



Washington State
Workforce Training
And Education
Coordinating Board

Workforce Training Results Report

December 2008

Worker Retraining at Community and Technical Colleges

The Community and Technical Colleges (CTC) Worker Retraining program provides dislocated workers and the long-term unemployed with access to job retraining for a new career. Program enrollments vary from year to year in response to layoffs and, during recessions, the need increases. The industries from which students are laid off also vary over time.

About 5 percent of worker retraining students receive their training at private career schools and colleges. This evaluation, however, is limited to training at the state's 34 community and technical colleges. These publicly funded colleges provide training in occupational skills and basic skills and literacy. Students qualifying may receive financial assistance to help with their tuition.

Information was obtained on 6,234 worker retraining students who completed or otherwise left a community or technical college program during the 2005-2006 school year. The median length of enrollment for these students was 12 months.

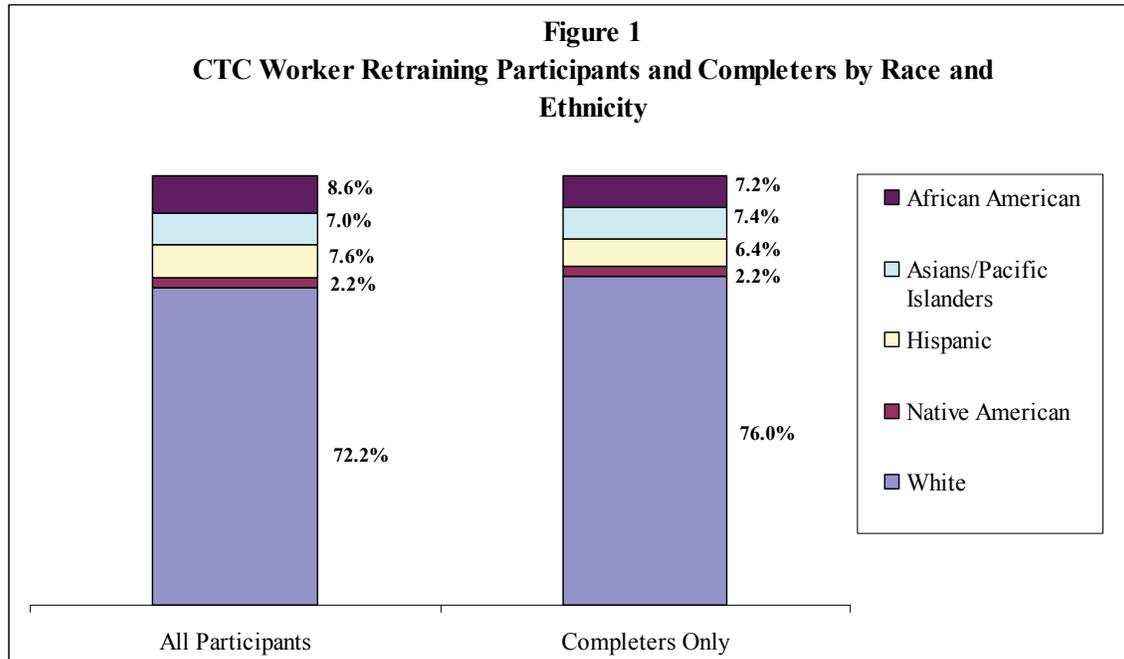
This study also includes information from students' college enrollment records, Employment Security Department (ESD) wage files from Washington, Idaho and Oregon, and federal employment records. In addition, 206 students completed a telephone survey, providing additional data on employment and their satisfaction with the training.

Participant Characteristics

The racial and ethnic composition of worker retraining students roughly reflects the general population for Native Americans and Asian/Pacific Islanders. African Americans are represented at a greater percentage than the general population and Hispanics and whites at a slightly lower percentage (Figure 1).¹ The completion data

¹ 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

reflects a slightly greater percentage of Asians and whites who complete programs compared with other ethnic groups.



Source: Community and Technical Colleges administrative records.

Some 56 percent of the 2005-2006 worker retraining students were women—an increase of 17 percent from the 2003-2004 students. Of the 2005-2006 completers, 61 percent were women, an increase of 30 percent over completers in 2003-2004.

When students enrolled in the program, 42 percent had not previously attended college, 26 percent had attended college without receiving a credential, 15 percent had received a certificate or associate’s degree, and 11 percent had received a baccalaureate or higher degree. The median age upon leaving the program was 42 years old; one quarter was over age 50.

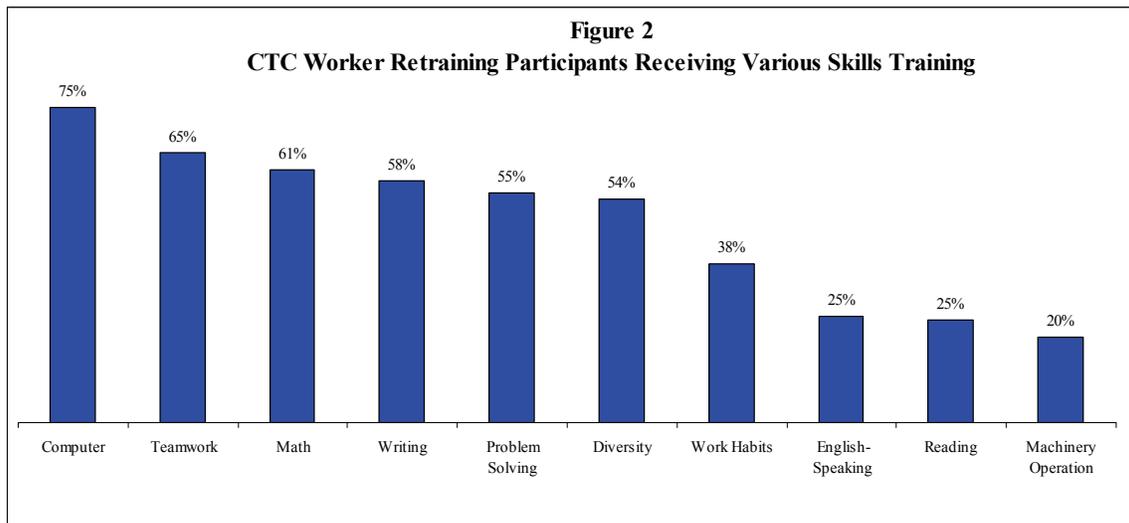
Competency Gains

Of the worker retraining students, 61 percent were program completers—24 percent received an associate’s degree, 16 percent received a certificate, and 20 percent were defined as completers because they completed 45 or more credits or a unique (non-degree) program. This completion rate is higher than the 51 percent for those who left Worker Retraining programs in 2003-2004 when 17 percent received an associate’s degree, 13 percent received a certificate, and 20 percent were defined as completers because they completed 45 or more credits or a unique (non-degree) program.

(also referred to as whites). According to the 2006 U.S. Census Estimates, 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.

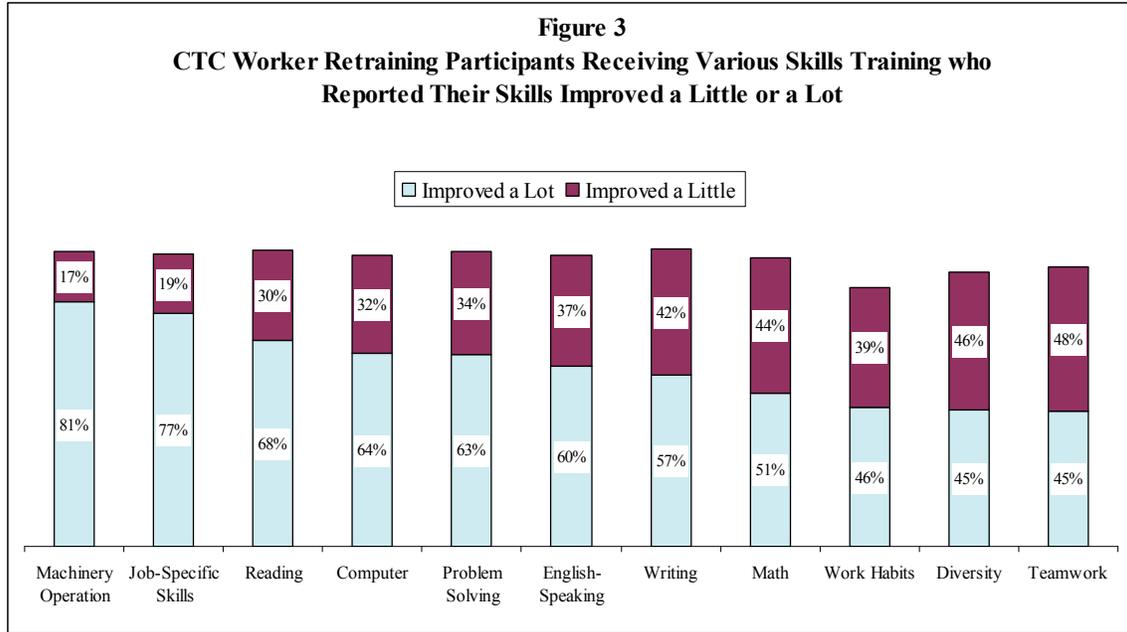
The primary goal of worker retraining is to prepare dislocated workers for new jobs. Worker retraining students agree: 92 percent indicated one of the main reasons they enrolled was to learn skills for a new job, and 72 percent indicated they enrolled to get or finish a degree or certificate. In addition to learning job-specific skills, many students also received other types of training (Figure 2).

Compared to the 2003-2004 worker retraining students, these participants appear to have received a wider variety of skills training. Increased percentages of participants received training in computer skills--which was already high--problem solving, diversity and reading. Machinery operation skills decreased the most.



Source: Participant Satisfaction Survey 2005-2006

As in the previous study, most students reported their skills had improved as a result of their training (Figure 3). Higher percentages tended to report that their job specific skills and machinery operation skills improved “a lot” compared to their general workplace and other basic skills. Compared to the 2003-2004 report, a substantially higher percentage reported “a lot” of improvement in problem solving, reading and English speaking, and substantially lower percentages reported “a lot” of improvement in math skills.



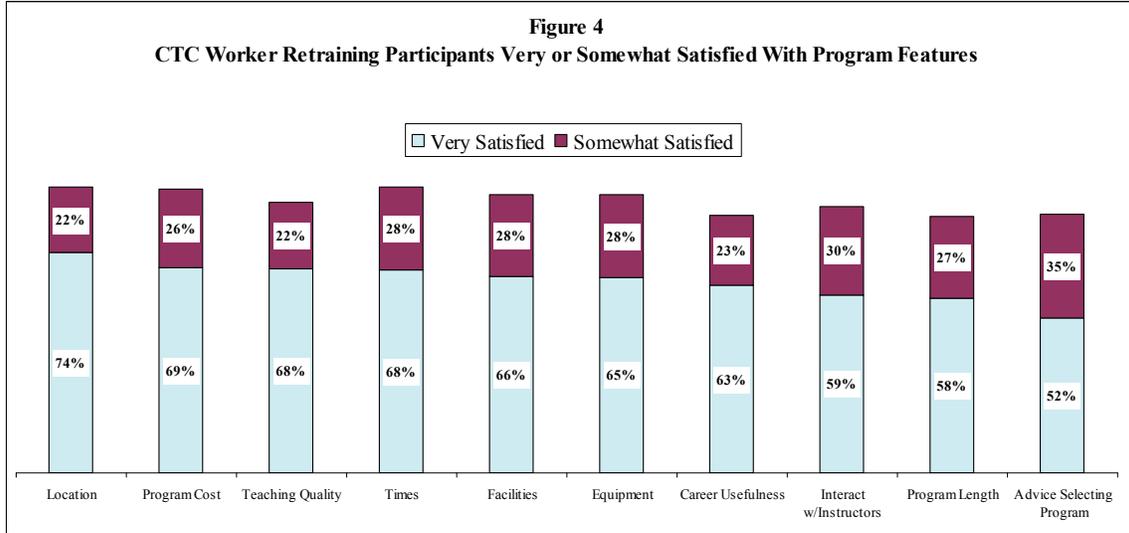
Source: Participant Satisfaction Survey 2005-2006

Among students employed seven to nine months after leaving the program, 71 percent reported their education and training was related to their job, about the same as the 70 percent that so reported in the previous study.

Participant Satisfaction

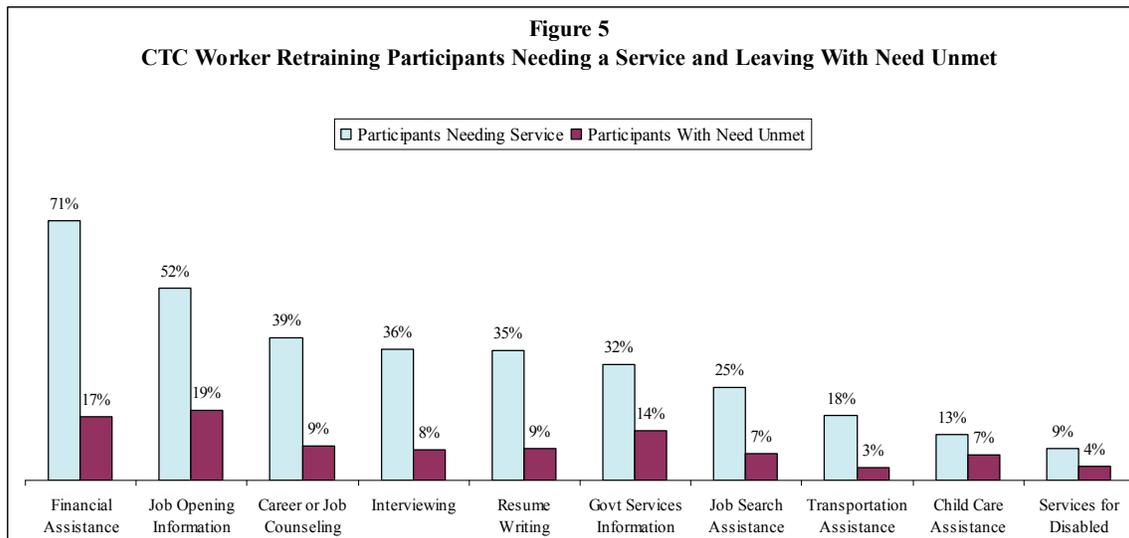
Similar to the previous study, 2005-2006 worker retraining students expressed very high levels of satisfaction with their program. However, only 84 percent reported they had met their educational objectives compared to 90 percent who so reported in 2003-2004. Similarly, 90 percent of students reported they were “very satisfied” or “somewhat satisfied” with the program as a whole, down from 93 percent in the previous study. Students tended to be “very satisfied” with nearly every aspect of the program, particularly location, program cost, times and quality of teaching (Figure 4). Advice on selecting a program showed the lowest percent reporting being “very satisfied,” although the percentage increased by 5 points from the 2003-2004 study.

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Source: Participant Satisfaction Survey 2005-2006

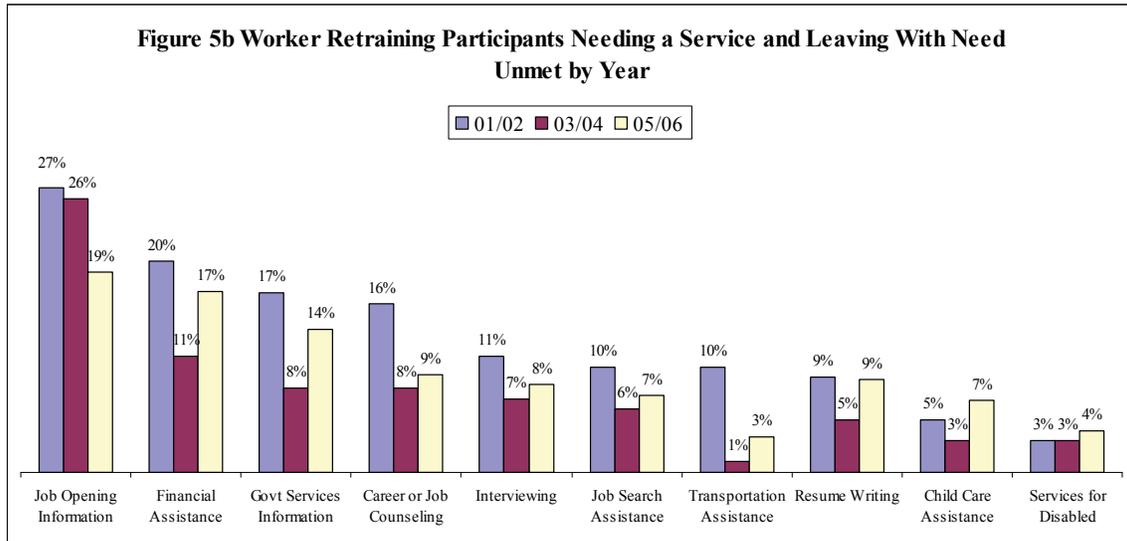
As in the past, the two most frequently needed support services while enrolled were financial assistance and information about job openings (Figure 5). While most students received the support services needed, a relatively high percentage continues to leave with an unmet need² for job opening information.



Source: Participant Satisfaction Survey 2005-2006

Despite the high percentage who reported needing more job opening information, over the past three program years fewer students have reported this as an unmet need. In most other areas, a higher percentage of students reported unmet needs compared to 2003-2004, but not as high as 2001-2002 (Figure 5b).

² Unmet need refers to cases where the student reports that either they did not receive the required service or what was provided did not meet their needs.



Source: Participant Satisfaction Surveys 2001-2006

Employment and Earnings

According to the survey responses, 75 percent of students were employed during the period seven to nine months after leaving their program (Figure 6).³ This is substantially lower than those reporting employment in 2003-2004, however somewhat similar to those self-reporting employment in the 2001-2002 study. To find out more about where students worked and what they earned after participating in a program, we matched student records with Employment Security Department wage files from Washington and neighboring states.⁴

Record matches found that 72 percent of the 2005-2006 students reported employment during the third quarter after they left their program, slightly higher than that reported two years ago.⁵ Their median hourly wage⁶ was \$15.68, and they had median annualized earnings of \$27,211.⁷ Program completers were more likely to be working full time and had higher earnings and hourly wage rates than those who did not complete their training programs.

³ In the survey, students were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

⁴ 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).

⁵ This suggests that the decline in the percentage reporting self-employment was not due to survey error.

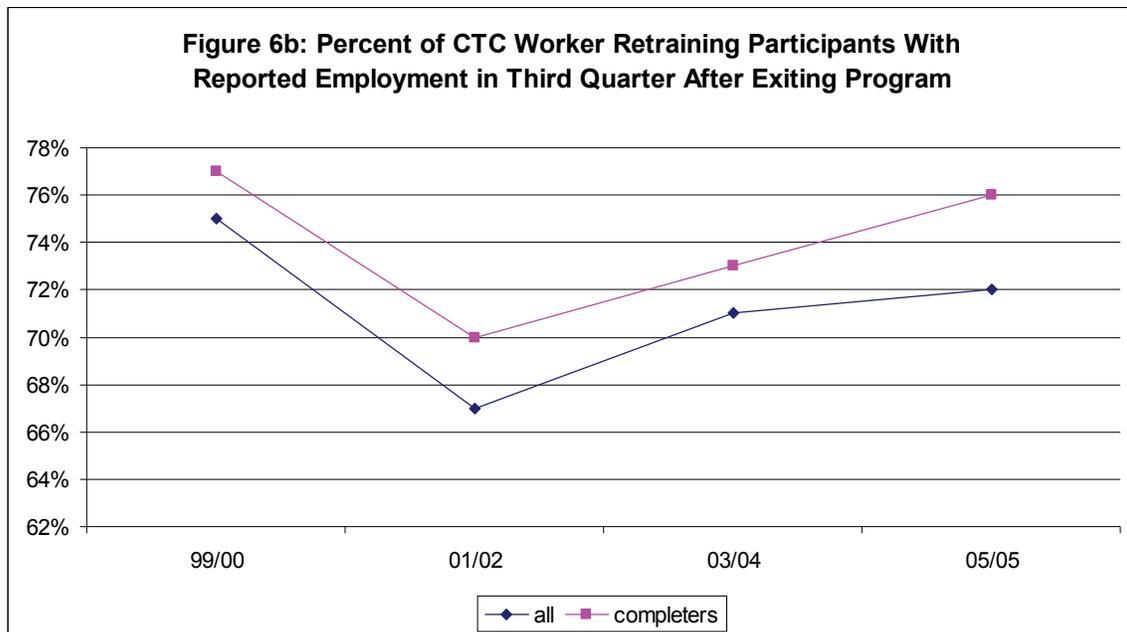
⁶ All wages and earnings are stated in 2007 Q1 dollars.

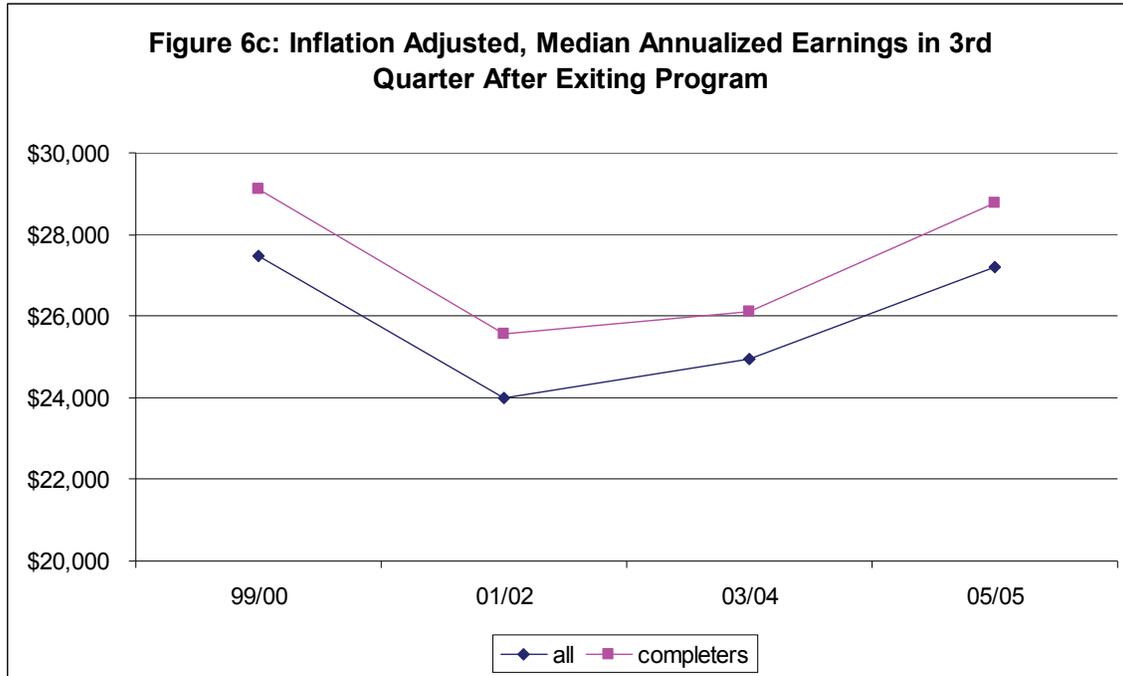
⁷ To derive annualized earnings, third quarter earnings are multiplied by four. Quarterly earnings are the result of hourly wage rates and the number of hours worked in a calendar quarter.

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Figure 6. Employment and Earnings of CTC Worker Retraining Participants in the Third Quarter After Leaving Program								
	1999-00		2001-02		2003-04		2005-06	
	All	Completers	All	Completers	All	Completers	All	Completers
Percentage self-reporting employment during third quarter after leaving program	na	na	71	na	85	na	75	na
Percentage with employment reported by employers to ESD the third quarter after leaving the program	75	77	67	70	71	73	72	76
Median quarterly hours worked of those working	480	482	455	455	467	473	468	481
Percentage employed full-time of those working (averaging 30 or more hours/week)	69	72	61	63	65	68	65	67
Median annualized earnings of those working	\$27,473	\$29,107	\$23,979	\$25,549	\$24,955	\$26,120	\$27,211	\$28,765
Size of household in which median earnings would support at poverty level	6.0	6.4	5.0	5.4	5.2	5.6	5.9	6.3
Size of household in which median earnings would support at twice poverty level	2.0	2.2	1.5	1.7	1.7	1.8	2.0	2.2
Median hourly wage of those working	\$14.91	\$15.36	\$14.12	\$14.57	\$14.49	\$14.78	\$15.28	\$15.80
Percentage self-reporting receipt of medical benefits from employer	na	na	67	na	72	na	68	na
Percentage self-reporting receipt of pension benefits from employer	na	na	42	na	48	na	51	na

Notes: Earnings and wages are expressed in first quarter 2007 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2007.





Source: Employment Security Department data matches 1999-2006.

There continues to be considerable variation in wages across worker retraining students. While one quarter earned more than \$21 an hour, another quarter had jobs that paid less than \$12 an hour. This wide distribution of wages is reflected in the dispersion of employment across higher and lower-wage industries (Figure 7). While slightly over half of those employed were in service industries, considerable percentages were in manufacturing, retail trade, construction, and public administration.

Figure 7. Industry of Employment of Worker Retraining Participants in the Third Quarter After Leaving Program 2005-2006	
	Employment
Natural Resources and Mining	0.9%
Construction	5.6%
Manufacturing	13.8%
Food and Beverage Products	1.6%
Wood and Paper Products	0.8%
Aerospace	5.2%
Other Manufacturing	6.2%
Wholesale Trade	3.3%
Retail Trade	9.8%
Transportation and Warehousing and Utilities	3.9%
Information	1.9%
Software Publishing	0.4%
Telecommunications	0.5%
All Other Information	1.0%
Financial Activities	4.5%
Services	52.1%
Professional, Scientific, and Technical*	5.9%
Administrative and Support and Waste Management and Remediation Services	11.3%
Education Services	5.6%
Healthcare	17.3%
Social Assistance	3.9%
Arts, Entertainment, and Recreation	1.5%
Accommodation and Food Services	3.4%
All Other Services	3.1%
Public Administration	4.1%
Total	100.0%
Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.	
* Includes legal, accounting, engineering, computer systems design, and other technical and scientific services.	

Source: Employment Security Department data matches 2005-2006.

Gender Differences in Employment and Pay

Employment and earnings varied by gender, race and ethnicity, and disability status. Females were about as likely as men to be employed in the third quarter after leaving the program. They were, however, less likely to be working full time (61 percent versus 71 percent) and had an hourly wage that was 81 percent of males (\$13.99 versus \$17.18).

Minority Differences in Employment and Pay

Asians/Pacific Islanders were more likely to be employed than whites during the third quarter after leaving training and Hispanics slightly more likely than whites. While Asians/Pacific Islanders were more likely to be working full time than whites (79 percent versus 73 percent), African Americans were less likely (67 percent) though this is an improvement over the 55 percent reported in the previous study. The median hourly wage for Hispanics and African Americans was 89 percent of whites; for Native Americans 87 percent of whites; and for Asians/Pacific Islanders 101 percent of whites.

Disparity Persists for Students with Disabilities

Earnings and employment outcomes also varied by disability status. College records suggest 9 percent of the worker retraining students included in this study had a disability. These students were less likely to have employment reported to the Employment Security Department during the third quarter after exit (58 percent versus 74 percent) and were less likely to be employed full time (54 percent versus 66 percent). Among those working, the median hourly wage rate of those with a disability was 89 percent of those without a disability.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years. The next net impact study is planned for 2010.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in a CTC Worker Retraining program were compared to individuals who had similar characteristics, but who did not participate in one of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

Worker retraining has positive net impacts on employment, hourly wage, hours worked, and earnings. Worker retraining increases lifetime earnings of participants.

Figure 8 shows the program’s short-term net impacts. During the third quarter after 2003-2004 students left the program, training is associated with positive net impacts on hourly wage⁸ (\$0.77 per hour); hours worked per quarter (39.5 hours); and on mean quarterly earnings (\$376). Training is associated with minor decreases in percentages receiving food stamps, UI benefits, medical, and Temporary Assistance for Needy Families (TANF).

Figure 8		
Short-Term Net Impact Results for CTC Worker Retraining Students Compared to Non-Participants		
	All Students	Program Completers
Employment: percentage of additional reported employment due to program participation	7.8	10.8
Difference in Mean Hourly Wage	\$0.77	\$0.91
Difference in Mean Hours Worked Per Quarter	39.5	57.8
Difference in Mean Quarterly Earnings	\$376	\$572
TANF: percentage receiving	-0.2*	-0.5
Food Stamps: percentage receiving	-0.8	-1.7
Medical Benefits: percentage receiving	0.0*	-0.9*
UI Benefits: percentage receiving	-1.0	-1.7
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars. Results are for participants in PY 2003-2004.		
* Not statistically significant at the 0.05 level.		

The longer-term net impacts of training are observed 9 to 12 quarters after students left the program during the 2001-2002 program year (Figure 9). In the longer-term, there are positive net impacts of training on employment, hours worked, and earnings. Additionally, there are minor, but significant, increases in the percentages receiving social welfare benefits.

Figure 9		
Longer-Term Net Impact Results for CTC Worker Retraining Students Compared to Non-Participants		
	All Students	Program Completers
Employment: percentage of additional reported employment due to program participation	4.6	8.2
Difference in Mean Hourly Wage	\$0.18*	\$1.09
Difference in Mean Hours Worked Per Quarter	29.8	53.7
Difference in Mean Quarterly Earnings	\$298	\$783
TANF: percentage receiving	0.4	0.0*
Food Stamps: percentage receiving	1.7	-0.6*
Medical Benefits: percentage receiving	1.2	-1.3
UI: percentage receiving	1.5	2.3
Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars. Results are for participants in PY 2001-2002. * Not statistically significant at the 0.05 level.		

⁸ All dollar amounts in this report are expressed in 2005 Q1 dollars

The data allowed for separate analysis of both students who completed their training and those who left before completing. The short-term and longer-term net impacts are better for program completers than non-completers, indicating the value of students completing their programs.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.⁹ Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by students. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, post-program benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for students leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each student in the CTC Worker Retraining program, the public (taxpayer) cost is about \$5,200 over the length of their enrollment, and the student costs are about \$2,600 in tuition and \$5,900 in foregone earnings while training (Figure 10). During the course of working life to age 65, the average trainee will gain about \$15,200 in net earnings (earnings minus foregone earnings) and over \$4,200 in employee benefits.¹⁰ These are net gains compared to the earnings of similar individuals who did not receive training.

Projected participant benefits to age 65 outweigh public costs invested in college training by a ratio of 3.3 to 1, or \$16,812 to \$5,172.¹¹

From the time of leaving training to age 65, the public is forecasted to gain about \$5,500 in additional Social Security, Medicare, federal income, and state sales taxes and to save about \$320 in total UI benefits and other social welfare costs per student—resulting in a gain over the direct cost of college training.

⁹ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

¹⁰ This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$3,000.

¹¹ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between student and the public (taxpayers).

Figure 10
Benefits and Costs of CTC Worker Retraining as Compared to Non-Participants

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefit Difference				
Earnings	\$3,389		\$21,128	
Employee Benefits	\$678		\$4,226	
Taxes	-\$882	\$882	-\$5,494	\$5,494
Transfers*	-\$810	\$810	-\$319	\$319
Cost Difference				
Foregone Earnings	-\$5,985		-\$5,895	
Program Costs**	-\$2,647	-\$5,172	-\$2,647	-\$5,172
TOTAL	-\$6,166	-\$3,481	\$10,999	\$640

Notes: Benefits and costs are expressed in 2005 Q1 dollars.
 * Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.
 ** Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.

Progress and Areas for Improvement

Overall satisfaction with the CTC Worker Retraining program was high among students, although the satisfaction level declined slightly from 2003-2004. Satisfaction levels with the location and program costs were at or above 95 percent. However, satisfaction levels with quality of teaching and interaction with instructors declined from the previous study. Over three-fourths of students reported substantial skill improvement in job-specific and machinery operation skills as a result of the training. The percentage reporting their math skills improved “a lot” fell from two years before.

Most students received the support services needed. According to survey results, however, there were substantial unmet needs for information about job openings. Many participants were unsatisfied with the advice they were given when selecting a program.

Wage and earnings gaps among different groups reflect those in the labor force at large: females earn less than males, racial and ethnic minorities earn less than whites and students with disabilities earn less than those without disabilities.

For Workforce Training Results on other programs, go to www.wtb.wa.gov/wtr2008.asp

