Graduate Follow-Up Survey of Apprenticeship Students from BC Public and Private Post-Secondary Institutions

2007 Apprenticeship Survey

Summary Report

BRITISH COLUMBIA
The Best Place on Earth

Ministry of
Advanced Education

BCStats

OWG
Outcomes Working Group

Library and Archives Canada Cataloguing in Publication Data
Main entry under title:
2007 apprenticeship survey [electronic resource] : summary report

At head of title: Graduate follow-up survey of apprenticeship students from BC public and private post-secondary institutions.
Running title: Apprenticeship survey report.
Available on the Internet.
Co-published by BC Stats and the Outcomes Working Group.
ISBN 978-0-7726-5893-7

1. Apprenticeship programs - British Columbia - Evaluation - Statistics. 2. Technology - Study and teaching (Internship) - British Columbia - Evaluation. 3. Technology - Study and teaching (Higher) - British Columbia - Evaluation. 4. Postsecondary education - British Columbia - Evaluation - Statistics. 5. Apprentices - British Columbia - Statistics. I. British Columbia. Ministry of Advanced Education. II. B.C. Outcomes Working Group. III. BC Stats. IV. Title: Graduate follow-up survey of apprenticeship students from BC public and private post-secondary institutions. V. Title: Apprenticeship survey report.

LC1047.C3A66 2007 370.2'2709711 C2007-960252-5

Table of Contents

Workplace Experiences

Employment

Conclusion

Appendices

Highlights

The 2007 Apprenticeship Survey included all former apprenticeship students who completed the final year of their apprenticeship technical training in a BC post-secondary institution between July 1, 2005 and June 30, 2006. Twenty-five institutions participated in this project: 14 public and 11 private. The survey interviews were conducted in February and March of 2007—the following are highlights from the survey findings.

About the former students

- 1,414 former apprenticeship students completed the survey
- 10% had been in a high school apprenticeship program
- 33% had completed entry-level trades or pre-apprenticeship training before their apprenticeships
- 80% said they received their Trades Qualification (TQ) or Inter-provincial (IP) Certification

In-school experiences

- 78% of survey respondents began their in-school training at Level 1
- 47% of those who completed previous entry-level trades or pre-apprenticeship training began their apprenticeship above Level 1
- 85% took all of their in-school apprenticeship training at the same institution
- 76% covered their in-school training expenses on their own
- 36% relocated from their home communities to attend in-school training
- 84% said their training helped them develop the skills to use mathematics appropriate to their fields
- 84% rated the quality of instruction “very good” or “good”
- 63% said the content of their in-school training was up to date
- 90% said the knowledge and skills they gained from in-school training were useful in preparing them to write the TQ or IP exams
- 94% said they were “very satisfied” or “satisfied” with their in-school training

Workplace experiences

- 76% of respondents took less than one month to find a sponsor for workplace training
- 43% had more than one employer during their apprenticeship
- 79% said their workplace training had an appropriate variety of duties
- 90% said they were "very satisfied" or "satisfied" with their workplace training experience
- 81% said that the knowledge and skills they gained on the job were useful in preparing them to write the TQ or IP exams

Employment

- 96% of respondents were employed at the time of the survey
- 99% were in the labour force: employed or looking for work
- 2.7% was the unemployment rate
- 80% of employed respondents had their current employer for at least one apprenticeship placement
- 95% said their job was "very related" or "somewhat related" to their training
- 95% said the knowledge and skills they gained were "very useful" or "somewhat useful" in performing their jobs
- 88% of employed respondents were working in Trades, Transport, and Equipment Operators and Related Occupations
- $27 was the median hourly wage of all respondents employed at the time of the survey

Introduction

British Columbia is currently experiencing labour shortages. To meet the province's need for skilled labour in trades and industry, the government has pledged to increase the number of people training in these areas, to improve completion rates, and to make the system more flexible. BC's post-secondary institutions, the Ministry of Advanced Education (AVED), the Industry Training Authority (ITA), and the Ministry of Economic Development are all committed to providing apprentices with the best training possible.

Background

Since 2005, the Graduate Follow-Up Survey of Apprenticeship Students from BC Public and Private Post-Secondary Institutions has collected outcomes and evaluative information from former apprenticeship students. This information is used to improve the quality of training, to meet accountability requirements, to help with policy development, and to inform prospective students.

To provide insight into the apprenticeship experience, former students are asked to:

- Rate aspects of their in-school and workplace training,
- Evaluate the usefulness of the knowledge and skills they gained,
- Quantify their level of satisfaction with their training, and
- Describe their post-training employment and further education.

This apprenticeship survey uses the methodology of the BC College and Institute Student Outcomes (CISO) Survey and is managed by BC Stats. (See Appendix A for more details on the survey methodology and participating institutions, and see Appendix B for information on the CISO survey project.)

About the 2007 Apprenticeship Survey

The 2007 Graduate Follow-Up Survey of Apprenticeship Students is the third annual survey of former apprenticeship students. This year's survey included all former apprenticeship students who completed the final year of their apprenticeship training at a BC post-secondary institution between July 1, 2005 and June 30, 2006. Twenty-five institutions participated in this project: 14 public and 11 private.

Telephone interviews for the survey were conducted from the beginning of February to the end of March 2007. Of the 2,453 former apprenticeship students identified as eligible for the

survey cohort, 1,414 completed the survey. With 1,463 respondents in 2006, and 1,156 in 2005, this now makes a total of 4,033 former apprenticeship students who have provided information about their apprenticeship training. (See Appendix C for 2007 cohort numbers and response rates by apprenticeship program.)

About this report

This report presents a summary of the findings from the 2007 survey. Where possible, comparisons are made with the results from the 2006 and 2005 Apprenticeship surveys.

The first part of the report outlines some details about the former apprenticeship students themselves and where they took their programs. Their in-school experiences are described in the second section of the report; this includes evaluations and ratings. The former apprentices evaluated their workplace training, as well—these experiences are discussed in a separate section, following the one on in-school training. The last section in the body of the report has information on employment, occupations, and industry participation.

The former apprenticeship students who were surveyed had apprenticed in a variety of trades. The trades programs named in this report have been organized according to the Classification of Instructional Programs (CIP) coding and then grouped to simplify reporting. (To see how these classifications relate to institutions' program names, see Appendix D.)

Respondents have been grouped according to the programs they were enrolled in for their in-school training. The majority of these trades programs had fewer than 35 respondents; many had fewer than 10. This makes program comparisons of the survey questions problematic, particularly for small programs. For the purposes of this analysis, small programs have been identified as those with less than 35 respondents; in each of these programs, the cohort, or number eligible for surveying, was 64 or fewer. A number of comparisons in this report use specific examples from the larger programs only, while the smaller programs are grouped into one category called other programs.

Former Apprenticeship Students

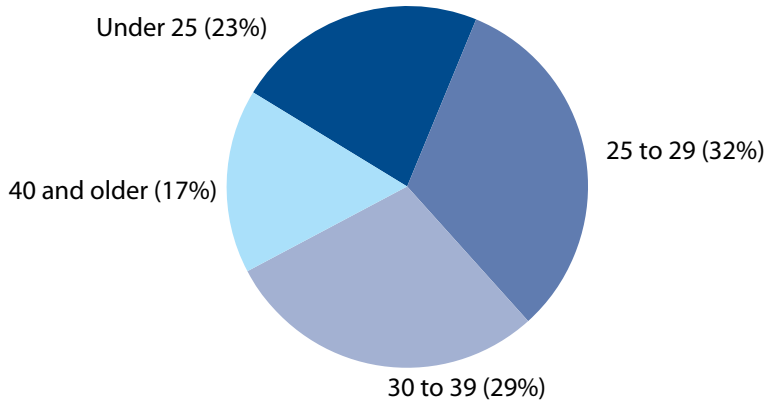
The former students who were interviewed as part of the 2007 Apprenticeship Survey had completed training in 29 different trades or apprenticeship programs. They were all asked to report previous education, including any other trades training they had taken, and any credentials they had achieved before the apprenticeship program they recently completed. They were also asked about their Aboriginal status and if they had learned English as a second language. Information on age and gender came from administrative records.

Who were former apprenticeship students?

Most of the former apprenticeship students surveyed were male; only four percent (n=52) were female. As in 2006 and 2005, the most common trade programs taken by females were Culinary Arts programs— 44 percent (n=23) of the female apprentices surveyed trained in this trade. Horticulture & Landscaping (n=5) and Automotive Mechanics (n=5) were the second most common trades for females, each accounting for 10 percent of female respondents. This represents a small change from previous years—in 2006, there were no female respondents in automotive trades and only three in 2005. Carpentry and Cabinetmaking & Millwork also were studied by more females in 2007 (n=3 in each trade) than in previous years.

At the time of the survey, the median age of respondents was 29. (This is the same as the median age of 2006 and 2005 survey respondents.) Ages ranged from 19 to 61, with over half of respondents younger than 30 years old.

Over half of the respondents were under 30 years of age



Certain trades programs were more likely to have older students. Former apprentices in the trades of Industrial Electronics, Precision Metal Working, and Small Engine Mechanics & Repair had the highest median age (39 years old). Painting and Autobody/Collision & Repair former apprenticeship students had the lowest median ages (24 and 25 years old).

In the survey, four percent (n=59) of respondents identified themselves as Aboriginal. Seventeen percent of Aboriginal apprentices surveyed had taken an Electrician program, making it the most common trade among this group of respondents. Another 14 percent of the Aboriginal respondents had apprenticed in Plumbing, followed by Industrial Mechanics & Maintenance and Precision Metal Working programs, each with 10 percent.

Nine percent (n=130) of respondents reported that they had learned English as their second language, although over half of this group had learned English by the time they were twelve. The three most common trades programs for respondents whose first language was not English were Automotive Mechanics (n=38), Electrician (n=18), and Culinary Arts (n=16).

What previous education did former apprenticeship students have?

A large majority of respondents in apprenticeship programs had completed high school: 90 percent. This percentage is the same as in 2006 and up from the 86 percent noted in 2005. As in previous survey years, 10 percent of the 2007 respondents had been in a high school apprenticeship program. Of those who took the high school program (n=139), almost three-quarters (72 percent) received technical credit toward their in-school training.

A third of former apprenticeship students (n=466) reported that they had taken some kind of entry-level trades or pre-apprenticeship training (also called ELT). Of these respondents, most (87 percent) said their entry level trades training was in the same trade as their apprenticeship training. Electrician and Automotive Mechanics were the most common fields of previous study, accounting for 20 percent and 19 percent, respectively, of those who took training prior to their apprenticeships in the same trade.

Former apprenticeship students were also asked if they had taken any other post-secondary education after high school, before starting their apprenticeship training. Forty-one percent of respondents said they had; this is an increase from 2006 (37 percent).

Including entry level trades or pre-apprenticeship training, the majority (61 percent) of those surveyed had taken some previous post-secondary education. Just over a quarter (27 percent) of respondents had completed a previous post-secondary credential. Of those respondents with a previous credential, 28 percent had a trades program citation, certificate, or diploma and 15 percent had a previous baccalaureate degree or a higher credential—the corresponding figures from 2006 and 2005 were 10 and 7 percent.

Many apprenticeship students had previous post-secondary credentials

	%	n
Completed a previous post-secondary credential	27%	382
Trades Program Citation, Certificate, or Diploma	28%	108
Trades Qualification (TQ) or Inter-Provincial (IP) Certificate*	25%	94
Baccalaureate Degree (E.g., B.A., B.Sc., LL.B.) or Higher	15%	58
Other Certificate or Diploma Below Bachelor Level	45%	172

Note: Percentage for "Completed a previous post-secondary credential" is out of all survey respondents. Other percentages are out of those who had a previous post-secondary credential. Many respondents had more than one credential; n=respondents who had the specific credential listed.
*Previous TQ or IP is in a different field.

Did apprentices study in public or private institutions?

Most of the former students surveyed had taken their apprenticeship programs through public post-secondary institutions (86 percent); 14 percent (n=200) had studied through private institutions. The percentage of respondents from private institutions is up slightly from previous survey years (12 percent in 2006, and 11 percent in 2005).

All of the surveyed apprentices from the following programs had studied in a private institution: Lineworker, Mobil Crane Operation, Mortuary Science & Embalming, Painting/Painter, and Roofer. Three-quarters (76 percent) of respondents from Heating, Air Conditioning, Refrigeration were from private institutions. There were another six programs that were delivered by both public and private institutions— 42 to 79 percent of these programs' respondents were from public post-secondary institutions. All the other trades programs were entirely delivered by public institutions. (See Appendix D.)

Most survey respondents trained in public institutions

Public Institutions	Number of Respondents	% of Total Respondents
British Columbia Institute of Technology	581	41%
Vancouver Community College	99	7%
Camosun College	77	5%
Thompson Rivers University	77	5%
Okanagan College	75	5%
Malaspina University-College	69	5%
College of New Caledonia	63	4%
Kwantlen University College	53	4%
College of the Rockies	37	3%
University College of the Fraser Valley	34	2%
North Island College	18	1%
Selkirk College	17	1%
Northern Lights College	10	1%
Northwest Community College	4	0%
Subtotal	1,214	86%
Private Institutions		
Pacific Vocational College	75	5%
Joint Apprentice Refrigeration Trade School	31	2%
R.C.A.B.C. Roofing Institute	25	2%
Sheet Metal Workers Training Centre	19	1%
Electrical Industry Training Institute	15	1%
Funeral Service Association of BC	11	1%
D.C. 38 Joint Trade Society	9	1%
Broadband Institute	7	0%
Quadrant Marine Institute	6	0%
Operating Engineers Training Centre	2	0%
Subtotal	200	14%
Total	**1,414**	**100%**

What apprenticeship programs did survey respondents take?

The former apprenticeship students surveyed had been enrolled in the trades programs listed in the table shown on the next page. Respondents were distributed unevenly across the different program groupings, with the twelve largest programs (those with more than 35 respondents) accounting for about 82 percent of respondents. Electrician was the largest trade with 18 percent of respondents; this is up slightly from 2006, when 16 percent of those surveyed were from Electrician programs.

The majority of apprenticeship programs had fewer than 35 respondents

	Number of Respondents	% of Total Respondents
Electrician	251	17.8%
Automotive Mechanics	187	13.2%
Carpentry	126	8.9%
Plumbing	98	6.9%
Machinist	87	6.2%
Culinary Arts	80	5.7%
Sheet Metal	77	5.4%
Heavy Duty Mechanics	64	4.5%
Industrial Mechanics & Maintenance	60	4.2%
Precision Metal Working	50	3.5%
Heating, Air Conditioning, Refrigeration	40	2.8%
Medium/Heavy Vehicle & Truck Mechanics	40	2.8%
Autobody/Collision & Repair	33	2.3%
Pipefitter & Sprinkler Fitter	32	2.3%
Cabinetmaking & Millwork	28	2.0%
Roofer	25	1.8%
Industrial Electronics	24	1.7%
Horticulture & Landscaping	19	1.3%
Marine Maintenance/Fitter & Ship Repair	14	1.0%
Glazier	12	0.8%
Lineworker	11	0.8%
Mortuary Science & Embalming	11	0.8%
Heavy Metal Fabrication	10	0.7%
Painting/Painter	9	0.6%
Welding	8	0.6%
Small Engine Mechanics & Repair	7	0.5%
Parts & Warehousing	6	0.4%
Masonry	3	0.2%
Mobile Crane Operation	2	0.1%
TOTAL	**1,414**	**100%**

For a detailed listing of the programs taken by respondents, by institution, see Appendix D.

How many received qualification or certification?

Consistent with the 2006 and 2005 surveys, the majority (80 percent) of former apprenticeship students in 2007 said they received their Trades Qualification (TQ)—also called British Columbia Certificate of Qualification (C of Q)—or Inter-provincial (IP) Certification—now

usually called Inter-provincial Red Seal. To receive certification, apprentices must successfully complete a specified period of work-based and technical training and pass examinations.

The results varied by program; the percentages of respondents from small trades programs[1] who received certification varied from 100 to 50 percent. From larger programs, the percentage of those who received certification ranged from 98 percent of Medium/Heavy Vehicle & Truck Mechanics to 59 percent of respondents from Culinary Arts programs. (See Appendix E: Qualification or Certification by Trade.)

1 The programs with less than 35 respondents.

In-School Experiences

The apprentices surveyed in 2007 were asked a number of questions about their in-school apprenticeship training. Although most of the questions focussed on ratings—the quality of instruction, the content of the program, opportunities for skill development—respondents were also asked to report such things as their beginning level for training, if they relocated to study, and how they paid for their in-school training. Where possible, comparisons with 2006 and 2005 survey findings are presented.

At what level did apprenticeship students begin their in-school training?

Over three-quarters of apprentices began their in-school training at Level 1. In 2007, 22 percent began above the first level, which is a significant increase from 2005 where 17 percent of respondents said they started above Level 1. It is also an increase over the 20 percent noted for 2006, although the difference is not statistically significant.

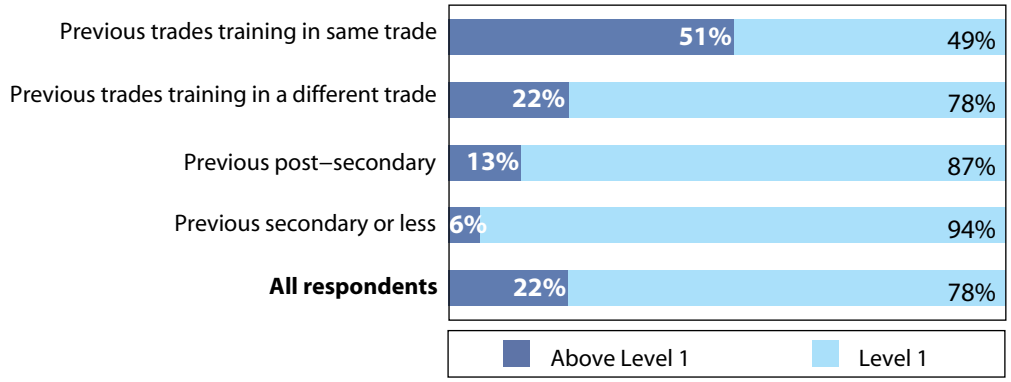
Since 2005, greater percentages of apprenticeship students have started their in-school training above Level 1

	2005		2006		2007	
Beginning level	**n**	**%**	**n**	**%**	**n**	**%**
Level 1	941	83%	1161	80%	1102	78%
Level 2	156	14%	246	17%	244	17%
Level 3 & above	38	3%	42	3%	58	4%

In 2007, former students who said they took entry-level trades training or pre-apprenticeship training were asked if the training was in the same trade as their apprenticeship. A large majority (87 percent) took previous training in the same trade and these respondents were considerably more likely to have started their in-school training above Level 1; half (51 percent) of those continuing their training in the same trade started above Level 1, compared with just under a quarter (22 percent) of those with prior training in a different trade. Taking other previous post-secondary education also had a positive effect on respondents' level of entry: almost one-quarter (24 percent) of those who had taken other post-secondary studies began their apprenticeship training above Level 1.

Nine percent (n=7) of respondents who took a high school apprenticeship program and did not subsequently take any other pre-apprenticeship, trades, or post-secondary training before their apprenticeships entered at Level 2 or higher. Of all the former students who took a high school program, 22 percent (n=30) began their apprenticeships above Level 1.

Respondents who took previous entry-level trades or pre-apprenticeship training in the same trade as their apprenticeships were more likely to start in-school training above Level 1



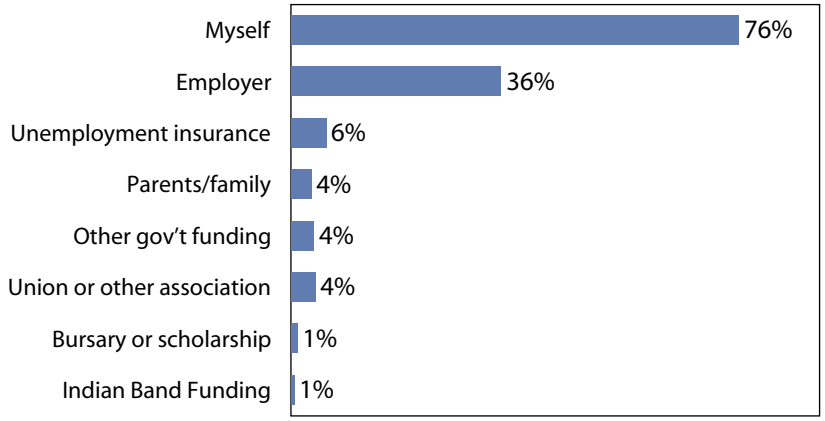
How did apprenticeship students pay for in-school training?

The former apprenticeship students surveyed were asked how they covered the costs of their in-school training, including tuition, relocation costs, and textbooks.

Consistent with previous years, about three-quarters of respondents paid for their in-school training themselves. Employer funding was the second most-frequently cited source of funding, mentioned by one-third of respondents. In 2007, a significantly lower percentage of respondents cited unemployment insurance (6 percent) and other government sources of funding (4 percent) compared with 2006 respondents (12 percent and 11 percent, respectively).

In 2007, just over a quarter (29 percent) of respondents reported more than one source of funding; this is a decrease from 2006 (38 percent) but in keeping with the 2005 results (26 percent).

The majority of respondents paid for their in-school training themselves



Note: Respondents could report more than one source of funding.

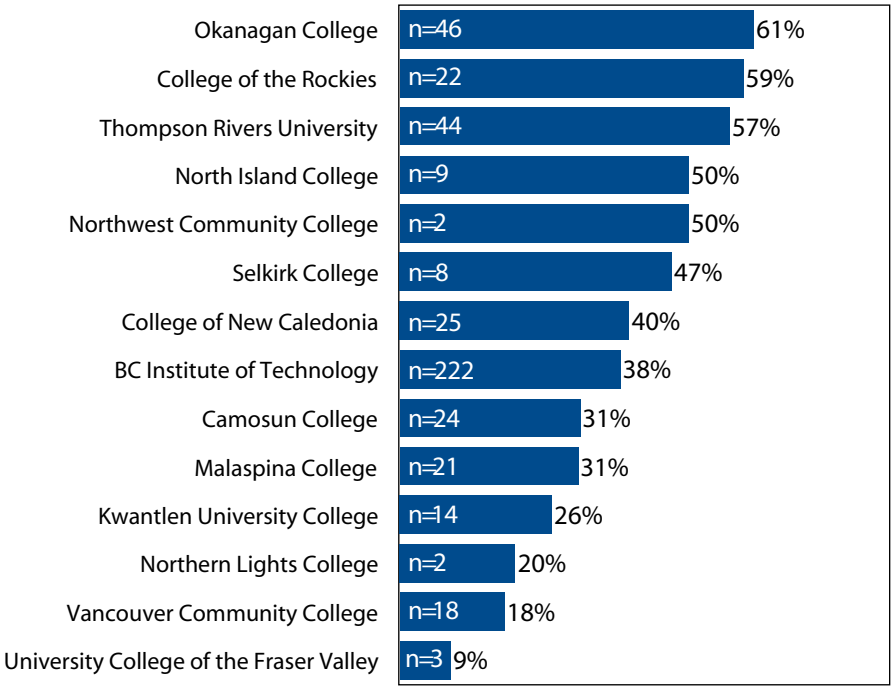
Did apprentices relocate for in-school training?

Apprenticeship training is offered by 14 of BC's public post-secondary institutions and by a variety of private trainers across the province. Some institutions offer a number of different trades programs, while others specialize in one trade. Apprentices may have to leave their home communities for their in-school training.

Just over one-third (36 percent) of the former students surveyed said they had relocated to attend in-school training. This is a smaller percentage than in previous years; in 2006, 40 percent said they relocated and in 2005 the figure was 42 percent. As in previous years, those who studied at private institutions were less likely to relocate—25 percent—compared to 38 percent from public institutions.

There were a number of differences by public post-secondary institution; 61 percent of apprenticeship students who studied at Okanagan College had relocated for in-school training, while only 9 percent who studied at the University College of the Fraser Valley had relocated.

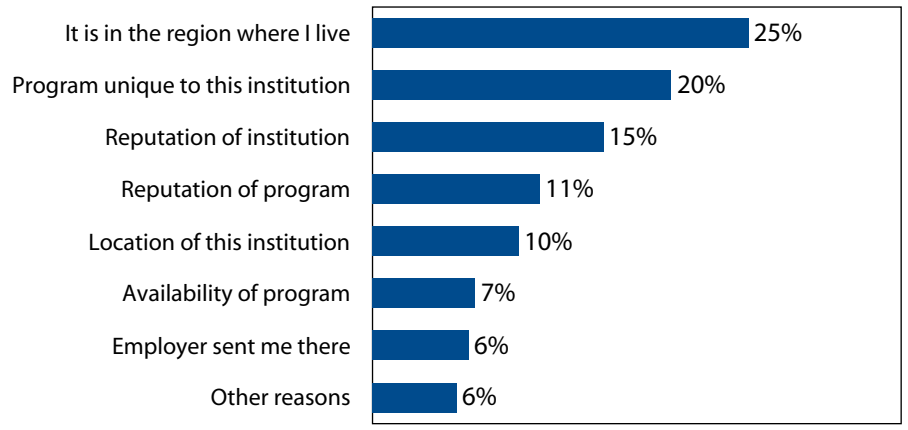
Overall, 38 percent of former apprenticeship students from public institutions had relocated for their in-school training



Why did apprentices choose their institution?

The majority (85 percent) of respondents took all of their in-school apprenticeship training at the same institution. In 2007, these former students were asked why they chose their institution. A quarter said it was because the institution was in the region where they lived. The other two most-frequently cited reasons were because the program was unique to the institution (20 percent) and the institution had a good reputation (15 percent).

A quarter of respondents chose their institution because it was in their home region



Did in-school training provide opportunities to develop skills?

Former apprenticeship students were asked to rate the extent to which their in-school training provided them with opportunities to develop a number of analytical, communication, and personal skills. If a particular skill was not relevant to their training, they were to indicate that it was "not applicable."

Using a 5-point scale that went from "very well" to "very poorly," large majorities of respondents said their apprenticeship programs did "very well" or "well" at helping them develop skills—especially in mathematics, self-learning, and critical thinking. Skill development in the

The majority of respondents gave high ratings to the opportunities they were given to develop skills

	Very well or well	Not applicable
Use mathematics	84%	4%
Learn on own	83%	5%
Analyze & think critically	83%	5%
Read & comprehend	83%	6%
Work effectively with others	81%	11%
Use tools & equipment	78%	2%
Resolve issues or problems	76%	6%
Write clearly & concisely	75%	29%
Speak effectively	75%	34%
Use computers	53%	43%

Note: "Very well or well" percentages were calculated excluding those who said "not applicable."

use of tools and equipment was also highly rated. There were a few items that were deemed "not applicable" by large percentages of respondents—the least applicable skill was "use computers" at 43 percent.

There were some differences in ratings by apprenticeship program, and the results for each skill item showed considerable variation by program. For example, 90 percent of former Plumbing students said their in-school training did "very well" or "well" at helping them to develop the skills to use tools and equipment appropriate to their field, while only 61 percent of former Electrician students said the same.

Former students from architectural trades like Electrician, Carpentry, and Sheet Metal, and from Industrial Mechanics & Maintenance, gave very high ratings to their opportunities to develop mathematics skills, with at least 90 percent of respondents in each of these trades giving a rating of "very well" or "well." Respondents from the other mechanical trades were less likely to report that they had opportunities to develop mathematics skills—positive ratings ranged between 75 to 79 percent.

Respondents' ratings (very well or well) for the opportunities they were given to develop skills varied somewhat by program

	Use mathematics	Learn on own	Use tools and equipment
Automotive Mechanics	79%	87%	89%
Carpentry	90%	81%	85%
Culinary Arts	86%	80%	85%
Electrician	94%	81%	61%
Heating, Air Conditioning, Refrigeration	86%	79%	66%
Heavy Duty Mechanics	78%	88%	81%
Industrial Mechanics & Maintenance	90%	84%	82%
Machinist	84%	79%	68%
Medium/Heavy Vehicle & Truck Mechanics	75%	89%	83%
Plumbing	85%	90%	90%
Precision Metal Working	82%	83%	78%
Sheet Metal	91%	83%	86%
Other programs*	74%	83%	77%

*Small programs (less than 35 respondents) were grouped into "Other programs."
Note: "Very well or well" percentages were calculated excluding those who said "not applicable."

Overall, the results from the skill development questions across all survey years were similar, although some items showed more variation than others.

How did former apprenticeship students rate the quality of their in-school training?

Former students were asked to rate certain aspects of their in-school training using a 5-point scale: "very good, good, adequate, poor, or very poor." They were instructed to identify any items they thought did not apply to their studies.

Consistent with previous years, the quality of instruction and helpfulness of instructors received high ratings—"very good" or "good"—from a large majority of respondents. Most items were considered applicable to the training of respondents, with the exception of library materials and quality of computers and software, both of which were "not applicable" to almost half of respondents.

In most areas, the quality of in-school training and materials received high ratings

	Very good or good	Not applicable
Helpfulness of instructors	88%	0%
Quality of instruction	84%	0%
Availability of instructors	83%	3%
Tests, etc. reflect material taught	82%	0%
Variety of test, papers, etc.	81%	0%
Organization of program	77%	0%
Quality of tools & equipment	75%	2%
Quality of computers & software	61%	42%
Textbooks & learning materials	68%	0%
Amount of practical experience	66%	1%
Library materials	67%	46%

Note: "Very good or good" percentages were calculated excluding those who said "not applicable."

Some differences appear when the item ratings are shown by program. Almost all of the respondents from Automotive Mechanics, Plumbing and Culinary Arts programs were pleased with the quality of instruction, while a smaller percentage of respondents from Machinist, Carpentry and Electrician programs said the quality of instruction was "very good" or "good." Concerns about the amount of practical experience were evident in some program areas.

Respondents' ratings (very good or good) of their programs varied by program

	Quality of instruction	Organization of program	Amount of practical experience
Automotive Mechanics	91%	88%	73%
Carpentry	79%	69%	72%
Culinary Arts	90%	79%	81%
Electrician	81%	73%	51%
Heating, Air Conditioning, Refrigeration	88%	88%	49%
Heavy Duty Mechanics	84%	75%	67%
Industrial Mechanics & Maintenance	88%	87%	61%
Machinist	78%	71%	52%
Medium/Heavy Vehicle & Truck Mechanics	83%	73%	68%
Plumbing	91%	89%	71%
Precision Metal Working	82%	90%	86%
Sheet Metal	87%	73%	66%
Other programs	78%	70%	68%

Note: "Very good or good" percentages were calculated excluding those who said "not applicable."

How did respondents rate the content of their in-school training?

Former apprenticeship students were asked to rate the content of their in-school training in the following areas: being up-to-date, covering the topics most relevant to their fields, and covering the standards being used in their fields. These areas were rated on a 5-point scale, from "very good" to "very poor." The 2007 ratings for these training content items are consistent with previous years' results.

The majority of former students rated the content of their in-school training "very good" or "good"

	Very good	Good	Total
Being up to date	24%	39%	63%
Covering topics in field	30%	41%	70%
Covering standards in field	32%	44%	77%

Note: Percentages were calculated excluding those who said "not applicable."

The responses differed by program, with ratings ("very good" or "good") from the larger trades programs[2] ranging from 90 percent to 50 percent. Plumbing programs had high ratings in all of the course content questions, while Machinist programs had some of the lowest ratings.

2 Larger programs are those with more than 35 respondents.

Ratings (very good or good) of in-school content varied across apprenticeship programs

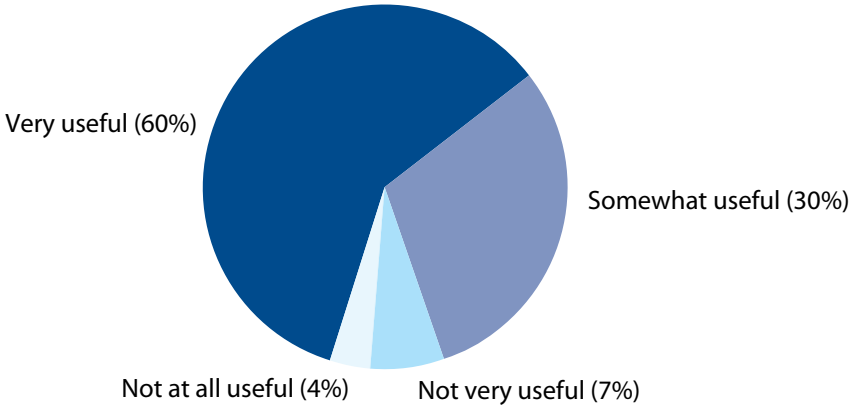
	Being up to date	Covering relevant topics	Covering standards used in field
Automotive Mechanics	70%	84%	82%
Carpentry	56%	62%	75%
Culinary Arts	68%	79%	76%
Electrician	59%	62%	79%
Heating, Air Conditioning, Refrigeration	75%	68%	78%
Heavy Duty Mechanics	50%	64%	70%
Industrial Mechanics & Maintenance	73%	80%	85%
Machinist	54%	63%	58%
Medium/Heavy Vehicle & Truck Mechanics	28%	60%	60%
Plumbing	83%	82%	90%
Precision Metal Working	62%	76%	73%
Sheet Metal	69%	81%	86%
Other programs	60%	65%	72%

Note: "Very good or good" percentages were calculated excluding those who said "not applicable."

How useful were the knowledge and skills gained from in-school training?

Most respondents (90 percent) agreed that the knowledge and skills they gained from in-school training were useful to them in preparing to write the TQ or IP certification examination. In fact, 60 percent of respondents thought what they had gained was *very* useful.

Respondents thought the knowledge and skills they gained in school were useful for certification

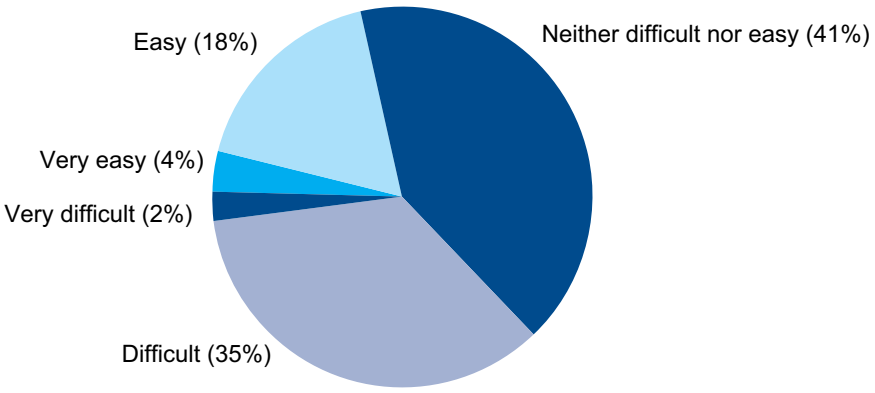


Again, there was a range of responses depending on the trades program: three-quarters of former Plumbing respondents said the knowledge and skills gained were "very useful" in preparing to write their examinations, while only just over a third of former Culinary Arts students said the same.

What was the level of difficulty?

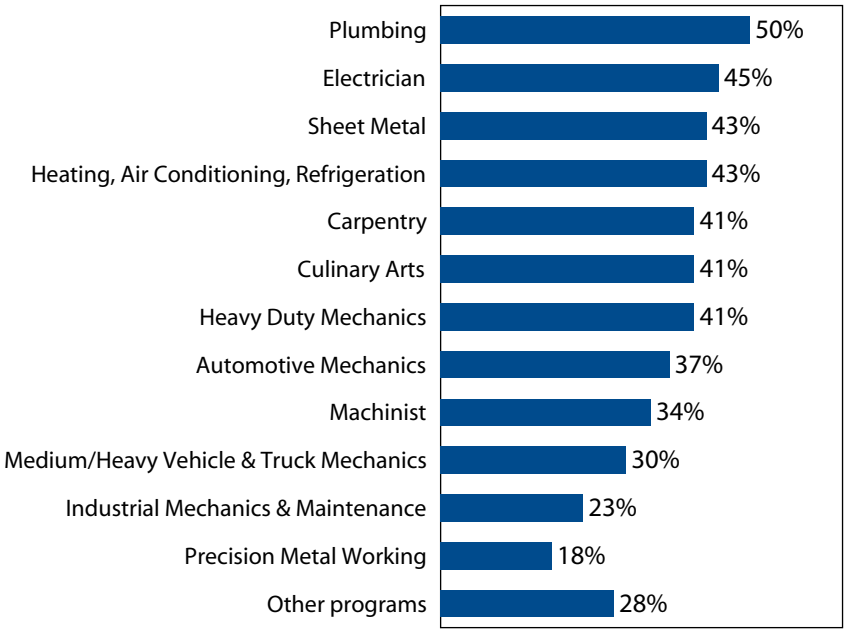
When asked to rate the level of difficulty of their in-school training on a 5-point scale, there was a tendency for respondents to say their in-school training was difficult rather than easy: 38 percent of respondents said their training was "difficult" or "very difficult," while 21 percent said it was "easy" or "very easy." However, the largest group of respondents (41 percent) rated their training in the middle, saying it was "neither difficult nor easy."

Over one-third of respondents said their technical training program had been "difficult"



Ratings varied according to program: former Plumbing students rated their program the most difficult and respondents from Precision Metal Working, the least difficult.

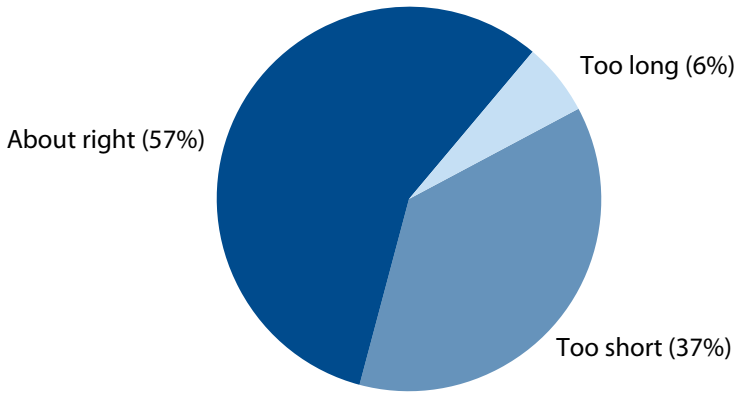
The percentage of respondents who said their program was "difficult" or "very difficult" varied across apprenticeship programs



Was the length of the program adequate?

Respondents were asked: Was the length of your in-school training adequate to cover the material? Although the majority replied "about right," over one-third (37 percent) said "too short."

Length of in-school training was "too short" for over a third of respondents



In particular, more than half of the former students from Culinary Arts and Automotive Mechanics programs indicated their in-school training was too short to adequately cover the material (63 and 57 percent, respectively).

How could in-school training be improved?

The former students surveyed were asked how the training in their programs could be improved—three quarters (n=1061) gave an answer. The most often-mentioned improvement involved updating tools, equipment, or learning materials—36 percent of those who answered the question said their program needed to do a better job at reflecting current conditions in their trade.

> *Keep the teaching and the learning material up to date.*
>
> *Update equipment on a regular basis to reflect change in the industry.*

The second most often-mentioned improvement (by 23 percent of respondents) was to increase the length of the in-school training.

> *Lengthen the in school training to include all aspects pertaining to the trade.*
>
> *It would be better if they made the course longer instead of rushing through the theory and practical information.*

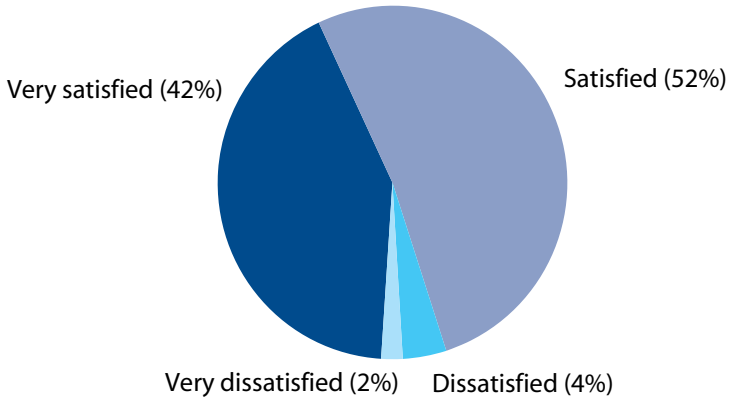
Other suggested improvements included: providing more hands-on or practical training, providing better preparation for the TQ/IP exams, and focusing more on particular subject areas. The suggestions mentioned in 2007 were consistent with previous survey years.

How satisfied were former students with their in-school training?

Consistent with the 2006 survey results, almost all (94 percent) former apprenticeship students in 2007 said they were "satisfied" or "very satisfied" with their in-school training.

The responses for each category varied across the trades programs; see Appendix G for a listing of respondents' satisfaction levels, by program.

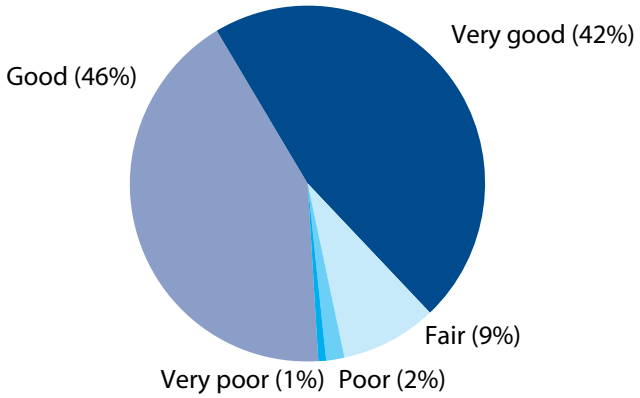
Most former apprenticeship students were satisfied with their in-school training



How did former students rate the overall quality of their in-school education?

In 2007, former apprenticeship students were asked for the first time how they would rate the overall quality of their in-school education on a 5-point scale ranging from "very good" to "very poor." The large majority of respondents gave positive ratings—89 percent said the overall quality of their in-school education was "very good" or "good."

The majority of respondents gave positive ratings to the overall quality of their in-school education



Ratings of the overall quality of education varied across the trades programs, although for all programs, large majorities of former students gave "very good" or "good" ratings. Almost all respondents from Automotive Mechanics and Heating, Air Conditioning, Refrigeration programs gave positive ratings (96 and 95 percent, respectively).

Ratings of the overall quality of education varied across apprenticeship programs

	Very good or good
Automotive Mechanics	96%
Heating, Air Conditioning, Refrigeration	95%
Precision Metal Working	94%
Industrial Mechanics & Maintenance	92%
Culinary Arts	91%
Plumbing	92%
Heavy Duty Mechanics	89%
Electrician	88%
Medium/Heavy Vehicle & Truck Mechanics	88%
Carpentry	87%
Sheet Metal	84%
Machinist	82%
Other programs	84%

Note: Percentages were calculated excluding those who said "not applicable."

Workplace Experiences

The survey included a number of questions for former students about their on-the-job experiences as apprentices. They were asked to rate various aspects of their workplace training and to say how satisfied they were, how useful they found it, and how related it was to their in-school training.

How long did former students take to find an apprenticeship sponsor?

In the survey, former apprenticeship students were asked how many months they had spent actively looking for a sponsor for their apprenticeship. More than three quarters took less than one month to find a sponsor; this number is consistent with the 2006 and 2005 survey findings. Almost all—92 percent— found a placement within six months. About 3 percent took one year to find a sponsor and the remaining four percent took up to four years. The former students who took a year or more to find a sponsor were distributed across most of the programs.

By program, the percentages of respondents who found a sponsor in less than a month ranged from 100 to 60 percent; the range of these responses was relatively consistent in both small and large programs. Looking only at large programs, the two programs with the highest percentage of respondents taking less than one month to find an apprenticeship sponsor were: Precision Metal Working (96 percent found a sponsor in less than one month), and Carpentry (85 percent found a sponsor in less than one month). In other large programs such as Heavy Duty Mechanics, Heating, Air Conditioning, and Refrigeration, and Culinary Arts, only about six in ten respondents found sponsorships in less than one month.

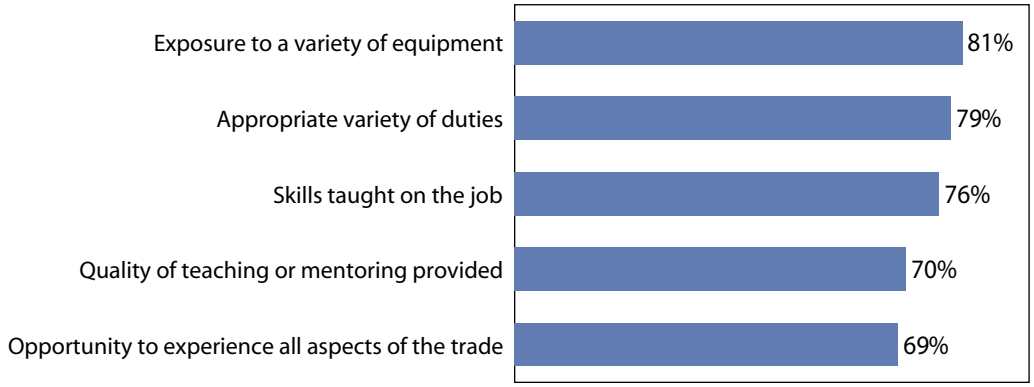
The majority (57 percent) of respondents did their apprenticeships with one employer; 21 percent had two, 12 percent had three, and 10 percent had more than three employers. Over a third (39 percent) of the former apprentices surveyed said they were part of a union or covered by a collective agreement during at least one of their apprenticeships.

How did former students rate their workplace training?

Survey respondents, for the most part, gave favourable ratings to their apprenticeship workplace training. They were asked to rate a list of items using the following scale: “very good, good, adequate, poor, or very poor.” If former apprentices had had more than one employer, they were asked to rate their training with their last employer— 43 percent of respondents said they had had more than one employer during their apprenticeship.

Respondents were asked to rate various aspects of their workplace training. Overall, "exposure to a variety of equipment" and "appropriate variety of duties" were the highest rated aspects. Ratings of most aspects have been relatively similar across years (2005, 2006, and 2007), with one exception. In 2005, 72 percent of respondents rated "the opportunity to experience all aspects of the trade" "very good" or "good." This measure dropped to 66 percent of respondents in 2006, but rose again to 69 percent of respondents in 2007.

Former apprenticeship students generally gave high ratings ("very good" or "good") to aspects of their workplace training



Note: "Very good or good" percentages were calculated excluding those who said "not applicable."

Although former apprentices rated most aspects of their workplace training favourably, there was considerable variation in ratings by program. For example, 93 percent of respondents from Heating, Air Conditioning, and Refrigeration programs rated "exposure to a variety of equipment" "very good" or "good," while only 70 percent of respondents from Medium/Heavy Vehicle & Truck Mechanics gave the same rating.

Positive ratings (very good or good) to aspects of workplace training varied by program

	Exposure to a variety of equipment	Appropriate variety of duties	Opportunity to experience all aspects of the trade
Automotive Mechanics	78%	79%	72%
Carpentry	81%	78%	67%
Culinary Arts	78%	75%	62%
Electrician	82%	78%	69%
Heating, Air Conditioning, Refrigeration	93%	90%	75%
Heavy Duty Mechanics	78%	80%	64%
Industrial Mechanics & Maintenance	82%	83%	62%
Machinist	76%	78%	59%
Medium/Heavy Vehicle & Truck Mechanics	70%	70%	63%
Plumbing	89%	81%	77%
Precision Metal Working	72%	64%	62%
Sheet Metal	87%	79%	79%
Other programs	80%	80%	72%

Note: Percentages were calculated excluding those who said "not applicable."

Respondents were also asked to rate the "skills taught on the job" and the "quality of teaching or mentoring provided." Again, ratings varied widely by program. For example, "skills taught on the job" was rated "very good" or "good" by 85 percent of respondents from the Sheet Metal program, but only 59 percent of respondents from the Precision Metal Working program gave the same rating.

Positive ratings (very good or good) to the skills taught and the quality of teaching varied by program

	Skills taught on the job	Quality of teaching or mentoring provided
Automotive Mechanics	78%	75%
Carpentry	79%	73%
Culinary Arts	70%	67%
Electrician	77%	75%
Heating, Air Conditioning, Refrigeration	75%	78%
Heavy Duty Mechanics	75%	59%
Industrial Mechanics & Maintenance	80%	70%
Machinist	72%	67%
Medium/Heavy Vehicle & Truck Mechanics	70%	63%
Plumbing	81%	73%
Precision Metal Working	59%	52%
Sheet Metal	85%	79%
Other programs	76%	67%

Note: Percentages were calculated excluding those who said "not applicable."

How could on-the-job experiences be improved?

When asked to suggest how on-the-job experiences for apprentices could be improved, the majority of former apprenticeship students who responded expressed an interest in learning more about their trade. In total, 44 percent of respondents gave suggestions.

The most common suggestion provided by respondents was that they wanted a greater variety of duties and more experience in different aspects of the trade (suggested by 44 percent of those who gave comments).

> *Exposure to more variety and aspects of the trade are needed and required to be fully trained for employment.*
>
> *Offer more variety of work and more hands-on experiences.*
>
> *Let journeyman teach more aspects of the field; I feel I did not get enough exposure to some aspects.*

Three out of ten of respondents said they wanted more one-on-one training, mentoring, and time with qualified journeymen.

> *There should be more one-to-one training from the journeymen in all aspects of the practical training.*
>
> *Ensure we get mentored by the journeyman more often instead of doing mundane tasks.*
>
> *Have more experienced trades persons to learn from.*

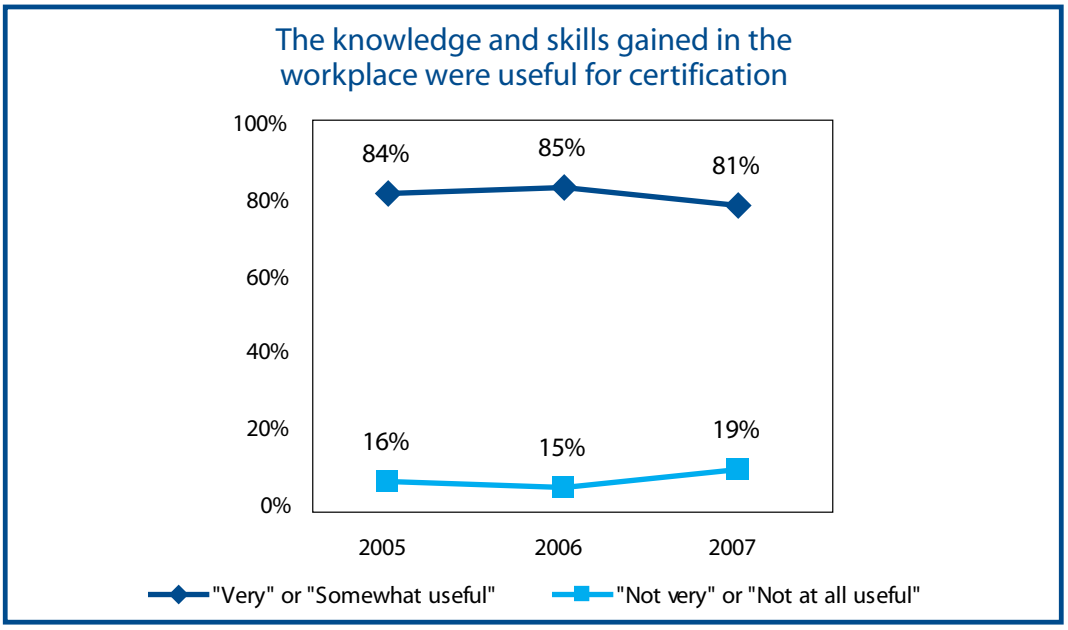
Respondents also expressed an interest in the overall structure and content of apprenticeship training. Approximately one-fifth suggested one or more of the following: a better monitoring and review process to ensure employers meet program guidelines (including curriculum taught), more coordination between the material taught in school and on the job, or the need for employers to understand their responsibility to students and provide support for their skill development.

> *There should be apprenticeship standards that employers must follow in a binding agreement.*
>
> *There should be a set schedule for the apprentice on the job so that the on-the-job experience and in-school program are more co-related.*
>
> *It needs to be geared towards learning not just getting the work done. Have more workers onsite instead of students being used as workers.*

Other suggested improvements included working with more up-to-date equipment, experience with a greater variety of equipment, and having training more related to the TQ and IP exams.

How useful were the knowledge and skills gained from workplace training?

Most respondents said that the knowledge and skills they gained on the job during their apprenticeships were "very useful" or "somewhat useful" in preparing them to write the TQ or IP certification exams. The responses to this question have fluctuated a little over the past three years, and the percentage of respondents who said "very" or "somewhat useful" dropped a little in 2007, although the difference was not statistically significant.



Looking at former apprentices from large programs, the percentage of those saying the knowledge and skills gained in the workplace were "very useful" or "somewhat useful" for their exams ranged from 69 percent (Culinary Arts) to 93 percent (Precision Metal Working).

How related were the in-school training and the workplace experience?

Survey respondents were asked to say how related their in-school training was to their workplace experience. A large majority (89 percent) said it was "very related" or "somewhat related"—the other choices were "not very related" and "not at all related." The distribution of responses to this question has remained relatively constant since 2005, although the percentage who said "not at all related" is up about one percentage point in 2007.

Most respondents said their in-school training was related to their workplace experience

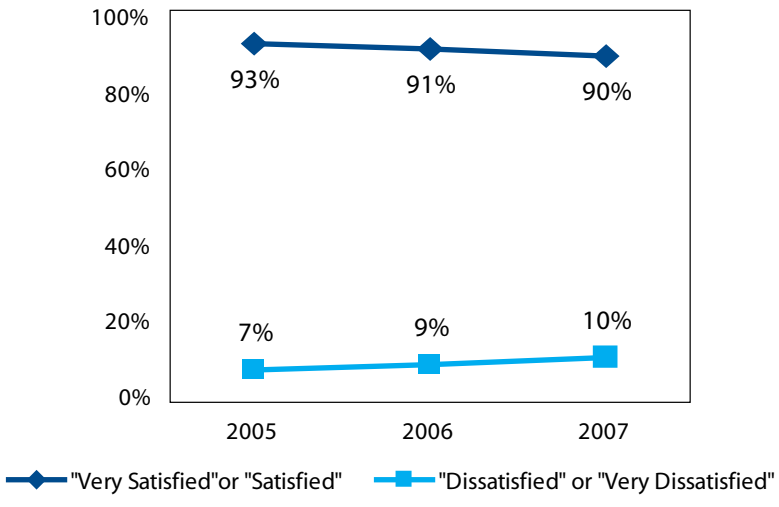
	Very or somewhat related	n
Automotive Mechanics	92%	172
Carpentry	88%	110
Culinary Arts	86%	69
Electrician	83%	209
Heating, Air Conditioning, Refrigeration	95%	38
Heavy Duty Mechanics	91%	58
Industrial Mechanics & Maintenance	95%	57
Machinist	84%	73
Medium/Heavy Vehicle & Truck Mechanics	93%	37
Plumbing	95%	93
Precision Metal Working	98%	49
Sheet Metal	84%	65
Other programs	92%	233

Note: n=respondents who said "very or somewhat related."

How satisfied were former apprentices with their workplace training?

In 2007, a large majority of respondents (90 percent) said that they were "very satisfied" or "satisfied" with their overall workplace training experience. However, this proportion was somewhat lower than it was in 2005 (93 percent). Responses varied by apprenticeship program; see Appendix G for respondents' satisfaction with their workplace experience by program.

Nine out of ten respondents were satisfied with their overall workplace training experience



Employment

Former apprenticeship students were asked a number of questions about employment; some questions related to labour force participation, others were about specific occupations and types of industry. Respondents were also asked to relate their employment to their training. Survey respondents from 2007 answered questions relating to their employment in much the same way as 2006 and 2005 respondents did.

What is the labour force participation of former students?

At the time of the survey, virtually all respondents—99 percent—were in the labour force; that is, employed or looking for work. This labour force participation rate is the same as that of the 2006 survey respondents, and slightly higher than that of the 2005 survey respondents (97 percent). In comparison, the labour force participation rate (unadjusted) for the BC population aged 20 to 59 was 82.4 percent in March of 2007.[3]

Labour force participation of survey respondents was high regardless of their apprenticeship program; in fact, respondents from 18 of the 29 trades programs had participation rates of 100 percent.

What is the unemployment rate?

The unemployment rate for the former students surveyed—that is, the percentage of unemployed respondents in the labour force—was 2.7 percent overall. In March 2007, the unemployment rate (unadjusted) for the BC population aged 20 to 59 was 3.5 percent.[4] The rate for respondents from small apprenticeship programs (those with less than 35 respondents) varies considerably, but for larger programs, it ranges from 0 to 8.2 percent.

What are former students' employment outcomes?

Consistent with the 2005 and 2006 survey results, 96 percent of the former apprenticeship students at the time of the 2007 survey were employed. Of those who were employed, 5 percent said they were self-employed. Carpentry programs continued to have the highest percentage of self-employed respondents compared with other larger programs—21 percent. The percentages from other larger programs ranged from 0 (Industrial Mechanics & Maintenance) to 10 percent (Plumbing) self-employed.

3 Source: Statistics Canada, Labour Force Survey; BC Monthly Labour Force Data, prepared by BC Stats.
4 Source: Statistics Canada, Labour Force Survey; BC Monthly Labour Force Data, prepared by BC Stats.

Over three-quarters (80 percent) of employed respondents did at least one apprenticeship placement with their current employer. Of those who were not employed in the same place where they did an apprenticeship, 36 percent said it was because they had found a better job somewhere else, while 15 percent said no job was available or they got laid off. The rest gave other reasons, such as "just wanted a change" or "to be self-employed."

Employment outcomes of 2007 respondents were similar to those of the 2006 and 2005 respondents

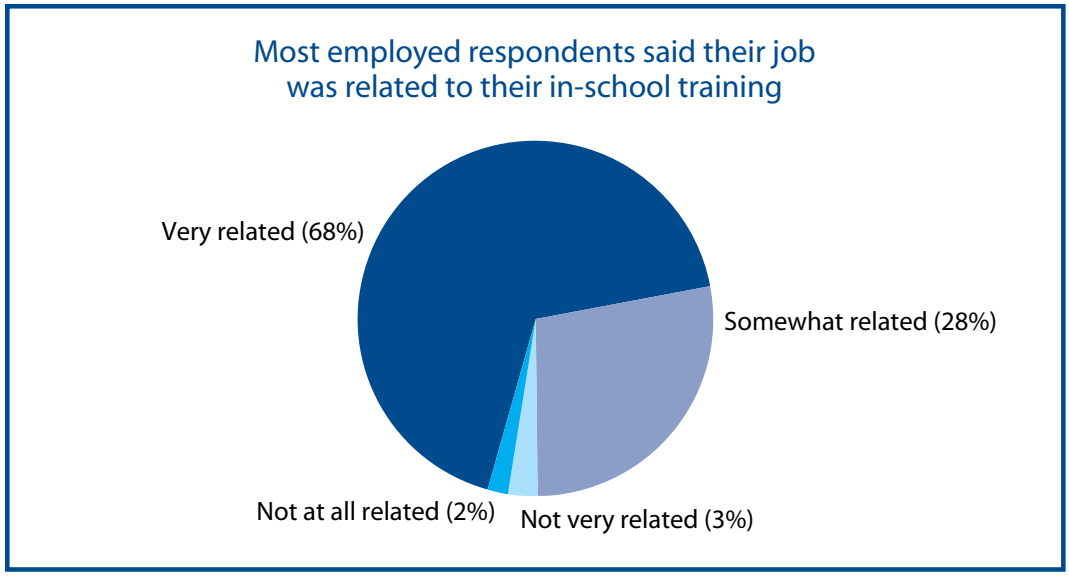
	2005	2006	2007
Employed	94%	96%	96%
Permanent position	96%	97%	97%
Did at least one apprenticeship placement with current employer	79%	78%	80%
Self-employed at the time of the survey	7%	5%	5%
More than one job	7%	5%	6%

Note: Percentage employed is out of all survey respondents; other percentages are out of employed respondents

In 2007, 14 percent of respondents said they had taken further training since their trades program ended. This percentage is similar to the 2006 and 2005 results, which were 16 and 13 percent respectively.

How related are former students' jobs to their in-school training?

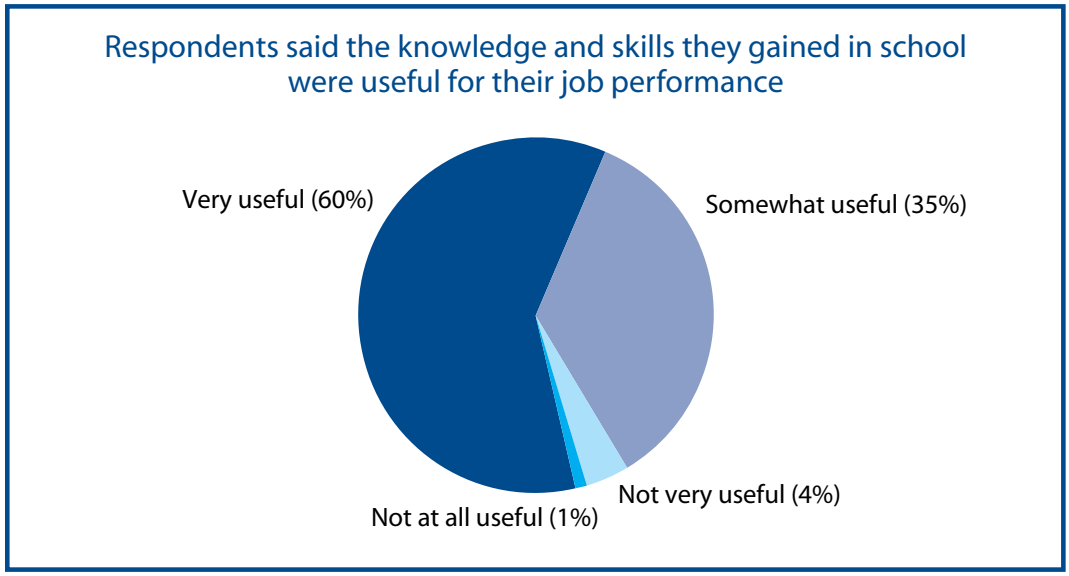
Former apprenticeship students were asked to rate the extent to which their job (main job if they had more than one) was related to the in-school training they took at a post-secondary institution. Two-thirds felt their job was very related to their training—95 percent said it was "very related" or "somewhat related." These responses were virtually identical to those of the 2006 and 2005 survey respondents.



Across all apprenticeship programs, the combined rating of "very related" or "somewhat related" ranged from 100 to 67 percent.

How useful are the knowledge and skills gained, in performing jobs?

Employed respondents were asked to judge how useful the knowledge and skills they gained from their in-school training were in performing their jobs. (Respondents were asked earlier in the survey to rate the utility of the knowledge and skills they gained with regard to preparing for their TQ and IP examinations.)



Consistent with the 2006 and 2005 survey results, most respondents (95 percent) said the knowledge and skills they gained were "very" or "somewhat useful" in performing their jobs.

The combined "very useful" or "somewhat useful" ratings actually ranged from 100 to 67 percent across all apprenticeship programs. (See Appendix G for respondents' ratings across all of the apprenticeship programs.)

What occupations do former apprenticeship students have?

Similar to the 2006 and 2005 former students, a large majority—88 percent—of the employed 2007 respondents were working in Trades, Transport, and Equipment Operators and Related Occupations.[5] The second most common occupation category was Sales and Service Occupations, with 7 percent of respondents. Respondents who had more than one job were asked to describe their main job, defined as the one at which they worked the most hours.

There is a strong correspondence between former students' apprenticeship programs and their subsequent occupations. For example, of the respondents who apprenticed in the Automotive Mechanics program, 87 percent were employed as Automotive Service Technicians. Overall, 8 percent of respondents fell into the category called "Contractors and Supervisors," which includes those who are operating their own businesses.

5 The National Occupational Classification (NOC) system, which is taxonomy of occupations in the Canadian labour market, was used to assign 4-digit codes to the occupations former students had at the time of the survey. The codes are used to describe occupations and to aggregate them into occupational categories and skill levels. The grouping of occupations called "Trades, Transport, and Equipment Operators and Related Occupations" is at the 1-digit level.

The top occupations of former apprenticeship students are shown for selected apprenticeship programs

Apprenticeship	Occupation	Of employed respondents	
		n	%
Automotive Mechanics			
	Automotive Service Technicians	158	87%
	Machine & Transportation Equipment Mechanics	5	3%
Carpentry			
	Carpenters & Cabinetmakers	85	70%
	Contractors & Supervisors, Trades & Related Workers	26	21%
Culinary Arts			
	Chefs & Cooks	62	83%
	Butchers & Bakers	6	8%
Electrician			
	Electrical Trades & Telecommunications	201	82%
	Contractors & Supervisors, Trades & Related Workers	32	13%
Heating, Air Conditioning, Refrigeration			
	Machinery & Transportation Equipment Mechanics	34	92%
	Other Construction Trades	3	8%
Heavy Duty Mechanics			
	Machinery & Transportation Equipment Mechanics	55	87%
	Automotive Service Technicians	7	11%
Industrial Mechanics & Maintenance			
	Machinery & Transportation Equipment Mechanics	54	90%
Machinist			
	Machinery & Transportation Equipment Mechanics	38	47%
	Machinists & Related Occupations	33	41%
Medium/Heavy Vehicle & Truck Mechanics			
	Automotive Service Technicians	34	85%
Plumbing			
	Plumbers, Pipefitters and Gas Fitters	76	83%
	Contractors & Supervisors, Trades & Related Workers	15	16%
Precision Metal Working			
	Printing Press & Other Trades	43	96%
Sheet Metal			
	Metal Forming, Shaping & Erecting Trades	69	93%

What is the wage of respondents employed at the time of the survey?

The employed former apprenticeship students were asked to report their gross salary or wage before deductions. If they had more than one job, they were asked to report the wage from their main job, the one at which they worked the most hours. Respondents could report their wages by whatever time period they wished (hour, day, week, and so on); an hourly wage was derived from the information provided and confirmed by the respondent during the interview.

The median hourly wage of all respondents employed at the time of the survey was $27; the corresponding wage figures from the 2006 and 2005 surveys were $25 and $24, respectively. For respondents' top fifteen occupations—that is, the occupations reported by the greatest numbers of respondents—the median wage ranged from $15 to $32 per hour. For many occupations, hourly wages were higher in 2007, compared with 2006; for example, the median hourly wage for respondents employed as Plumbers, Pipefitters & Gasfitters was $28 in 2007, compared with $24 in 2006.

The median gross hourly wage is shown for the top fifteen occupations

	Respondents	Wage
Automotive Service Technicians	216	$22
Electrical Trades & Telecommunications	211	$28
Machinery & Transportation Equipment Mechanics	181	$30
Carpenters and Cabinetmakers	106	$25
Contractors & Supervisors, Trades & Related Workers	104	$28
Plumbers, Pipefitters and Gas Fitters	92	$28
Metal Forming, Shaping & Erecting Trades	74	$27
Chefs and Cooks	58	$15
Printing Press & Other Trades	47	$30
Machinists and Related Occupations	29	$28
Other Construction Trades	28	$25
Electronics & Electrical Engineering	15	$32
Other Mechanics	12	$20
Managers in Construction and Transportation	12	$31
Technical Occupations in Personal Service	10	$19

Note: These occupations are aggregated to the 3-digit NOC level.

What industries employ former apprentices?

Former apprenticeship students were asked to describe the type of business, industry, or service in which they worked. This information was used to categorize employed respondents into different industry groups, to enable comparisons with overall BC employment by industry sector.

The majority (65 percent) of employed former apprenticeship students who were surveyed were working in the goods producing sector; only 21 percent of all employed persons in BC worked in the goods sector at that time (March 2007). Almost all of the former apprentices who worked in the goods producing sector worked in the construction or manufacturing industries. In total, 61 percent of the former apprentices surveyed worked in construction or manufacturing, while in BC overall, 18 percent of all employed persons worked in one of these industries. (Manufacturing includes making wood products, fabricated metals, paper, machinery, and transportation equipment.)

When they were surveyed, 34 percent of employed respondents were working in the service sector. In contrast, the majority of employed persons in BC—79 percent—worked in service industries. The largest industry group of the BC service sector was retail trade, with 12 percent of BC employees, while for former apprentices in the service sector, the largest group was in Repair and Maintenance & Miscellaneous Services.[6]

Former apprenticeship students were more likely to be employed in the goods producing sector

	Respondents	All BC
Goods	**65%**	**21%**
Construction	41%	8%
Manufacturing	20%	10%
Mining & Oil & Gas Extraction	3%	1%
Utilities	1%	<1%
Agriculture, Forestry, Fishing, & Hunting	<1%	2%
Services	**34%**	**79%**
Repair & Maintenance & Miscellaneous Services	11%	4%
Retail Trade	7%	12%
Accommodation & Food Services	4%	8%
Wholesale Trade	4%	4%
Transportation & Warehousing	2%	6%
Arts, Recreation, Information & Culture	2%	5%
Management, Administrative, Waste Management & Other	1%	4%
Public Administration	1%	4%
Educational Services	1%	8%
Finance, Insurance, Real Estate & Leasing	<1%	7%
Health Care and Social Assistance	<1%	11%
Professional, Scientific & Technical Services	<1%	7%

6 Source: Statistics Canada, Labour Force Survey, March 2007.

Conclusion

The Graduate Follow-Up Survey of Apprenticeship Students from BC Public and Private Post-secondary Institutions has now provided three years of information for analysis. The cohorts—those eligible for the survey—have been slowly increasing each year, growing by just under 5 percent between 2005 and 2007. In each of these years (2005, 2006, and 2007), the former apprentices show many similarities.

First, in each year approximately 40 percent of the cohort is made up of former students from Automotive Mechanics, Carpentry, and Electrician programs—the proportion of respondents from these programs is also about 40 percent each year. Second, the characteristics of the apprentices have been similar year-to-year. At the time of each survey, the median age of respondents was 29. Most respondents were male; only 3 to 4 percent were female. Also every year, 10 percent of former students said they had been in a high school apprenticeship program. And finally, the proportion of apprentices who received their qualifications or certification by the time of the survey each year has been 80 or 82 percent.

Although the 2007 findings are consistent with previous years, there are a few areas that show some changes:

- For respondents employed in about half of the occupations reported, there have been increases in hourly wages since 2005 (these increases are higher than the rate of inflation).
- There have been slight increases each year in the percentages of former apprentices who say they had a previous baccalaureate degree or a higher credential.
- Also increasing is the percentage of respondents who started their in-school apprenticeship training above the first level.
- The percentage of respondents who cited unemployment insurance as a source of funding for their studies has dropped a little in 2007.
- A year-to-year drop was noted in the percentage of former students who relocated to attend their in-school training.

Information from the 2007 Apprenticeship Survey has added to our understanding of apprentices and the apprenticeship training system in the following areas:

In-School Experiences

Although there were differences by program, a large majority of former apprenticeship students said that their in-school training had helped them develop skills, particularly in mathematics, independent learning, and critical thinking. As in previous years, computer skills ranked at the bottom—computers were also most likely to be designated as not appli-

cable to apprenticeship studies. Former students were very likely to say their instructors had been helpful and that the quality of the instruction they received was good or very good. The quality of tools and equipment ranked in the middle, however, and the amount of practical experience, near the bottom.

Although the majority of respondents said the content of their in-school training was good or very good at covering the standards and topics used in the field, "being up to date" lagged a little. Nevertheless, most respondents agreed that the knowledge and skills they gained from in-school training were useful to them in preparing to write the TQ or IP certification examination. Further, almost all of the former apprenticeship students surveyed in 2007 said they were "satisfied" or "very satisfied" with their in-school training.

Workplace Experiences

Overall, "exposure to a variety of equipment" and "appropriate variety of duties" were the highest-rated aspects of the workplace training experience. The lowest-rated item on the list was "the opportunity to experience all aspects of the trade"—it ranked last in previous years, as well.

Nine out of ten respondents said that they were "very satisfied" or "satisfied" with their overall workplace training experience. Most respondents said that the knowledge and skills they gained on the job during their apprenticeships were "very useful" or "somewhat useful" in preparing them to write the TQ or IP certification exams.

Labour Force Participation

At the time they were surveyed in 2007, almost all of the former apprenticeship students were employed, and almost all of the employed respondents said their job was "very related" or "somewhat related" to their in-school training. There is a strong correspondence between former students' apprenticeship programs and their subsequent occupations; that is, most of the former Automotive Mechanics students work as Automotive Service Technicians, most of the former Carpentry apprentices work as Carpenters, and so on.

The labour force participation rate for former apprentices is very high; wages are good and getting better—a number of the 2007 occupations showed an increase in hourly wage, compared with 2006 occupations; and almost two-thirds of the former apprentices surveyed in 2007 were contributing to BC's economy through the goods-producing sector.

It is not surprising that employment outcomes for former apprenticeship students are good, given the current shortage of skilled labour in BC. The apprenticeship training system has been tasked with the challenge of meeting the province's growing labour needs, and while it may be straining to produce more trained workers, the current graduates express high levels of satisfaction with their training and are almost unanimous in saying that the knowledge and skills they gained were useful in performing their jobs.

Appendices

Appendix A: Apprenticeship Survey Methodology

Apprenticeship Committee

The steering committee for this apprenticeship survey project, made up of representatives from BC's public apprenticeship training institutions and the Ministry of Advanced Education (AVED), is a subcommittee of the BC Outcomes Working Group (OWG). The Apprenticeship Committee has responsibility for oversight of the survey and the resulting publications.

The committee developed the survey instrument, which was based on the CISO survey questionnaire, and used many of the same questions. In particular, the apprenticeship questionnaire included the performance measures used by AVED and the institutions.

After the successful 2005 Apprenticeship Survey pilot project, the committee proceeded with the 2006 survey, and AVED confirmed annual funding for this survey for an additional three years (2007, 2008, and 2009). The participating institutions have also confirmed they will continue to contribute funding. The 2007 Graduate Follow-Up Survey of Apprenticeship Students is the third annual survey of former apprenticeship students.

Cohort

The survey cohort included all apprenticeship students who completed the final year of their apprenticeship programs at a BC post-secondary institution. The following criteria were used to define the survey cohort: all apprenticeship students who completed the final year of their apprenticeship programs (i.e., 3-, 4-, or 5-year apprentice programs) between July 1, 2005 and June 30, 2006 at a BC public post-secondary institution or at a BC private training institution.

Since apprenticeship students may take different parts of their apprenticeship programs at different institutions, the last institution that the student attended was considered the institution of record and that institution was asked to submit the names in their cohort file. The cohort extract included elements such as name, address, telephone number, program description, length of apprenticeship, gender, birthdate, program start date, and completion date.

There were 25 BC post-secondary institutions that participated in this pilot project—14 of them were public. These public institutions provided 85 percent of the cohort. The cohort from private institutions was provided by the Industry Training Authority (ITA). The following table lists the participating institutions and the number of former apprentices from each who were eligible for the survey and the number who responded.

The cohort extracts were assembled and reviewed for completeness and then passed to the survey contractor for data collection.

Public Institutions	Cohort	Respondents	Response rate
British Columbia Institute of Technology	970	581	60%
Camosun College	131	77	59%
College of New Caledonia	99	63	64%
College of the Rockies	64	37	58%
Kwantlen University College	103	53	51%
Malaspina University-College	112	69	62%
North Island College	31	18	58%
Northern Lights College	22	10	45%
Northwest Community College	6	4	67%
Okanagan College	128	75	59%
Selkirk College	33	17	52%
Thompson Rivers University	131	77	59%
University College of the Fraser Valley	60	34	57%
Vancouver Community College	207	99	48%
Private Institutions			
Broadband Institute	11	7	64%
D.C. 38 Joint Trade Society	17	9	53%
Electrical Industry Training Institute	41	15	37%
Funeral Service Association of BC	24	11	46%
Joint Apprentice Refrigeration Trade School	47	31	66%
Operating Engineers Training Centre	4	2	50%
Pacific Vocational College	127	75	59%
Quadrant Marine Institute	10	6	60%
R.C.A.B.C. Roofing Institute	44	25	57%
Sheet Metal Workers Training Centre	29	19	66%
Trowel Trades Training Assocation	2	0	0%
Total	**2,453**	**1,414**	**58%**

Data collection

Field testing of the survey instrument was done between January 16 and January 18, 2007, using a sub-sample of students from three institutions—there were 94 respondents. The data collection contractor suggested some minor modifications to the questionnaire, to enhance the flow of the survey and to increase the clarity of certain questions.

The data collection contractor undertook a number of steps to contact former students, including:

- For records with multiple phone numbers, calling all numbers to determine the correct number;

- Leaving a voice mail and toll-free number for the former students to call at their convenience; and
- Using a number of directories to track former students whose phone numbers are missing or incorrect.
- Asking for a forwarding number, where possible
- Sending emails with the toll-free number, where possible
- Using interviewers with multiple language skills

The telephone interviews for the survey were conducted from January 19 to March 23, 2007. Of the 2,453 former apprenticeship students identified as eligible for the survey cohort, 1,414 completed the interview. The average administration time of the survey was 19.2 minutes.

The following table shows the disposition of the survey cohort that was submitted for data collection.

Table 1: Overall Call Results
2007 Graduate Follow-up Survey of Apprenticeship Students

Call Result	n	Percent of Gross Frame
Completes	1414	57.7%
Incomplete Survey	12	0.5%
Refused/ Declined	190	7.7%
Specific Appointment	11	0.4%
Soft Appointment	75	3.1%
Left Message - Call Back	26	1.1%
Busy	4	0.2%
No Answer	161	6.6%
Moved - Left Toll Free Number	27	1.1%
Business (Not Employed There)	30	1.2%
Fax/ Modem/ Pager	7	0.3%
Travelling Within North America	0	0.0%
Not in Service/ Wrong Number	397	16.2%
Travelling/ Moved Outside of Canada/ US	10	0.4%
Communication Problem/ Serious Illness	9	0.4%
Deceased	1	0.0%
Ineligible	24	1.0%
Non-Qualifier (Duplicate, Not in Original Frame)	22	0.9%
No Phone Number/ No North American Number	33	1.3%
Not Yet Called	0	0.0%
Gross Frame - All Records	2453	100.0%

Analysis

BC Stats was responsible for cleaning and validating the data received from the data collection contractor. Based on these data—the responses to the survey questionnaire—the necessary variables were derived for analysis and reporting. Two tabular reports were produced—the Key Outcomes Indicators by Institution and the Key Outcomes Indicators by Program (trade)—and distributed to post-secondary institutions, the Ministry of Advanced Education, and the Ministry of Economic Development in May 2007. The tabular reports presented the results for 27 key indicators by institution (private and public) and by program. The indicators included AVED's performance measures and others chosen by the participating organizations.

Analysis for this report included frequencies, crosstabs, and comparison of means; in addition, several tests were used to determine if the observed differences between groups were statistically significant. A statistically significant result is one that cannot reasonably be explained by chance alone.

Limitations

The former students who were interviewed—58 percent of those eligible for surveying—were those from the cohort who could be located and who agreed to be surveyed. They may not be representative of all former students.

The numbers of respondents from each of the 29 apprenticeship program groups reported were not large; for many of the programs, the numbers were too small to permit comparative or in-depth analyses.

Percentages

For consistency and ease of presentation, most percentages in the report text, tables, and charts have been rounded and may not always add to 100.

Unless otherwise noted, each percentage is based on the number of students who responded to the question—those who refused the question, or said "don't know," were not included in the calculation.

Appendix B: About the BC College and Institute Student Outcomes Survey Project

The BC College and Institute Student Outcomes (CISO) Survey Project collects and disseminates information about former students' post-secondary experiences and their subsequent labour market and further education experiences. The survey is administered annually to former public college, university college, and institute students in British Columbia.

In 2006, the following public post-secondary institutions participated in the CISO survey project

- British Columbia Institute of Technology
- Camosun College
- Capilano College
- College of New Caledonia
- College of the Rockies
- Douglas College
- Institute of Indigenous Government
- Justice Institute of BC
- Kwantlen University College
- Langara College
- Malaspina University-College
- Nicola Valley Institute of Technology
- North Island College
- Northern Lights College
- Northwest Community College
- Okanagan College
- TRU Open Learning
- Selkirk College
- Thompson Rivers University
- University College of the Fraser Valley
- Vancouver Community College

The project is conducted with funding from the Ministry of Advanced Education and British Columbia's public colleges, university colleges, institutes and Thompson Rivers University. The British Columbia Outcomes Working Group (OWG) oversees all aspects of the project, from data collection to the reporting of survey results. The OWG is a longstanding partnership among the Ministry of Advanced Education, colleges, university colleges, institutes, Thompson Rivers University, and system-wide organizations, such as the Senior Academic Administrators' Forum, the Senior Educational Services Administrators' Forum, the BC Registrars' Association, and the BC Council on Admissions and Transfer.

Data from the CISO survey are currently used by AVED for policy development and to monitor the effectiveness of the post-secondary system. Colleges, university colleges, and institutes, and Thompson Rivers University use information from the annual survey for program and curriculum reviews, for marketing and recruitment, and to assist prospective students with career decisions.

Feedback from former Foundation level Trades Training students is currently collected in the annual CISO survey, so AVED and the institutions already have access to pertinent and valuable outcomes information for non-apprenticeship (and pre-apprentice) trades programs.

Appendix C: Response Rates by Program

	Eligible for survey	Number of respondents	Response rate
Autobody/Collision & Repair	61	33	54%
Automotive Mechanics	312	187	60%
Cabinetmaking & Millwork	42	28	67%
Carpentry	218	126	58%
Culinary Arts	171	80	47%
Electrician	411	251	61%
Glazier	23	12	52%
Heating, Air Conditioning, Refrigeration	67	40	60%
Heavy Duty Mechanics	103	64	62%
Heavy Metal Fabrication	35	10	29%
Horticulture & Landscaping	36	19	53%
Industrial Electronics	42	24	57%
Industrial Mechanics & Maintenance	96	60	63%
Lineworker	30	11	37%
Machinist	137	87	64%
Marine Maintenance/Fitter & Ship Repair	23	14	61%
Masonry	12	3	25%
Medium/Heavy Vehicle & Truck Mechanics	67	40	60%
Mobile Crane Operation	4	2	50%
Mortuary Science & Embalming	24	11	46%
Painting/Painter	17	9	53%
Parts & Warehousing	10	6	60%
Pipefitter & Sprinkler Fitter	64	32	50%
Plumbing	169	98	58%
Precision Metal Working	78	50	64%
Roofer	44	25	57%
Sheet Metal	127	77	61%
Small Engine Mechanics & Repair	14	7	50%
Welding	16	8	50%
Total	**2,453**	**1,414**	**58%**

Appendix D: Trade Program Groupings and Institutions' Programs

Trades-Training Program Name	Institution's Program Name	Institution	Respon-dents
Autobody/Collision & Repair			
	Automotive Collision Repair Apprenticeship Year Three	COTR	1
	Apprentice Auto Body	OKN	7
	Apprentice Auto Paint/Refinish	OKN	9
	Auto Refinish Prep Appren 1	VCC	16
Automotive Mechanics			
	Auto Tech Acura/Honda(AHAP) Ap	BCIT	3
	Auto Technician GM (ASEP) Appr	BCIT	8
	Automotive Technician Appr	BCIT	44
	Automotive Apprentice Training	Camosun	10
	Automotive Mechanics IV	CNC	4
	Automotive Service Technician Apprenticeship Year 4	COTR	3
	Automotive Service Tech Apprnt	UCFV	11
	Apprentice-Automotive Repair	Kwantlen	16
	Automotive Apprenticeship	Malaspina	27
	Auto Service Tech Apprentice Level 4	NLC	3
	Apprentice Auto Service Tech	OKN	25
	Apprentice RV Technician	OKN	8
	Auto Tech Apprentice Level 4	VCC	25
Cabinetmaking & Millwork			
	Joinery (Cabinetmaker) Appr	BCIT	28
Carpentry			
	Carpentry Apprentice	BCIT	44
	Carpentry Apprentice Training	Camosun	20
	Carpentry IV	CNC	5
	Carpentry Apprenticeship Level Four Program	COTR	3
	Carpentry Apprenticeship	UCFV	4
	Carpentry Apprenticeship	Malaspina	20
	Carpentry Apprentice Level 4	NLC	2
	Carpentry Apprentice	NWCC	3
	Apprentice Carpentry	OKN	19
	Carpentry Apprentice	TRU	6
Culinary Arts			
	Cook Apprentice Training	Camosun	4
	Baking Apprenticeship	Malaspina	7
	Culinary Arts Certificate	Malaspina	9
	Cook Apprenticeship Technical Training Level 3	NLC	2
	Apprentice Cook	OKN	7
	Retail Meat Cutting Apprentice	TRU	3
	Baking & Pastry Apprentice 3	VCC	6
	Culinary Arts Apprentice 3	VCC	42

Trades-Training Program Name	Institution's Program Name	Institution	Respon-dents
Electrician			
	Electrical Apprentice	BCIT	124
	Electrical Apprentice Training	Camosun	20
	Electrical Apprentice IV	CNC	19
	Electricity Apprenticeship	UCFV	19
	Electricity Apprentice	NIC	18
	Apprenticeship Yr.4-Electrical	Selkirk	17
	Electrical Apprentice	TRU	34
Glazier			
	Glazing Apprentice	BCIT	12
Heating, Air Conditioning, Refrigeration			
	Heat/Frost Insulation Appr	BCIT	4
	Refrigeration Apprentice	BCIT	5
	Refrigeration	JARTS	31
Heavy Duty Mechanics			
	Heavy Duty Mech Apprentice	BCIT	17
	Heavy Duty Mechanic IV	CNC	9
	Heavy Duty Apprenticeship Year Four	COTR	14
	Heavy Duty Mechanic Apprenticeship	Malaspina	5
	Heavy Duty Mechanics Apprentice	TRU	9
	Diesel Comm Transp Mech Appr 4	VCC	3
	Diesel Heavy Duty Mech Appr 4	VCC	7
Heavy Metal Fabrication			
	Boilermaker Apprentice	BCIT	4
	Ironworker Apprentice	BCIT	6
Horticulture & Landscaping			
	Utility Aborist	EITI	4
	Apprentice-Landscape Horticul	Kwantlen	13
	Apprentice-Production Horticul	Kwantlen	2
Industrial Electronics			
	Industrial Instrumentation App	BCIT	14
	Community Antenna Television	BROAD	7
	Industrial Instrument Mechanic Apprentice Level 4	NLC	3
Industrial Mechanics & Maintenance			
	Millwright Apprentice	BCIT	52
	Planermill Tech 1 Level I Apprentice	COTR	6
	Apprentice-Industrial Engine	Kwantlen	2
Lineworker			
	Power Line Technician	EITI	11
Machinist			
	Machinist Apprentice	BCIT	44
	Millwright IV	CNC	24
	Millwright Apprenticeship Year Four	COTR	9
	Apprentice-Millwright	Kwantlen	10
Marine Maintenance/Fitter & Ship Repair			
	Inboard/Outboard Apprentice	BCIT	8
	Marine Repair Technician	Quadrant	6

Trades-Training Program Name	Institution's Program Name	Institution	Respon-dents
Masonry			
	Apprentice-Bricklaying	Kwantlen	3
Medium/Heavy Vehicle & Truck Mechanics			
	Commercial Trans Apprentice	BCIT	23
	Commercial Vehicle Mechanic Apprentice	TRU	17
Mobil Crane Operation			
	Construction Ind. Mobile Crane Operating	OETC	2
Mortuary Science & Embalming			
	Embalmer & Funeral Director	FSABC	11
Painting/Painter			
	Painting & Decoration	JTS	9
Parts & Warehousing & Maintenance			
	Apprentice-Automotive Parts	Kwantlen	6
Pipefitter & Sprinkler Fitter			
	Gasfitting Apprentice	BCIT	6
	Steamfitting Apprentice	BCIT	7
	Domestic/Commercial Gasfitting	PVC	7
	Sprinklerfitting	PVC	11
	Gasfitter Apprentice	TRU	1
Plumbing Technology/Plumber			
	Plumbing Apprentice	BCIT	21
	Plumbing Apprentice Training	Camosun	14
	Plumbing	PVC	57
	Plumbing Apprentice	TRU	6
Precision Metal Working			
	Benchperson Apprentice	BCIT	12
	Circular Sawfiler Apprentice	BCIT	24
	Sawfitting Apprentice	BCIT	14
Roofer			
	Roofing	RCABC	25
Sheet Metal			
	Sheet Metal Apprentice	BCIT	15
	Steel Fabrication Apprentice	BCIT	35
	Sheetmetal Apprentice Training	Camosun	8
	Sheet Metal Work	SMWTC	19
Small Engine Mechanics & Repair			
	Motorcycle Mechanic Apprentice	BCIT	6
	Apprentice-Outdoor Power	Kwantlen	1
Welding			
	Welding Apprentice	BCIT	1
	Welding Apprentice Training	Camosun	1
	Welding Apprentice - Year 3	CNC	2
	Welding Apprenticeship Level 4	COTR	1
	Welding	Malaspina	1
	Welding Apprentice	NWCC	1
	Welding Apprentice	TRU	1

Institutions' codes

British Columbia Institute of Technology	BCIT
Broadband Institute	BROAD
Camosun College	Camosun
College of New Caledonia	CNC
College of the Rockies	COTR
Electrical Industry Training Institute	EITI
Funeral Service Association of BC	FSABC
University College of the Fraser Valley	UCFV
Joint Apprentice Refrigeration Trade School	JARTS
D.C. 38 Joint Trade Society	JTS
Kwantlen University College	Kwantlen
Malaspina University-College	Malaspina
North Island College	NIC
Northern Lights College	NLC
Northwest Community College	NWCC
Operating Engineers Training Centre	OETC
Okanagan College	OKN
Pacific Vocational College	PVC
Quadrant Marine Institute	Quadrant
R.C.A.B.C. Roofing Institute	RCABC
Selkirk College	Selkirk
Sheet Metal Workers Training Centre	SMWTC
Thompson Rivers University	TRU
Trowel Trades Training Association	TTTA
Vancouver Community College	VCC

Appendix E: Qualification or Certification by Trade

How many respondents received Trades Qualification or Inter-Provincial Certification?

	% Qualified or certified	Valid responses
Autobody/Collision & Repair	69%	32
Automotive Mechanics	81%	185
Cabinetmaking & Millwork	68%	28
Carpentry	85%	124
Culinary Arts	59%	80
Electrician	86%	251
Glazier	100%	12
Heating, Air Conditioning, Refrigeration	70%	40
Heavy Duty Mechanics	80%	64
Heavy Metal Fabrication	60%	10
Horticulture & Landscaping	67%	18
Industrial Electronics	70%	23
Industrial Mechanics & Maintenance	83%	59
Lineworker	55%	11
Machinist	80%	87
Marine Maintenance/Fitter & Ship Repair	69%	13
Masonry	67%	3
Medium/Heavy Vehicle & Truck Mechanics	98%	40
Mobile Crane Operation	50%	2
Mortuary Science & Embalming	100%	10
Painting/Painter	67%	9
Parts & Warehousing	67%	6
Pipefitter & Sprinkler Fitter	94%	32
Plumbing	85%	98
Precision Metal Working	84%	49
Roofer	76%	25
Sheet Metal	78%	76
Small Engine Mechanics & Repair	57%	7
Welding	75%	8
Total	**80%**	**1,402**

Appendix F: 2007 Ratings of In-School and Workplace Training

How well did your in-school training help you to develop your skills?

	Analyze & think critically	Use mathematics	Use tools & equipment
Autobody/Collision & Repair	85%	77%	84%
Automotive Mechanics	87%	79%	89%
Cabinetmaking & Millwork	77%	73%	88%
Carpentry	84%	90%	85%
Culinary Arts	84%	86%	85%
Electrician	86%	94%	61%
Glazier	75%	100%	100%
Heating, Air Conditioning, Refrigeration	74%	86%	66%
Heavy Duty Mechanics	87%	78%	81%
Heavy Metal Fabrication	100%	90%	90%
Horticulture & Landscaping	88%	35%	61%
Industrial Electronics	79%	79%	75%
Industrial Mechanics & Maintenance	81%	90%	82%
Lineworker	73%	82%	64%
Machinist	72%	84%	68%
Marine Maintenance/Fitter & Ship Repair	62%	62%	64%
Masonry	50%	50%	67%
Medium/Heavy Vehicle & Truck Mechanics	82%	75%	83%
Mobile Crane Operation	100%	50%	50%
Mortuary Science & Embalming	73%	50%	55%
Painting/Painter	100%	89%	89%
Parts & Warehousing	33%	60%	20%
Pipefitter & Sprinkler Fitter	69%	91%	81%
Plumbing	91%	85%	90%
Precision Metal Working	83%	82%	78%
Roofer	67%	75%	72%
Sheet Metal	85%	91%	86%
Small Engine Mechanics & Repair	100%	71%	100%
Welding	80%	50%	88%
Total	**83%**	**84%**	**78%**

Note: Percentages are of respondents who said they were helped—very well or well—to develop skills; those who said not applicable were excluded.

How would you rate certain aspects of your in-school training?

	Quality of instruction	Organization of program	Quality of tools and equipment
Autobody/Collision & Repair	79%	67%	100%
Automotive Mechanics	91%	88%	77%
Cabinetmaking & Millwork	82%	75%	86%
Carpentry	79%	69%	84%
Culinary Arts	90%	79%	81%
Electrician	81%	73%	61%
Glazier	100%	92%	100%
Heating, Air Conditioning, Refrigeration	88%	88%	79%
Heavy Duty Mechanics	84%	75%	63%
Heavy Metal Fabrication	70%	80%	70%
Horticulture & Landscaping	58%	16%	78%
Industrial Electronics	79%	71%	71%
Industrial Mechanics & Maintenance	88%	87%	83%
Lineworker	64%	73%	55%
Machinist	78%	71%	60%
Marine Maintenance/Fitter & Ship Repair	57%	50%	46%
Masonry	33%	33%	67%
Medium/Heavy Vehicle & Truck Mechanics	83%	73%	68%
Mobile Crane Operation	50%	50%	50%
Mortuary Science & Embalming	91%	91%	63%
Painting/Painter	78%	89%	100%
Parts & Warehousing	50%	50%	75%
Pipefitter & Sprinkler Fitter	94%	91%	84%
Plumbing	91%	89%	87%
Precision Metal Working	82%	90%	76%
Roofer	84%	80%	96%
Sheet Metal	87%	73%	74%
Small Engine Mechanics & Repair	86%	71%	86%
Welding	88%	50%	88%
Total	**84%**	**77%**	**75%**

Note: Percentages are of respondents who rated aspects of their in-school training very good or good; those who said not applicable were excluded.

How would you rate your apprenticeship workplace training with your last employer in the following areas?

	Quality of teaching or mentoring	Skills taught on the job	Exposure to variety of equipment
Autobody/Collision & Repair	73%	79%	79%
Automotive Mechanics	75%	78%	78%
Cabinetmaking & Millwork	75%	71%	71%
Carpentry	73%	79%	81%
Culinary Arts	67%	70%	78%
Electrician	75%	77%	82%
Glazier	75%	75%	92%
Heating, Air Conditioning, Refrigeration	78%	75%	93%
Heavy Duty Mechanics	59%	75%	78%
Heavy Metal Fabrication	70%	70%	80%
Horticulture & Landscaping	74%	79%	84%
Industrial Electronics	33%	54%	58%
Industrial Mechanics & Maintenance	70%	80%	82%
Lineworker	91%	100%	100%
Machinist	67%	72%	76%
Marine Maintenance/Fitter & Ship Repair	50%	86%	79%
Masonry	67%	100%	100%
Medium/Heavy Vehicle & Truck Mechanics	63%	70%	70%
Mobile Crane Operation	100%	100%	100%
Mortuary Science & Embalming	82%	82%	91%
Painting/Painter	89%	89%	89%
Parts & Warehousing	67%	100%	100%
Pipefitter & Sprinkler Fitter	65%	74%	81%
Plumbing	73%	81%	89%
Precision Metal Working	52%	59%	72%
Roofer	64%	72%	80%
Sheet Metal	79%	85%	87%
Small Engine Mechanics & Repair	86%	86%	86%
Welding	38%	50%	63%
Total	**70%**	**76%**	**81%**

Note: Percentages are of respondents who rated aspects of their workplace training very good or good; those who said not applicable were excluded.

Appendix G: 2007 Respondents' Satisfaction Ratings, by Apprenticeship Program

How satisfied are you with the education you received from the training at your institution?

	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Valid responses
Autobody/Collision & Repair	39%	52%	0%	9%	33
Automotive Mechanics	48%	50%	3%	0%	187
Cabinetmaking & Millwork	29%	64%	4%	4%	28
Carpentry	42%	50%	6%	2%	125
Culinary Arts	38%	58%	5%	0%	80
Electrician	43%	53%	3%	1%	251
Glazier	17%	83%	0%	0%	12
Heating, Air Conditioning, Refrigeration	38%	60%	3%	0%	40
Heavy Duty Mechanics	39%	55%	2%	5%	64
Heavy Metal Fabrication	89%	0%	0%	11%	9
Horticulture & Landscaping	11%	68%	16%	5%	19
Industrial Electronics	42%	42%	8%	8%	24
Industrial Mechanics & Maintenance	47%	50%	2%	2%	60
Lineworker	18%	82%	0%	0%	11
Machinist	30%	54%	11%	5%	87
Marine Maintenance/Fitter & Ship Repair	50%	29%	14%	7%	14
Masonry	0%	67%	0%	33%	3
Medium/Heavy Vehicle & Truck Mechanics	43%	53%	5%	0%	40
Mobile Crane Operation	0%	100%	0%	0%	2
Mortuary Science & Embalming	55%	36%	0%	9%	11
Painting/Painter	44%	44%	0%	11%	9
Parts & Warehousing	33%	50%	17%	0%	6
Pipefitter & Sprinkler Fitter	56%	38%	6%	0%	32
Plumbing	56%	41%	2%	1%	98
Precision Metal Working	34%	62%	4%	0%	50
Roofer	48%	48%	0%	4%	25
Sheet Metal	42%	55%	3%	1%	77
Small Engine Mechanics & Repair	14%	86%	0%	0%	7
Welding	25%	50%	25%	0%	8
Total	**42%**	**52%**	**4%**	**2%**	**1,412**

How satisfied are you with the overall workplace training experience?

	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Valid responses
Autobody/Collision & Repair	39%	55%	6%	0%	33
Automotive Mechanics	40%	51%	5%	4%	186
Cabinetmaking & Millwork	32%	68%	0%	0%	28
Carpentry	40%	51%	6%	2%	126
Culinary Arts	29%	55%	15%	1%	80
Electrician	36%	55%	7%	2%	251
Glazier	42%	58%	0%	0%	12
Heating, Air Conditioning, Refrigeration	33%	60%	8%	0%	40
Heavy Duty Mechanics	30%	59%	8%	3%	64
Heavy Metal Fabrication	50%	30%	10%	10%	10
Horticulture & Landscaping	47%	37%	16%	0%	19
Industrial Electronics	13%	63%	17%	8%	24
Industrial Mechanics & Maintenance	33%	52%	8%	7%	60
Lineworker	73%	27%	0%	0%	11
Machinist	31%	55%	8%	6%	87
Marine Maintenance/Fitter & Ship Repair	50%	29%	14%	7%	14
Masonry	67%	33%	0%	0%	3
Medium/Heavy Vehicle & Truck Mechanics	30%	53%	13%	5%	40
Mobile Crane Operation	50%	50%	0%	0%	2
Mortuary Science & Embalming	64%	36%	0%	0%	11
Painting/Painter	67%	33%	0%	0%	9
Parts & Warehousing	83%	17%	0%	0%	6
Pipefitter & Sprinkler Fitter	34%	56%	6%	3%	32
Plumbing	53%	39%	4%	4%	98
Precision Metal Working	29%	55%	14%	2%	49
Roofer	44%	52%	4%	0%	25
Sheet Metal	47%	47%	5%	0%	76
Small Engine Mechanics & Repair	57%	43%	0%	0%	7
Welding	0%	63%	25%	13%	8
Total	**38%**	**52%**	**7%**	**3%**	**1,411**

How useful have the knowledge and skills you gained in your program been in performing your job?

	Very useful	Somewhat useful	Not very useful	Not at all useful	Valid responses
Autobody/Collision & Repair	59%	31%	7%	3%	29
Automotive Mechanics	68%	28%	3%	1%	181
Cabinetmaking & Millwork	54%	39%	7%	0%	28
Carpentry	59%	34%	7%	0%	122
Culinary Arts	61%	35%	3%	1%	75
Electrician	53%	42%	3%	1%	245
Glazier	67%	25%	0%	8%	12
Heating, Air Conditioning, Refrigeration	70%	27%	3%	0%	37
Heavy Duty Mechanics	60%	37%	3%	0%	63
Heavy Metal Fabrication	50%	38%	0%	13%	8
Horticulture & Landscaping	68%	32%	0%	0%	19
Industrial Electronics	63%	33%	0%	4%	24
Industrial Mechanics & Maintenance	67%	30%	2%	2%	60
Lineworker	64%	27%	9%	0%	11
Machinist	48%	46%	5%	1%	81
Marine Maintenance/Fitter & Ship Repair	69%	15%	15%	0%	13
Masonry	67%	0%	33%	0%	3
Medium/Heavy Vehicle & Truck Mechanics	65%	35%	0%	0%	40
Mobile Crane Operation	50%	50%	0%	0%	2
Mortuary Science & Embalming	73%	18%	9%	0%	11
Painting/Painter	29%	43%	14%	14%	7
Parts & Warehousing	50%	33%	17%	0%	6
Pipefitter & Sprinkler Fitter	50%	43%	3%	3%	30
Plumbing	63%	34%	2%	1%	92
Precision Metal Working	69%	29%	0%	2%	45
Roofer	54%	38%	4%	4%	24
Sheet Metal	55%	38%	4%	3%	74
Small Engine Mechanics & Repair	71%	29%	0%	0%	7
Welding	63%	38%	0%	0%	8
Total	**60%**	**35%**	**4%**	**1%**	**1,357**

BRITISH COLUMBIA
The Best Place on Earth

BCStats

This report is available on the BC College and Institute Student Outcomes (CISO) website at http://outcomes.bcstats.gov.bc.ca/Publications/index.asp