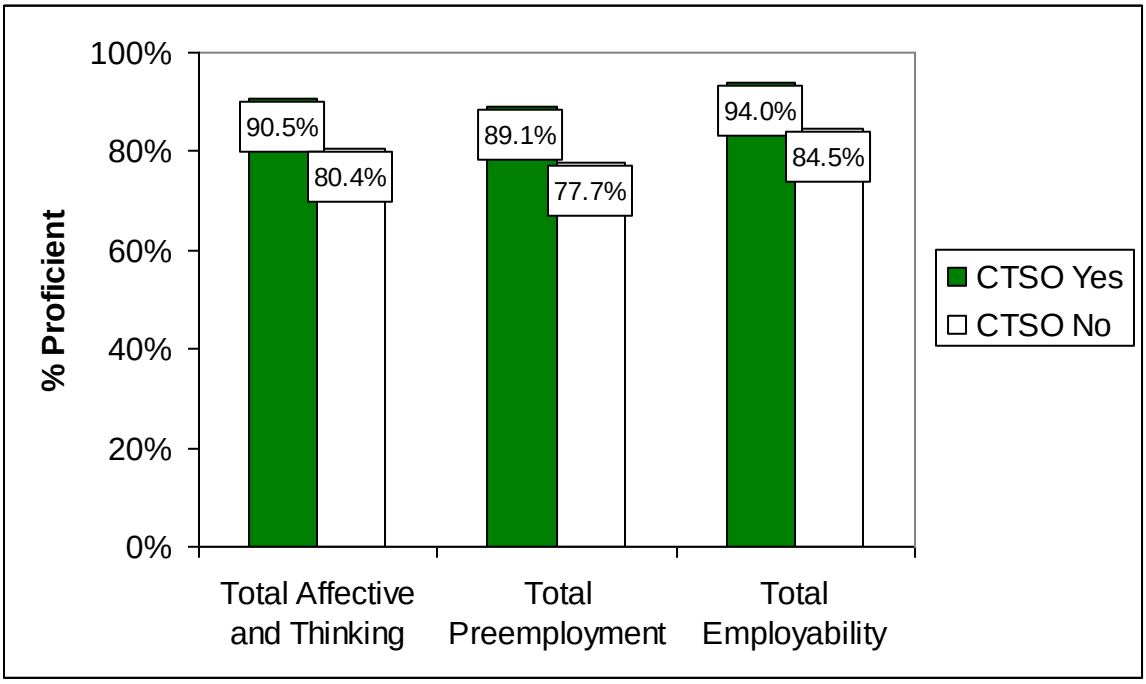


Figure 22. Proficiency on Individual WyCTA Content Areas by Participation in CTSO



CTE Programs at Wyoming Schools

CTE Courses Offered by Career Cluster

School level data was collected on the courses offered in each of the 16 career cluster/program areas. The following table shows the number of schools that reported offering a course(s) in each program area. The top 3 program areas offered by most schools are Architecture and Construction, Agriculture Natural Resources, and Business Administration.

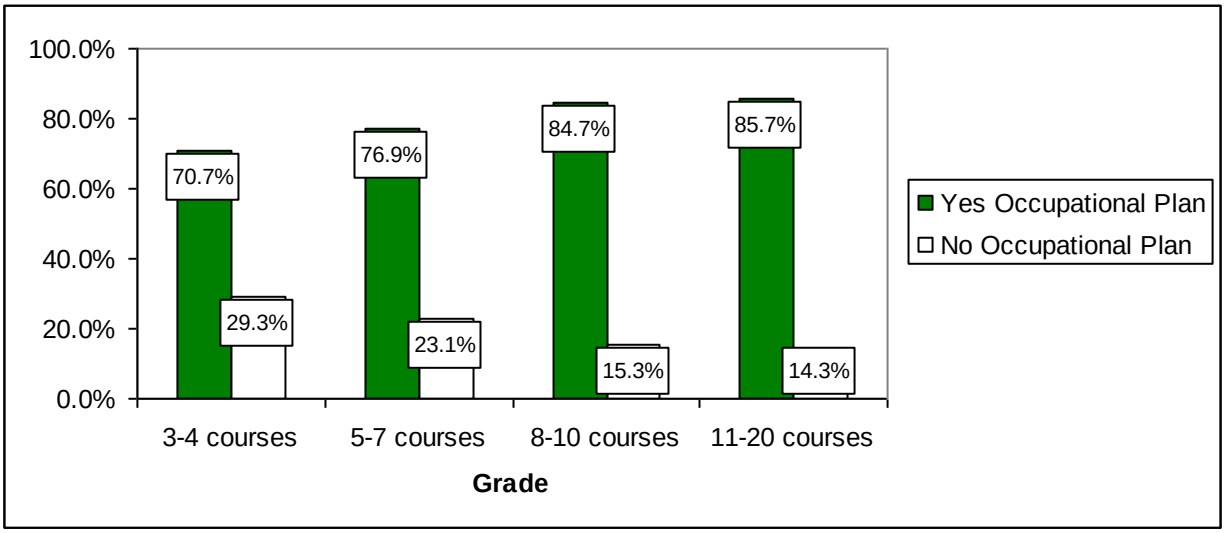
Table 17. CTE Courses by Career Cluster

Program Area	# Schools reporting	Percent of Schools
Arch and Construction	49	74.2%
Agriculture Natural Resources	43	65.2%
Business Administration	43	65.2%
Hospitality and Tourism	42	63.6%
Information Technology	42	63.6%
Manufacturing	38	57.6%
Transportation, Distribution and Logistics	23	34.8%
Arts, AV Tech and Communication	21	31.8%
Human Services	21	31.8%
Health Science	13	19.7%
Finance	10	15.2%
Retail and Whole Sales	10	15.2%
Science Research and Engineering	10	15.2%
Education and Training	4	6.1%
Gov and Public Administration	1	1.5%
Law and Public Safety	1	1.5%

Occupational Plan by Length of Program

During 2009-2010, 3,359 reporting CTE concentrators (73.8%) had an occupational plan. Results showed that generally there is a positive relationship between length in the program area and the likelihood of having an occupational plan. That is, the more courses a student has completed, the more likely they are to have an occupational plan.

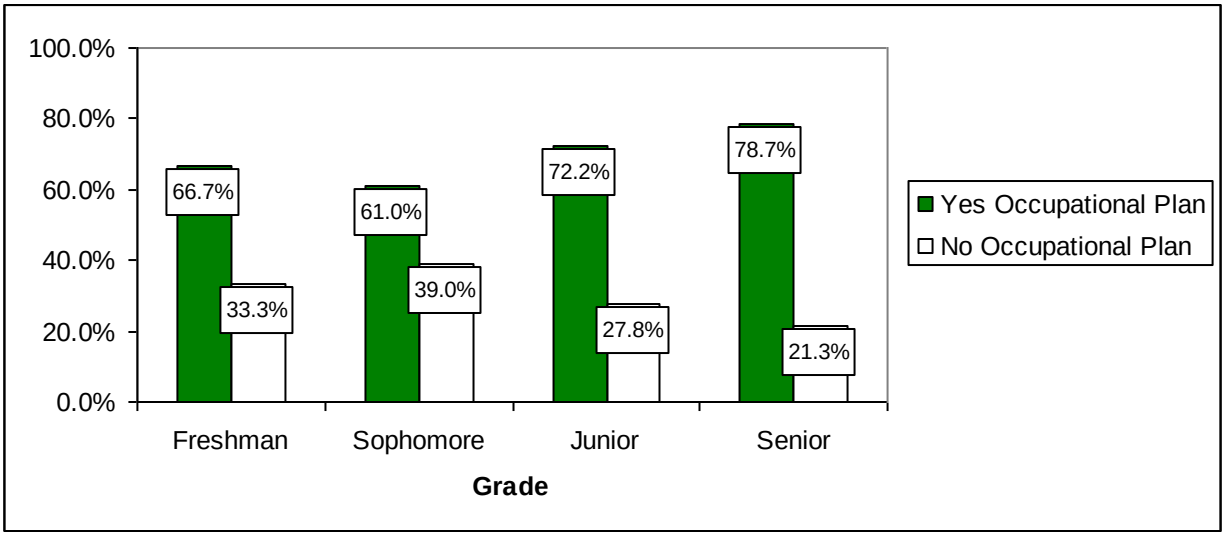
Figure 23. Occupational Plan by Number of Courses Taken



Occupational Plan by Grade

Senior CTE concentrators were most likely to have an occupational plan as compared to all other grade levels. This is expected as students have a greater opportunity to have an occupational plan as they progress in their schooling. Overall percentages of students at each grade level with occupational plans are similar with results from 2008-2009.

Figure 24. Occupational Plan by Grade



Participation in Job Training & Work Based Learning

The table below shows results for the types of job training activities CTE concentrators participated in. Job shadowing was the most common form of job shadowing (28%) followed by work-experience internship (25%).

Table 18. Job Training by Type

Job Training Type	Count*	Percent
Job Shadowing	896	28.01%
Work-experience internship	800	25.01%
Community service learning	693	21.66%
School-based enterprises	486	15.19%
Mentorship	120	8.58%
Other**	116	8.29%
Cooperative Education	69	2.16%
Apprenticeship	19	0.59%

*Students may have participated in more than one activity.

**Other types of job training specified included:

Real Life Game (38)
Career fair (15)
Career Day (33)
On job training (10)
Jr. Interview (19)
Military (1)

Integrated Instruction

Information on integrated instruction was also collected from secondary schools during the 2009-2010 school year. Schools were asked to describe the methods they use to provide integrated instruction to students. Schools reported a varied number of ways that they integrate CTE and academic instruction, however several themes emerged. In particular, as described in the following table, schools noted that they integrate instruction at multiple levels, including at the CTE level, Academic level and/or Teacher level. That said, it was also noted by several schools that academic teachers find it more difficult to incorporate career and technical aspects into their curriculum. Integration was much more likely to take place in CTE classes.

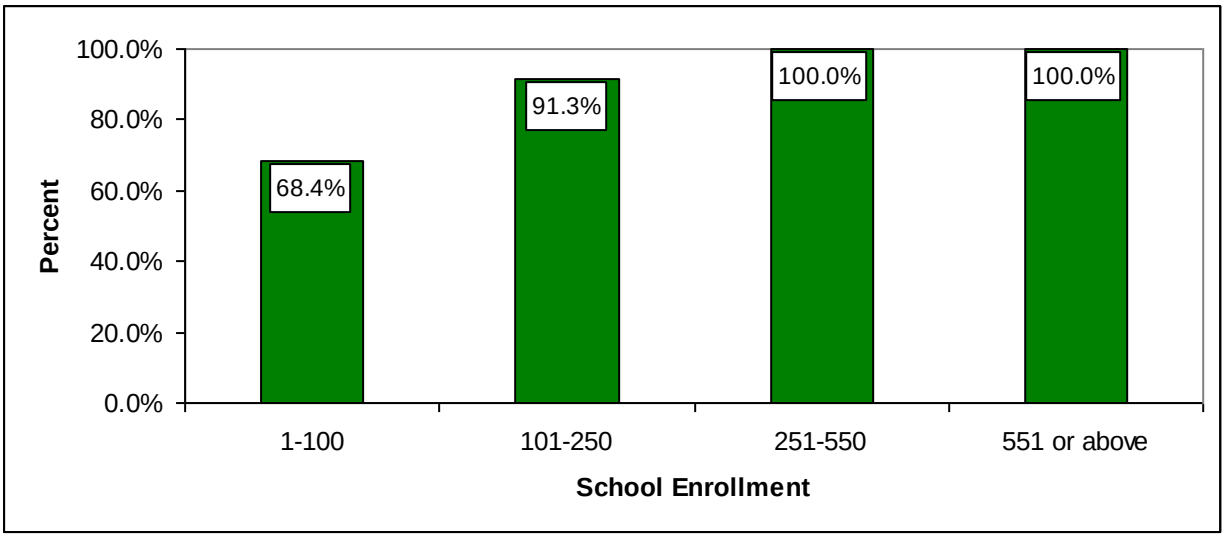
Table 19. Integrated Instruction Activities

CTE Level Integration	Academic Level Integration	Teacher Level Integration
○ CTE classes incorporate reading and math in specific lessons. (examples included "profit projections, cash flow and loan payment schedule lessons in business classes, technical writing related to agriculture, etc). ○ Writing is required in a majority of CTE courses including journal keeping, report writing, and research writing.	○ English classes incorporate resume writing and career writing opportunities. ○ Discussion and application of "real world" concepts in math and science classes. ○ Word processing and computer skills are incorporated in academic classes. ○ Integrate Career research	○ Teachers participate in groups that include a mix of CTE and academic teachers. They work together on various assessment and curriculum planning goals. ○ Team teaching of units between CTE and Academic teachers. ○ Collaboration on class assignments to provide cross curricular activities/lessons

Articulation Agreements and Coordination with Postsecondary Institutions

Data was collected on articulation agreements from 66 secondary schools. Of these schools, 87.9% (n=58) reported having an articulation agreement in place with one or more Wyoming community college. Schools with enrollment between 251-550 students and schools with enrollment of 551 students and above had 100% existing articulation agreements.

Figure 25. Articulation Agreement by School Size



As would be expected, there is a direct relationship between school size and number of students enrolled in concurrent enrollment classes. Larger schools with enrollment of 251 and above have a greater number of students, on average, taking concurrent enrollment courses. This is to be expected as larger schools have more students who can participate in concurrent enrollment classes.

Table 20. Students Taking Concurrent Enrollment

	Students Enrolled in Concurrent Enrollment Classes		
School Size	***Minimum***	***Maximum***	***Average***
1-100	0	30	9.1
101-250	0	169	34.6
251-550	24	692	158.5
551 and above	0	750	389.2

Secondary schools had articulation agreements with a variety of Wyoming colleges. Sheridan (14) and Eastern Wyoming (13) Colleges had the greatest number of articulation agreements with schools. All other community colleges had between 1 and 12 schools with articulation agreements.

Table 21. Number of High Schools with Articulation Agreements by College

Community College	# of High Schools with Articulation Agreements*
Sheridan College	14
Eastern Wyoming Community College	13
Northwest College	12
Western Wyoming College	12
Laramie County Community College	9
Casper Community College	8
Central Wyoming Community College	8
Gillette College	2
University of Wyoming	1
Wind River Tribal College	1

*Schools may have had articulation agreements with more than one community college

Schools reported brief descriptions of their articulation process for concurrent enrollment (also referred to by some schools as "dual enrollment") classes. Generally, the following activities take place to make courses available for dual credit:

- Once a course is selected, the syllabus is aligned by the high school to fit the requirements of both the high school and college.
- Teachers instruction of concurrent high school courses and course syllabi must be approved by the college.
- Teachers collaborate with the colleges (instructors and department heads) on curricula content, methods, and skills.
- Ongoing communication between the high schools and colleges take place. Types of communication include: 1) regular yearly or semester meetings between high school and college staff; 2) site visits to concurrent classrooms for observation and feedback; 3) regular phone and/or email communications between college and high school staff.

Secondary schools noted that the following courses were offered as concurrent enrollment classes (#s reflect number of schools reporting course).

- English-25
- Welding-19
- Accounting-16
- Computer applications/desktop publishing/keyboarding-15
- Calculus-14
- Web design/development/authoring-13
- Spanish-13
- Chemistry-13
- Health/emergency care/nursing-12
- CAD-12
- Government-12
- Agriculture-12
- Computer Technology (CIS)-11
- Algebra-10
- Auto Mechanics-10
- Manufacturing/machining/metal 9
- Electronics/Robotics/Multimedia-9
- Psychology-9
- Construction/carpentry-9
- Microsoft Office-8
- Drafting-8
- Biology-8
- History/Art History-8

- Fitness/PE/Health 8
- Culinary arts/Baking-7
- Math-7
- Drawing/painting/sculpure/art/design/ceramics-7
- Buisiness/Investment/Accounting-7
- French-6
- Physics-6
- Trigonometry-5
- Early childhood-5
- Music/band-5
- Sociology-5
- Communications/Speech-4
- Hospitality/Tourism-4
- Weight training-4
- Career/College Prep 4
- Discovery science-3
- Prostart-3
- Human Anatomy &Physiology-3
- Photography/Graphics-3
- Statistics-3
- AudioVisual/Video Rep 3
- Engineering 3
- Sports Medicine/Marketing-2
- Sign Language-2
- CISCO-1
- Economics-1
- Geology-1
- Entrepreneurship-1
- German-1
- Astronomy 1
- Russian 1
- Criminal Justice 1
- Native American Studies 1
- Architectural/Mechanical Design 1

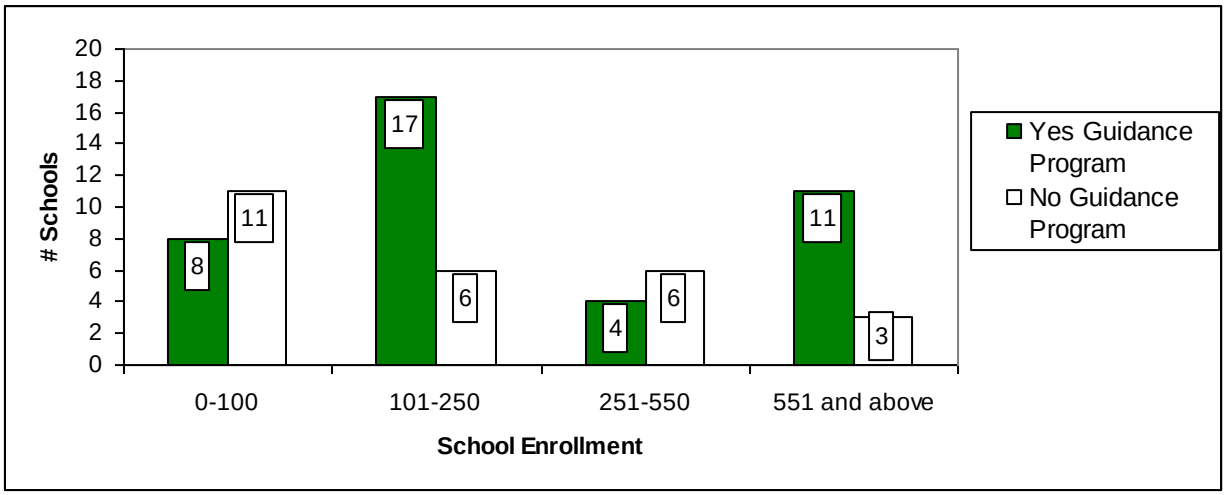
Students in Concurrent Enrollment:

In addition to data collected from schools, information on concurrent enrollment was also reported for CTE concentrators. Among CTE concentrators, 1,567 (34.3%) were enrolled in one or more courses where they were eligible to earn concurrent enrollment credit.

Career Guidance and Advising Programs

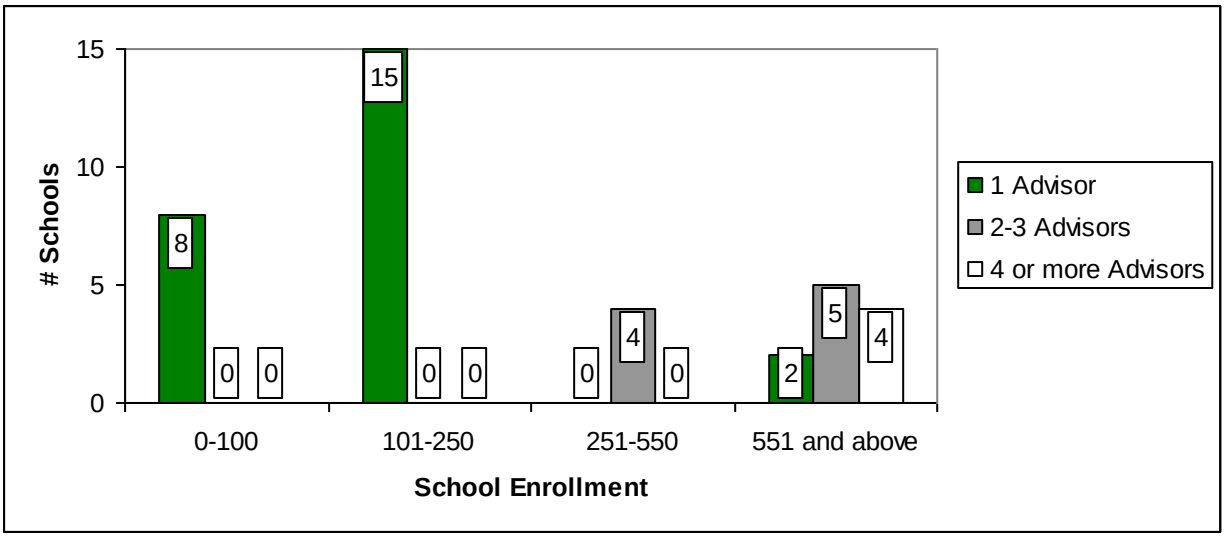
Overall, 60.6% (n=40) of reporting schools indicated that they have a formal guidance program in place at their school. The figure below shows how many schools had guidance programs broken out by school size. Medium size schools with enrollment of 251-550 were less likely to have a formal guidance program in place.

Figure 26. Career Guidance Programs by School Size



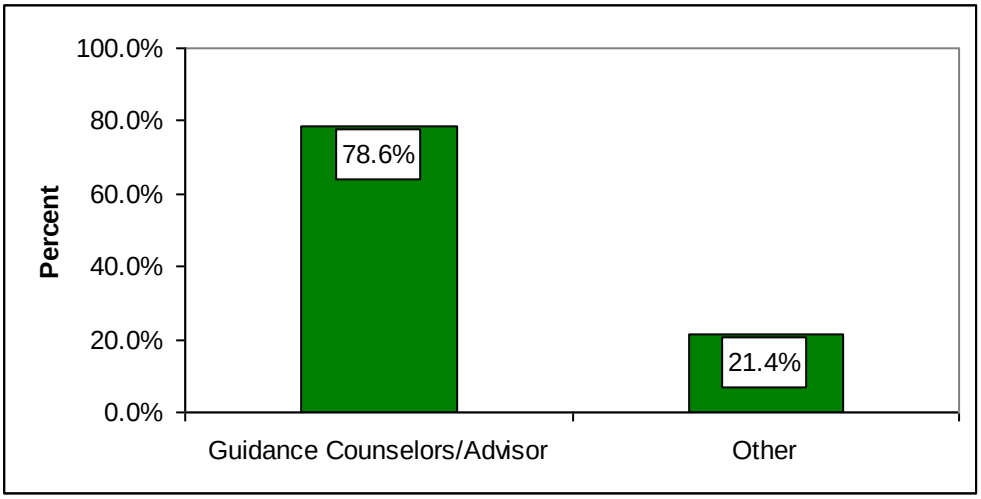
Additionally, the vast majority of schools with formal guidance/advising programs had one designated advisor. Only schools with enrollment of 551 or above had 4 or more advisors.

Figure 27. Number of Advisors by School Size



Guidance was mainly provided to students by guidance counselors or advisors (78.6%). The remaining schools reported that career cluster directors/coordinators/counselors, teachers, and academic counselors are responsible for providing advising services to students.

Figure 28. Who Provides Career Guidance Services



Other included Career Center staff.

For each grade level, schools also reported on how often advisors met with students. The highest percentage of schools indicated that for all grade levels, students met with advisors 3-5 times throughout the school year. The next most common was that students met with advisors once at the beginning and once at the end of the year. Seventeen (17) schools indicated that 12th grade students met with an advisor more than five times during the school year. This is likely due to the amount of college and career planning that most commonly takes place during the students senior year.

Table 22. How Often Students Meet with Advisor (Number of Schools)

	9th Grade	10th Grade	11th Grade	12th Grade
Not at all	7.3% (3)	2.4% (1)	0.0%(0)	0.0%(0)
Once at beginning of the year	17.1% (7)	19.5% (8)	9.8% (4)	7.3% (3)
Once at the beginning and end of the year	19.5% (8)	22.0% (9)	22.0% (9)	9.8% (4)
3-5 times	29.3% (12)	29.3% (12)	34.1% (14)	24.4% (10)
More than 5 times	12.2% (5)	9.8% (4)	22.0% (9)	41.5% (17)
Other*	14.6% (6)	17.1% (7)	12.2% (5)	17.1% (7)

*Other included: Once during the school year, once at the end of the year, Spring registration, twice per month, as often as needed.

Summary

During 2009-10 reporting year, the State of Wyoming met Perkins accountability and reporting requirements and continued to undertake activities designed to address the new requirements of Perkins IV, including releasing 7 CTE online assessments that are aligned to industry-specific standards. These assessments were developed by CTE workgroup members, consisting of Wyoming teachers, business leaders, and other professionals knowledgeable of the CTE pathway. The assessments measure the following pathways:

- General Ag
- Ag Mechanics
- Welding
- Residential & Commercial Carpentry
- Cabinetmaking & Woodworking
- Technical Drafting
- Architectural Drafting

Additional assessments are also being created for other pathway areas that are common within Wyoming but for which there is no industry-specific assessment or certificate currently available. These will be released over the next 2 years.

In addition to these activities, the state has collected all required Perkins data and it has been submitted via the online CAR (postsecondary) and EDEN (secondary). The following provides a summary of results from the third year of Perkins IV, as well as historical data.

Data was collected and reported for 4,511 CTE concentrators in 66 Wyoming secondary schools. The total number of concentrators showed a decrease of 15% from the previous year, see Table 1 below. Among CTE concentrators, results showed that for the seventh consecutive year, the program areas of Architecture and Construction, Agriculture, and Business Administration were the most popular CTE program areas. In addition, over the prior two years, CTE participant counts have remained fairly stable. Note that data on participants from 2007-08 is not comparable because duplicated counts were provided from schools during that reporting year.

Table 23. CTE Concentrator and Participant Counts

Perkins IV Definitions	2007-2008 Results	2008-2009 Results	2009-2010 Results
At the *secondary level*, a **CTE concentrator** is defined as a secondary student who has completed three or more courses in a CTE program, including those who may be currently enrolled in their third course.	5,034	5,307	4,511
At the *secondary level*, a **CTE participant** is defined as a secondary student who has *completed* one or more courses in a CTE program sequence.[3]	22,544	14,524	14,444

[3] Note that data quality issues were identified in that, in some instances, duplicated counts were provided by some schools for CTE participants in the 2007-08 school year. In contrast, the 08-09 and 09-10 counts reflect primarily unduplicated data.

In the area of academic attainment (1S1 and 1S2), the Perkins IV indicator was divided into two separate indicators for reading and mathematics under Perkins IV. Results showed that 66.37% of CTE concentrators were proficient in reading and 65.99% mathematics, see Table 2. While the proficiency rate for reading is below the target of 67%, the proficiency rate for math exceeds the 62.90% target for math. In addition, this year's percentages represent an increase from last year's percentages, with a 4% increase in reading and 1% increase in math.

Table 24. Academic Attainment Results

Indicators	Perkins IV Measurement Definitions	2007-2008 Results	2008-2009 Results	2009-2010 Results
(1S1) Academic Attainment: Reading	Percent of CTE concentrators who have met the proficient or advanced level on the PAWS reading assessment administered by the State of Wyoming under Section 1111(b)(3) of the Elementary and Secondary Education Act (ESEA) as amended by the No Child Left Behind Act based on the scores that were included in the State's computation of adequate yearly progress (AYP) in the reporting year.	65.35	62.15	66.37
(1S2) Academic Attainment: Math	Percent of CTE concentrators who have met the proficient or advanced level on the PAWS math assessment administered by the State of Wyoming under Section 1111(b)(3) of the Elementary and Secondary Education Act (ESEA) as amended by the No Child Left Behind Act based on the scores that were included in the State's computation of adequate yearly progress (AYP) in the reporting year.	65.25	64.64	65.99

For technical skill attainment (2S1), Wyoming used a transitional assessment system comprised of:

- CTE online assessments in the areas of General Ag, Ag Mechanics, Welding, Residential & Commercial Carpentry, Cabinetmaking & Woodworking, Technical Drafting, and Architectural Drafting; or
- State or nationally recognized industry certified exam; or
- For Pre-engineering, participation and performance (GPA) in Project Lead the Way; or
- If unable to assess using any of the above, WyCTA performance rubrics measuring three general employment skill areas (Affective & Thinking, Pre-employment and Employability).

ALL CTE concentrators must be assessed using one of the aforementioned methods and overall proficiency is determined based on their level of proficiency on the assessment taken. As previously noted, the State is funding the additional development of CTE assessments which will be aligned to recognized industry standards.

As shown in Table 3, results showed that 76.49% of CTE concentrators assessed were proficient (i.e., passed the CTE online assessment, a state or nationally certified exam, Project Lead the Way, *or* the WyCTA). This proficiency level exceeds the target of 53%. Note that during the prior two years (2007-2009), technical skill attainment was measured by the WyCTA alone as the state transitioned to industry-specific assessments. Therefore, comparisons between the prior years and the current reporting year should be done with caution. It should also be noted that as a new, more rigorous and

industry aligned system is developed, it is expected that proficiency levels will be lower as compared to an assessment that measures general employment skills.

Table 25. Technical Skill Attainment Results

Indicators	Perkins IV Measurement Definitions	2007-2008 Results	2008-2009 Results	2009-2010 Results
(2S1) Technical Skill Attainment	Percent of CTE concentrators who passed technical skill assessments that are aligned with industry-recognized standards, if available and appropriate.	81.94	82.01	76.49

The completion rate (3S1) for 2009-10, i.e. the percent of CTE concentrator students who indicated that they would graduate or otherwise complete secondary education in 2009-10, was 95.57%. This represents an increase of 1.5% as compared to the prior year and 6% as compared to 2007-08, and exceeds the target of 90.5%. Consistent with prior years, the most common type of proficiency credential or certificate received was in the health field.

Table 26. Completion Results

Indicators	Perkins IV Measurement Definitions	2007-2008 Results	2008-2009 Results	2009-2010 Results
(3S1) Completion	Percent of CTE concentrators who earned a regular secondary school diploma, earned a General Education Development (GED) credential as a State-recognized equivalent to a regular high school diploma (if offered by the State) *or* other State-recognized equivalent (including recognized alternative standards for individuals with disabilities), *or* earned a proficiency credential, certificate, or degree, in conjunction with a secondary school diploma (if offered by the State) during the reporting year.	89.50	94.00	95.57

Examination of the results for indicator (4S1-Student Graduation Rates) showed that 94.25% of eligible CTE concentrators were reported as graduating, exceeding the target of 81%. This represents a 3% increase as compared to last year's figure of 91.3%, and a 4% increase from 2007-08. Note that this indicator is calculated using 2008-09 data provided by the Wyoming Department of Education for students who graduated during the prior school year.

Table 27. Graduation Rate Results

Indicators	Perkins IV Measurement Definitions	2007-2008 Results	2008-2009 Results	2009-2010 Results
(4S1) Graduation Rate	Percent of CTE concentrators who, in the reporting year, were included as graduated in the State's computation of its graduation rate as described in Section 1111(b)(2)(C)(vi) of the ESEA	90.35	91.31	94.25

Follow-up information was obtained in the second quarter, (October 1 to December 31, 2009) for concentrators who left secondary education in the 2008-09 school year. Results for 5S1 showed that among 2009-2010 concentrators who left, 96.93% were in an advanced placement, i.e. postsecondary education, military, advanced training or employment. This represents an increase of 1% from the prior year, see Table 6. In addition, this exceeds the target of 95%. The majority of students in advanced placement are enrolled in community college, 4-year university, or in advanced training

(60%), 17% are employed, and 3% are in the military. Additionally, 97.3% of students enrolled in community college remained in-state. Students most likely to be out of state at time of follow-up were in advanced training/technical school (48.9%), 4-year university (45.8%) or in the military (40.8%).

Table 28. Placement Results

Indicators	Perkins IV Measurement Definitions	2007-2008 Results	2008-2009 Results	2009-2010 Results
(5S1) Placement	Percent of CTE concentrators who left secondary education and were placed in postsecondary education or advanced training, in the military service, or employment in the second quarter following the program year in which they left secondary education.	96.97	95.25	96.93

Examination of non-traditional participation (6S1) showed that 35.55% of students in nontraditional programs were in under-represented gender groups. This represents a 1.6% increase as compared to last year's results, and exceeds the target of 30.21%. Similarly, 33.12% of concentrators completing a non-traditional program were in under-represented gender groups (6S2). This represents a 3% increase as compared to the prior year, and also exceeds the target of 27.56%. In addition, there has been an upward trend in statewide performance on indicator 6S2 in the last 3 years.

Table 29. Non-Traditional Results

Indicators	Perkins IV Measurement Definitions	2007-2008 Results	2008-2009 Results	2009-2010 Results
(6S1) Non-Traditional Participation	Percent of CTE participants from underrepresented gender groups who participated in a program that leads to employment in nontraditional fields during the reporting year.	35.94	33.99	35.55
(6S2) Non-Traditional Completion	Percent of CTE concentrators from underrepresented gender groups who completed a program that leads to employment in nontraditional fields during the reporting year.	28.26	30.37	33.12

With respect to other CTE activities occurring in the state, trends in CTSO participation were consistent with prior years with 25.3% of CTE concentrators reported as having participated in CTSOs. The highest proportions of concentrators participated in FFA (47.8%). In addition, a total of 73.8% of CTE concentrators had an occupation plan in place. Senior students were the most likely to have an occupational plan. Participation in job training remained consistent with the prior year, with job shadowing being the most popular (28%), followed by internships (27%). In terms of integrated instruction, schools reported a number of ways that integration is achieved. In particular, schools noted that they integrate instruction at multiple levels, including at the CTE level, Academic level and/or Teacher level: (a) at the teacher level, this typically includes cooperation between academic and CTE teachers on specific units of study; (b) at the CTE level, this typically includes reading and writing integrated into CTE courses; and (c) at the academic level; this typically includes "real world" application in academic math and science classes.

In conclusion, results show that Wyoming students have performed at a relatively stable level in recent years, with slight increases in all areas except technical skill attainment. That said, given changes in how technical skill attainment was calculated for the current reporting period, comparisons

to prior year data is not recommended. Wyoming schools are to be commended for meeting the seven of eight federal targets established during the third year of Perkins IV, and in some cases exceeding them by a fair amount. In addition, greater accountability among schools is required as part of Perkins IV and as such, targets are being negotiated with Wyoming secondary schools receiving Perkins funds.