

Community and Technical Colleges (CTC) Professional-Technical Education

Program Details

Washington's 34 community and technical colleges offer professional technical training that provides students with skills required for specific occupations. CTC Professional-Technical Education training covers a broad range of occupational fields and credentials, from one-year certificates to two-year technical degrees. However, it does not include students who intend to transfer to a four-year college or university; students who enroll in a program to raise their basic skills to a high school level; or working adults who take a few classes to improve skills for their current jobs.¹

Participant Profile

During the 2007-2008 school year, 33,755 CTC Professional-Technical students completed or otherwise left the community or technical college system.² These students comprise the Professional-Technical cohort included in this study. The median length of enrollment for these students was nine months.

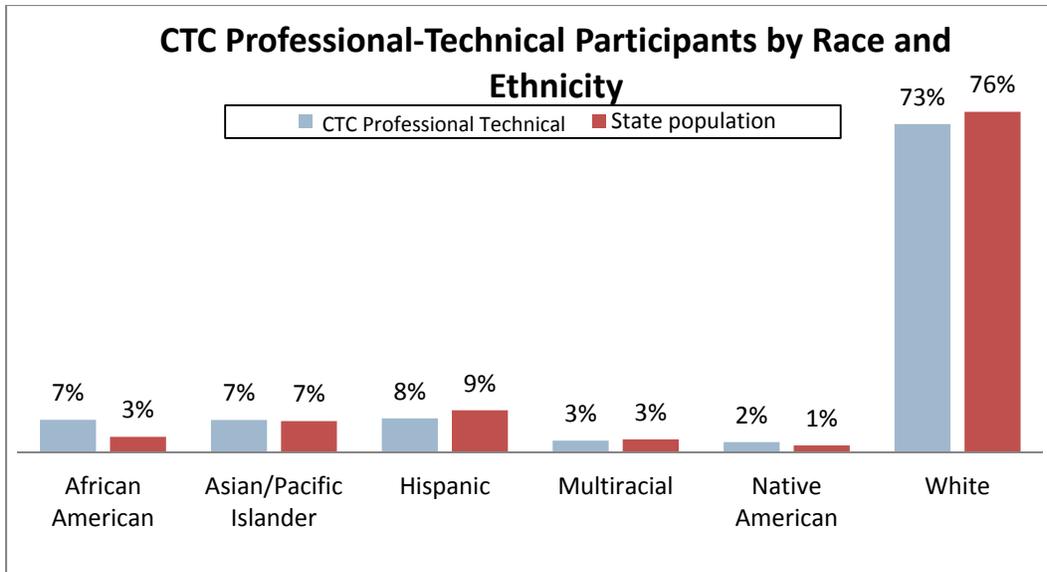
Every two years, the Workforce Board measures the performance of key workforce programs. In this report, you'll find out more about the program and who is served, the metrics used to measure performance and how the program performed.

Students from racial and ethnic minority backgrounds continue to be well represented among CTC Professional-Technical participants, especially among African Americans whose participation rate was twice their representation in the state population.³ Those citing multiracial backgrounds increased by two-thirds from the 2005-2006 study.

¹ While the Worker Retraining program at the community and technical colleges also provides occupational training, the results for students who participated in this program are evaluated separately.

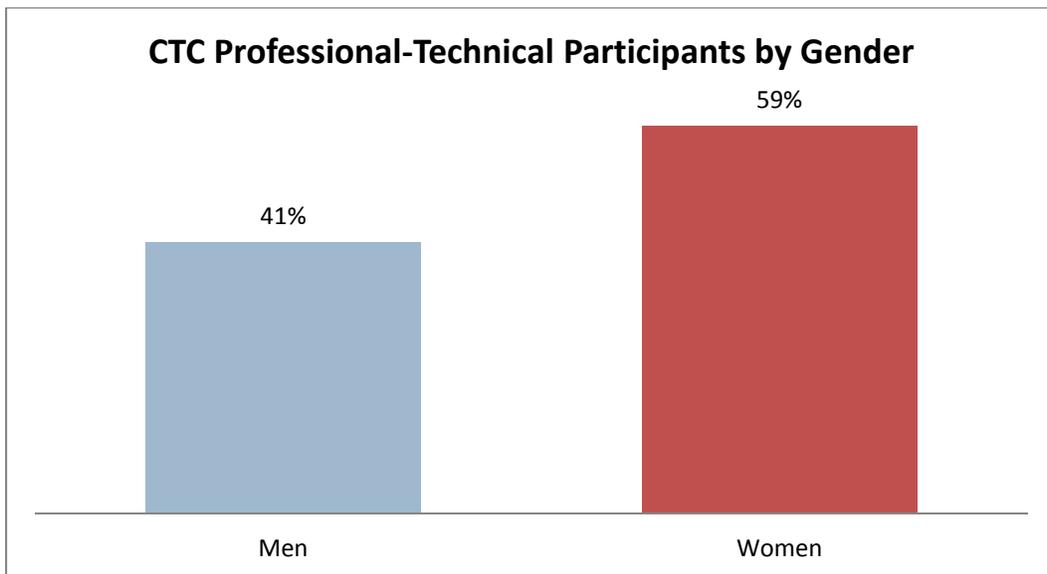
² CTC Professional-Technical Education students identified themselves as vocational students and have either enrolled for six or more vocational credits or have completed three or more vocational credits. Additionally, the students included in this study exited their program during the 2007-2008 academic school year and did not enroll in a community or technical college for a period of one full year.

³ In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2006 *Washington State Population Survey*, 77 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 3 percent are multiracial; and 9 percent are Hispanics.



Source: Community and Technical Colleges Administrative Data. (Data Linking for Outcomes Assessment)

Of the 2007-2008 CTC Professional-Technical students, 59 percent were women, up from 58 percent in 2005-2006. Among women, 59 percent completed their program, compared to 54 percent among men.



Source: Community and Technical Colleges Administrative Data. (Data Linking for Outcomes Assessment)

When they enrolled, 49 percent of the students had not previously attended college; 23 percent had attended college without receiving a credential; 12 percent had a certificate or associate’s degree; and 10 percent had a baccalaureate or higher degree, and 6 percent had some other credential.

The median age in the last quarter of their training was 30—one quarter was under the age of 23, and another quarter was over age 42.

State Core Measures: Tracking CTC Professional-Technical Progress

The Workforce Board routinely measures the performance of our state's largest workforce programs. As a customer-focused advocate for Washington's workers and employers, the Workforce Board strives to provide performance accountability, verifying whether worker education and training programs provide a return on investment for participants and taxpayers.

Workforce Training Results seeks answers to five core questions:

- Did participants get the skills they needed?
- Did they get a job and how much were they paid?
- Were employers satisfied with the preparation workers received?⁴
- Has the program made a difference in the participant's success?
- Did participants and the public receive a return on their investment?

Data Comes From State Wage Files, Employer Survey

The 2010 Workforce Training Results includes information obtained from Employment Security Department (ESD) wage files in Washington, Idaho, and Oregon, and federal employment records for 2008-2009. Data used in the Net Impact Study also reached back to 2006-2007 employment records, to help assess trends over a slightly longer time frame. Employer satisfaction was evaluated through the Workforce Board's 2010 Employer Survey from 164 firms that hired employees who recently completed a CTC Professional-Technical program.

Net Impact Study Adds More Insight into Program Performance

This year's report includes a comprehensive Net Impact Study. Conducted every four years, this study provides a head-to-head comparison of participants and non-participants to help answer a central question: How much of a workforce participant's success in obtaining a job, or a higher wage, is due to the workforce program? By comparing program participants with similar individuals who did not participate in a workforce training program, the Net Impact Study indicates whether employment and earnings gains are due to the workforce program, or if workers could have made this progress on their own. This research also allows for a more detailed analysis as to whether the participant and the public received a return on their investment in the program.

⁴ Workforce Training Results usually includes a survey that measures the satisfaction of workforce participants, in addition to employers. The survey was not conducted this time because of budget constraints.

Did Participants Get the Skills They Needed?

As a measure for whether participants got the skills they needed, this study tracks the credentials and degrees earned by participants. Of CTC Professional-Technical students leaving in 2007-2008:

- 21 percent received an associate's degree.
- 16 percent received a vocational certificate.
- 15 percent were deemed ready for work because they completed 45 or more credits.
- 6 percent completed a non-credit vocational program that led to a certificate.

Taken together, 57 percent of participants earned a credential.⁵

Did Participants Have a Job and How Much Were They Paid?

To find out whether participants obtained jobs and how much they earned, participant records were matched with Employment Security Department wage files from Washington and neighboring states.⁶ The study looks at employment and earnings three calendar quarters after the participant left the CTC Professional-Technical program. The chart below shows the 2008-2009 employment and earnings of participants who left the program during 2007-2008. Seventy-one percent of the CTC Professional-Technical participants were employed. Of those who were working, 65 percent were employed full time. The median hourly wage was \$15.21.⁷ Participants had median annualized earnings of \$27,057.

Despite the fact that the third quarter after the end of the 2007-2008 program year the recession had begun, there is a slight increase in the number of participants employed and an increase in the inflation adjusted wages and annual earnings from previous years. The median wage of Professional-Technical students is relatively high at \$15.21 an hour—\$6.65 per hour more than Washington's minimum wage of \$8.55 an hour in 2009. However, there is considerable variation in wages. While one quarter earned more than \$22.94 an hour, another quarter had jobs that paid less than \$11.32 an hour.

Turn to page 13 for the Net Impact Study. Conducted every four years, this in-depth report adds extra value to 2010 Workforce Training Results. The study provides a side-by-side comparison of participants vs. similar non-participants, answering the question of whether the program is making a difference.

⁵ Upon exiting a college, the system determines whether the student is considered to have completed the program. The percentages do not sum to 57 percent due to rounding.

⁶ These files contain quarterly earnings and hours-worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

⁷ All wages and earnings are stated in 2009 Q1 dollars.

2007-2008 Program Year Performance for CTC Professional-Technical

Performance Measure	Results
Employment Rate*	71%
Percentage Employed Full Time**	65%
Median Annualized Earnings	\$27,057
Median Hourly Wage****	\$15.21
Hours Worked Quarterly (Median)	455 hours

* These figures apply to those with employment reported to state employment agencies six to nine months after leaving the program. Rate does not include self-employment, employment outside the Northwest or military service and thus understates total employment by approximately 10 percent.

** Full-time employment averages 30 or more hours per week.

*** Earnings/wages expressed in first quarter 2009 dollars in order to control for inflation.

To put earnings in context, the median number of dependents CTC Professional-Technical participants were able to support at the poverty level after leaving the program in 2007-2008 was 5.3 people. At the 200 percent of poverty level, this supported 2.7 people.⁸

Self Sufficiency Level for CTC Professional-Technical – Previous Years

Performance Measure	1999-2000	2001-2002	2003-2004	2005-2006	2007-2008
Household size-poverty level	5.2	4.7	4.8	4.9	5.3
Household size-poverty level at 200 percent	1.6	2.2	2.2	2.4	2.7

⁸ In 2009, the poverty level for one person was \$10,830 per year. The 200-percent-poverty level that year was \$21,660 for one person.

The following table shows employment and earnings information over the course of several study periods. Performance results are shown for *all* CTC Professional-Technical participants and broken down further to focus on program completers.

Program Performance for CTC Professional-Technical – Previous Years

Performance Measure	1999-2000*	2001-2002		2003-2004		2005-2006		2007-2008	
	All	All	Comp.	All	Comp.	All	Comp.	All	Comp.
Employment Rate**	86%	71%	74%	72%	75%	70%	74%	71%	77%
Percentage Employed Full Time***	74%	62%	64%	62%	63%	63%	66%	65%	67%
Median Annual Earnings****	\$24,771	\$24,614	\$25,674	\$24,859	\$26,000	\$25,496	\$27,178	\$27,057	\$29,084
Median Hourly Wage	\$14.00	\$14.40	\$14.76	\$14.46	\$14.80	\$14.83	\$15.31	\$15.21	\$15.85
Median Hours Worked Quarterly	468	455	455	450	451	455	468	455	455

Source: Matches of Community and Technical College Administrative data with employment wage files.

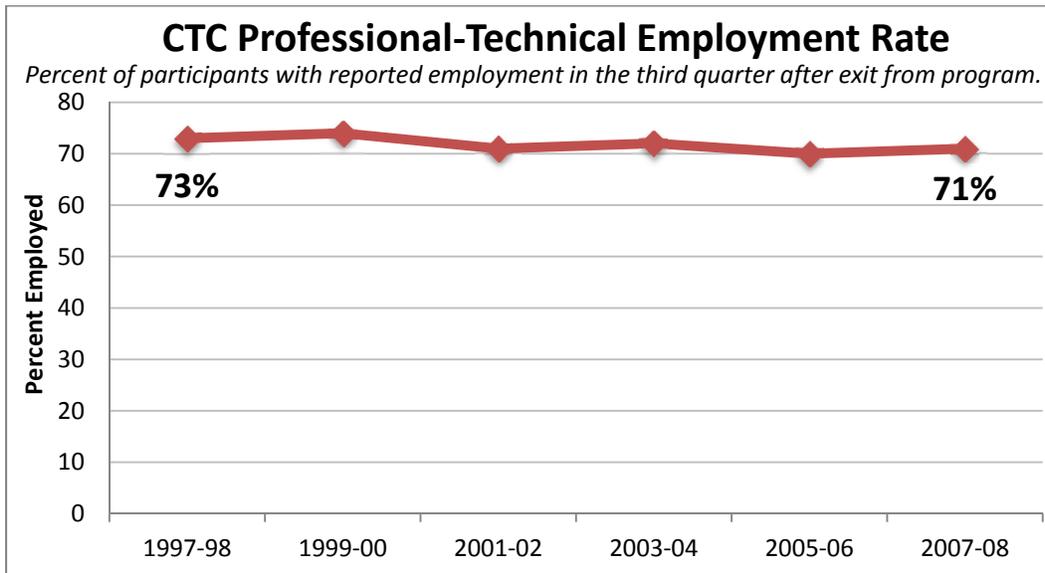
*Data during these years not broken out by completion.

**These figures apply to those with employment reported to ESD six to nine months after leaving program for all CTC Professional-Technical participants, and is not limited to those who completed a program. Rate does not include self-employment, employment outside the Northwest or military service and thus understates total employment by approximately 10 percent.

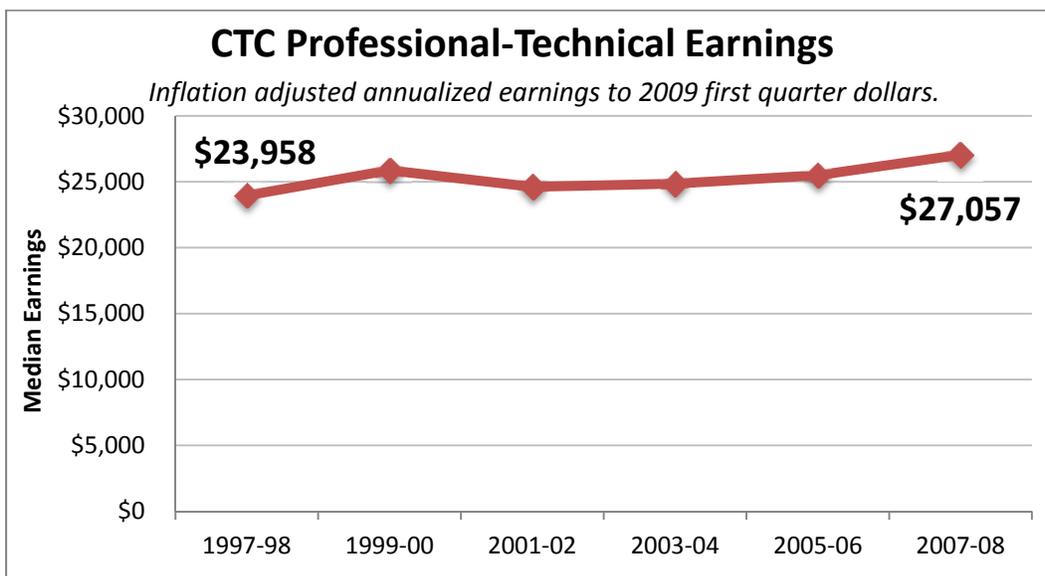
***Full-time employment averages 30 or more hours per week.

****Earnings/wages expressed in first quarter 2009 dollars.

Since 1997, participants in the CTC Professional-Technical program have notched improvements in earnings, while employment rates have changed little.



Source: Workforce Training Results 1997-2008.



Source: Workforce Training Results 1997-2008.

CTC Professional-Technical student employment is concentrated in the services industry followed by retail trade, public administration, and manufacturing. Compared to employment of the 2005-2006 cohort, lower percentages of those from 2007-2008 were employed in construction, education, and financial activities.

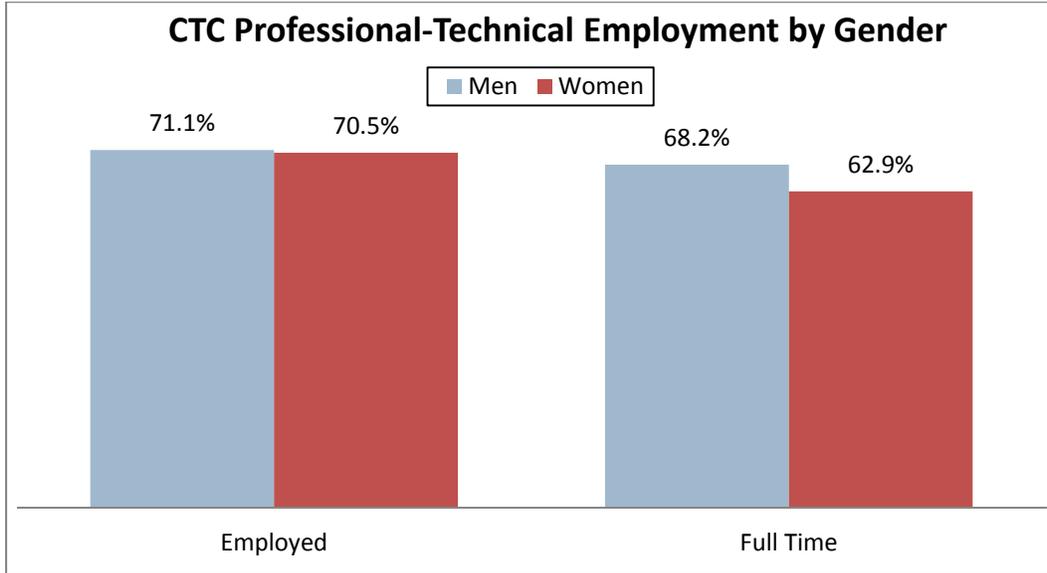
Higher percentages were employed in manufacturing, and transportation, warehousing, public administration and health care.

CTC Professional-Technical Employment by Industry	
Industry Group	Employment
Services (See breakout below)	57.5%
Retail Trade (See breakout below)	11.3%
Public Administration	9.1%
Manufacturing	7.0%
Construction	3.8%
Financial Services	3.5%
Transportation and Warehousing and Utilities	2.9%
Wholesale Trade	2.5%
Information	1.2%
Natural Resources and Mining	0.8%
Correctional Facilities	0.4%
Breakout of Services	
Health Care	22.5%
Administrative and Support and Waste Management and Remediation Services	7.4%
Accommodation and Food Services	6.7%
Education Services	5.6%
Social Assistance	4.6%
Professional, Scientific, and Technical Services	4.4%
All Other Services	3.8%
Arts, Entertainment, and Recreation	2.4%
Subtotal Services	57.5%
Breakout of Retail Trade	
Department and Warehouse Stores	2.7%
Food and Liquor Stores	2.0%
Vehicle Sales	1.3%
Clothing and Accessories Stores	1.0%
Hardware, Garden and Farm Supplies	0.9%
Miscellaneous Store Retailers	0.8%
Books, Music and Hobbies Sales	0.7%
Health Care and Beauty Products	0.6%
Gasoline Stations	0.5%
Electronics and Appliance Stores	0.4%
Home Furnishings Sales	0.3%
Subtotal Retail Trade	11.3%

Source: Matches of college records with employment wage records.

Wages and Employment Results Vary by Population

Wage and employment results can vary by gender, race and ethnicity, and disability. Male and female students were as likely to be employed in the third quarter after leaving their programs. However, men were more likely than women to be employed full time.



Source: Matches with Community and Technical Colleges Administrative Data and ESD data 2007-2008.

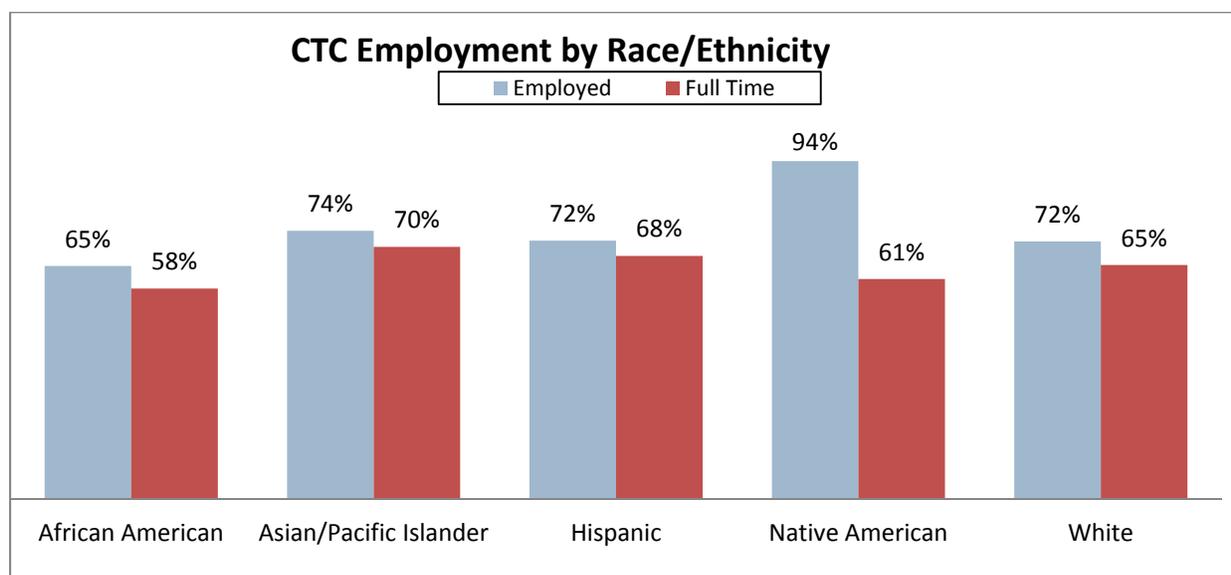
Among those with employment, the median earnings for female students were 87 percent of males, about a 7 percent increase from 2005-2006; their median hourly wage was 93 percent of males (about a 2 percent increase).

Despite the narrowing disparity in earnings between men and women, an earnings gap still persists. One potential reason is that women and men enroll in different types of programs, which lead to jobs with different wage structures.

Over two thirds of the women obtained work in the services industries. That compares with two fifths of men obtaining work in services. Conversely, 12 percent of men obtained work in manufacturing while just 3 percent of women obtained such jobs. Slightly more men than women work in retail trades. However, men were more likely to work in such jobs as vehicle sales while women were more likely to work in department stores.

Race/Ethnicity Plays Role

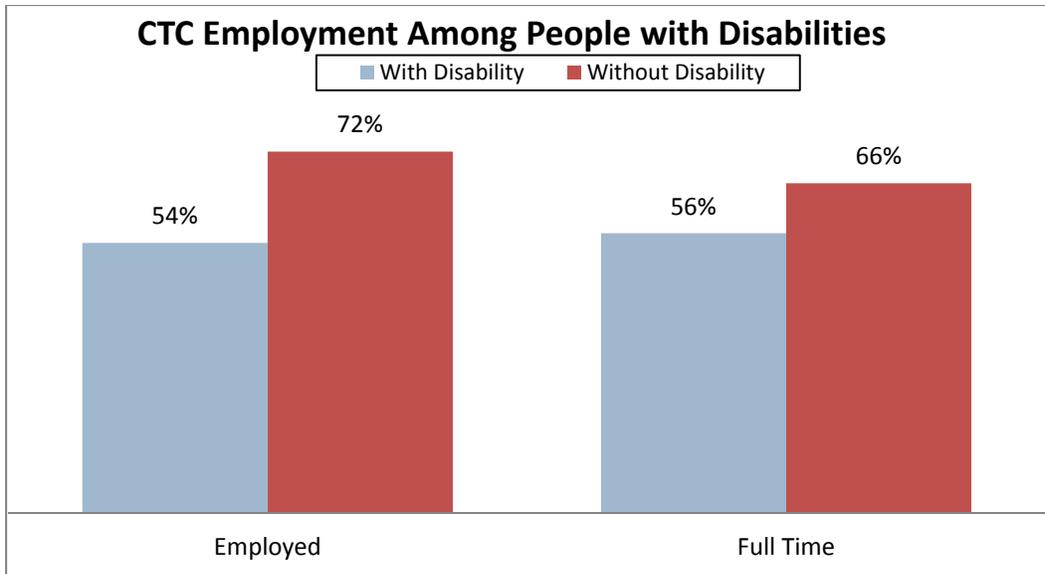
African Americans were less likely than whites to be employed in the third quarter after leaving their programs. All other ethnic groups were as likely, or more likely, to be employed than whites. Asians/Pacific Islanders were 3 percentage points more likely to be employed full time than whites, while African Americans were less likely to be employed full time. Of those employed the median earnings for Native Americans and Hispanics were 93 percent of whites, while African Americans' earnings were 88 percent. Asian/Pacific Islanders' earnings were 11 percent higher than whites. In most cases, participants from each ethnic group were most likely to obtain work in health care or the retail trades, with the third most popular being administrative support or public administration. Except for Asian/Pacific Islanders, whites had the highest wages in the health care and administrative support industries than people from other racial and ethnic backgrounds. Retail wages were roughly the same for all ethnicities, except slightly less for African Americans.



Source: Matches with Community and Technical Colleges Administrative Data and Employment Security Department data.

Disability Impacts Employment, Earnings

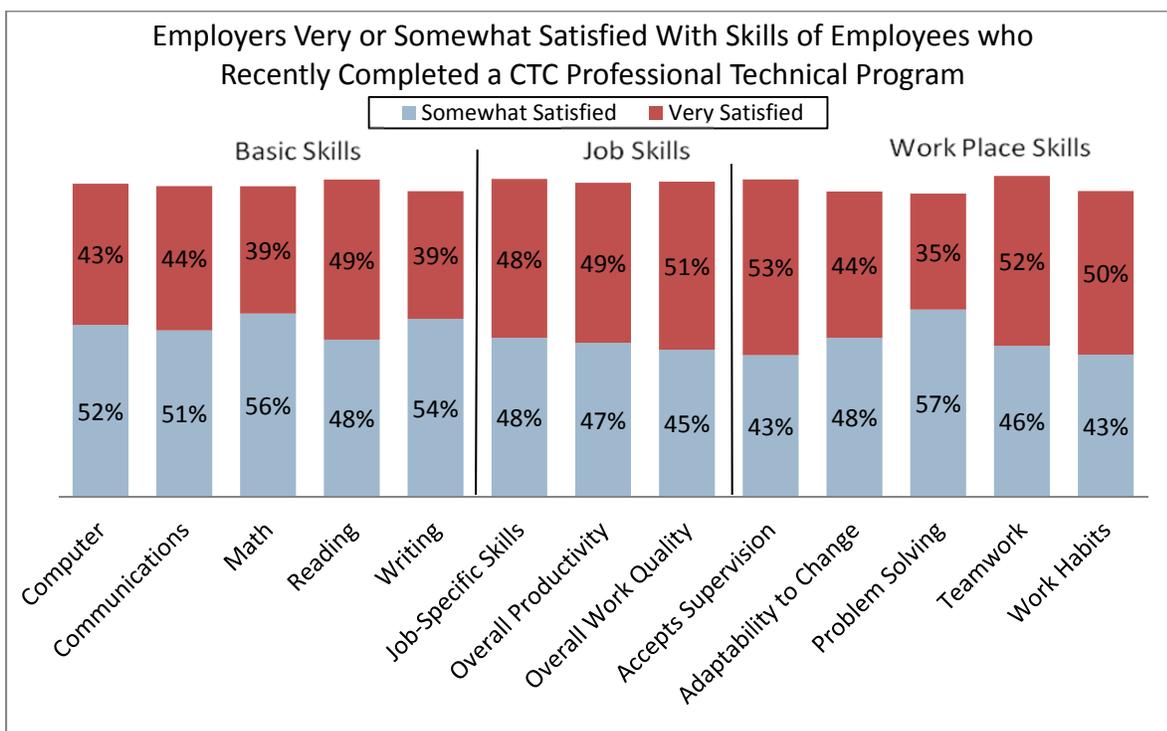
Employment outcomes and earnings also varied by disability status. College records indicate 7 percent of the students included in this study had a disability. These students were less likely to have employment during the third quarter after exit (54 percent versus 72 percent). This is roughly the same as in 2005-2006. They were also less likely to work full time (56 percent versus 66 percent). Among those working, the median hourly wage rate of those with a disability was 87 percent of those without a disability, and their median earnings were 77 percent of those with no reported disability.



Source: Matches with Community and Technical Colleges Administrative Data and ESD data.

Were Employers Satisfied with the Preparation Workers Received?

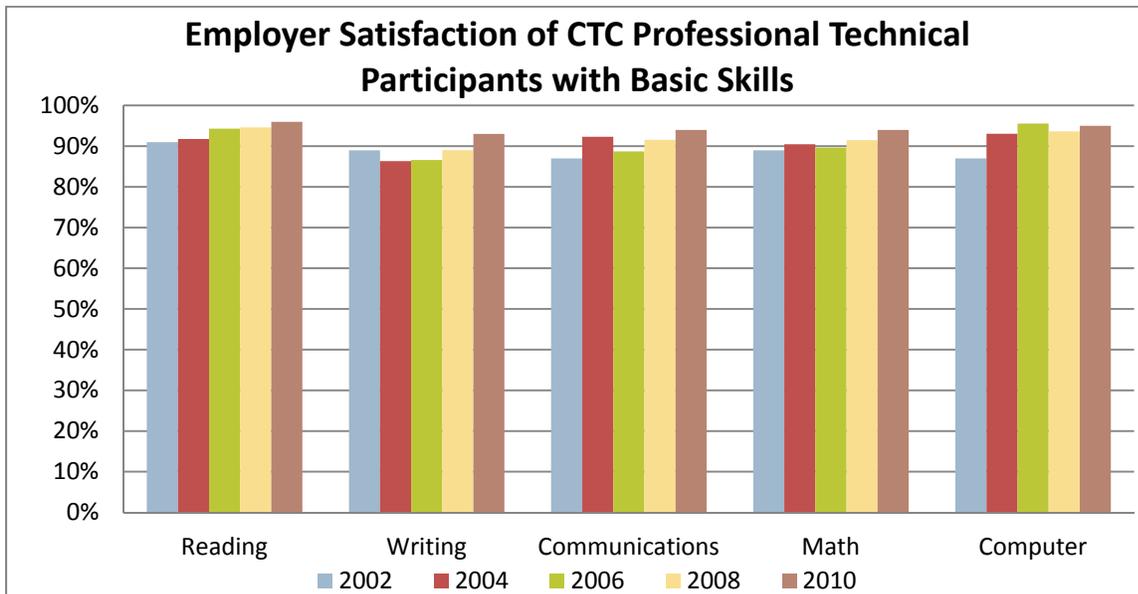
The Workforce Board’s Employer Survey, administered during 2010, asked firms to evaluate new employees who had recently completed a vocational program at a community or technical college. Ninety-five percent of employers said they were either “somewhat satisfied” or “very satisfied” with the overall work quality of these new employees. This is not significantly different from the previous survey.



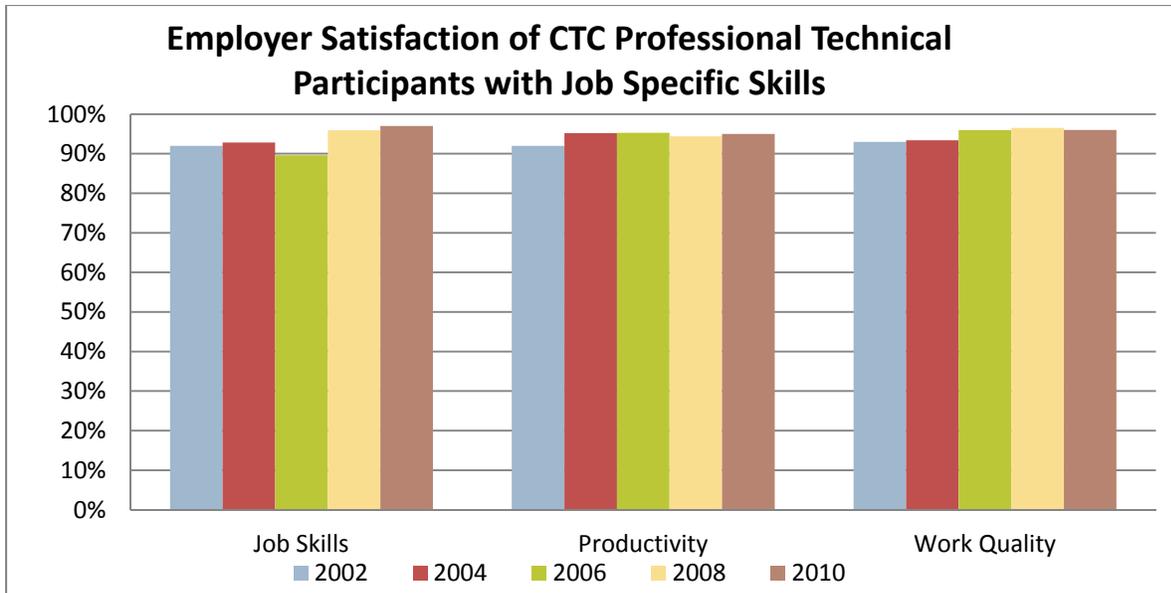
Source: Workforce Board Employer Survey conducted in 2010.

There was a very slight decrease among employers who were very satisfied with computer skills (44 percent versus 47 percent) and job-specific skills (48 percent versus 51 percent) from the 2005-2006 survey. However, firms tended to have higher rates of being “very satisfied” with all the other skills listed in the survey compared to two years before, especially with communications (44 percent versus 38 percent), problem solving (35 percent versus 31 percent), work habits (50 percent versus 44 percent), accepting supervision (53 percent versus 38 percent) and teamwork (52 percent versus 47 percent).

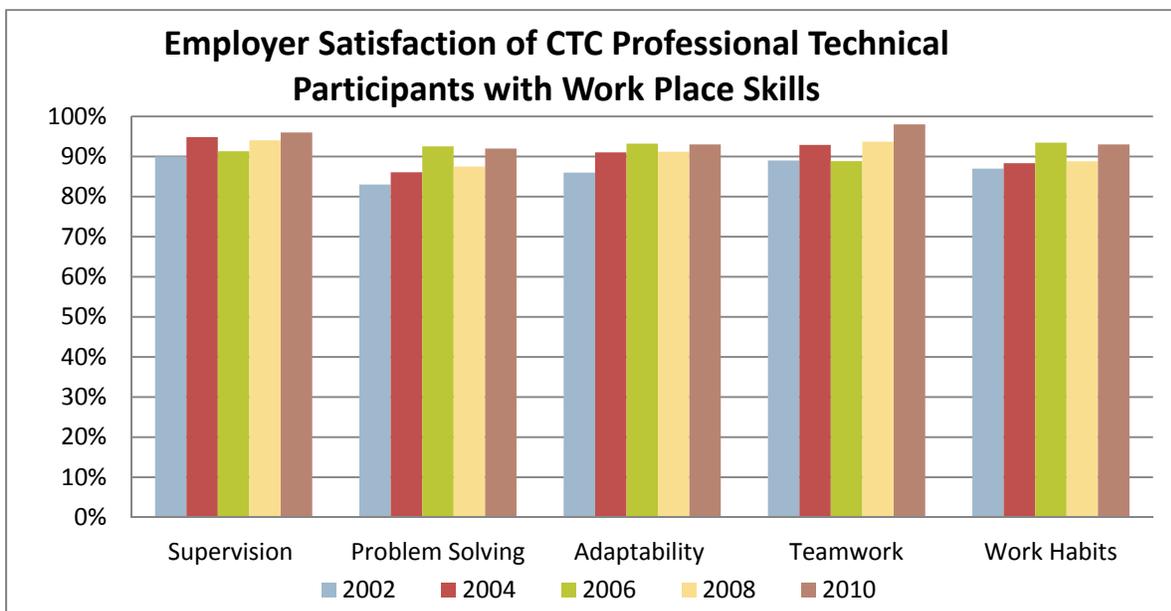
Over the past 10 years, employers’ satisfaction with the skills of recent college trainees has increased. The following charts show the satisfaction of employers with basic skills, job specific skills and work place skills of new employees who recently completed a Professional-Technical program. Employer satisfaction was broken down into three categories: Basic Skills, Job Skills and Work Place Skills. Basic skills refer to reading, writing, math, communication and computer skills. Job skills refer to skills specific to the job as well as overall work quality and productivity. Work place skills refer to the skills necessary to get along in the workplace such as ability to accept supervision, teamwork, ability to adapt to changing situations, problem solving and overall work habits.



Source: Workforce Board’s biennial Employer Surveys from 2002 through 2010.



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Source: Workforce Board's biennial Employer Surveys from 2002 through 2010.

Net Impact – Did the Program Make a Difference in Participant Success?

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. This detailed study compares participants and non-participants. The net impact part of this study attempts to measure whether the program made a difference in the participant's success. Washington is the only state to periodically conduct rigorous net impact evaluations of its workforce programs.

The net impact analysis was conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), a national leader in evaluating training programs. To do the analysis, Upjohn studied program participants to see what results they achieved and compared these results with a control group. Individuals who participated in a Community or Technical College Professional-Technical Education program were compared to individuals who had similar demographic characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from among those who registered with WorkSource, Washington’s one-stop career center system.

CTC Professional-Technical training has strong positive net impacts on employment, wages, hours worked, and earnings. Training substantially increases the lifetime earnings of participants.

The most recent analyses examined the experience of participants who left programs during the 2005-2006 and 2007-2008 program years.

Short-term net impacts: Individuals who exited in Program Year 2007-2008.

Longer-term net impacts: Individuals who exited in Program Year 2005-2006.

Impact on employment and earnings: Participants vs. control group

Community and Technical College Professional-Technical Education	Short-term	Long-term
Net Employment Impact	6.60 percentage points	10.10 percentage points
Net Hourly Wage Impact	\$ 3.02	\$ 3.20
Net Hours Employed per Quarter Impact	59.8	59.5
Net Annualized Earnings Impact	\$8,153	\$ 8,680

Percentages listed are employment percentage points above those of the control group of non-participants. Dollars listed are the average annual earnings difference between CTC Professional-Technical participants who got jobs and those in the control group who were employed. Earnings and wages are in 2009 Q1 dollars.

As can be seen above, Community and Technical College Professional-Technical Education students fared better in both the short- and long-term in employment, hourly wages, hours worked and annualized earnings than those with similar demographic characteristics who did not participate in a workforce program. In particular, those who exited a CTC Professional-Technical program in 2005-2006, experienced significant gains in employment when compared to the control group.