

2009 BC Apprenticeship Student Outcomes Survey

Summary Report

2009

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summary report.**

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Highlights

The 2009 Apprenticeship Student Outcomes (APPSO) Survey was conducted with former apprenticeship students who completed the final year of their apprenticeship training in a B.C. post-secondary institution between July 1, 2007 and June 30, 2008. In February and March of 2009, 2,099 former students from 27 institutions (14 public and 13 private) participated in survey telephone interviews—the following are highlights from the survey findings:

Former apprenticeship students

- 2,099 students completed the survey; 82 percent said they received their Trades Qualification (TQ) or Inter-Provincial (IP) Certification by the time of the survey
- 96 percent of the respondents were male and the median age was 28 years
- 34 percent of respondents had taken foundation industry or other pre-apprenticeship training before their apprenticeships; of those students, 84 percent took their prior training in the same field as their apprenticeship program
- 8 percent had been in a high school apprenticeship program, and 70 percent of those students received credit towards their in-school apprenticeship training

In-school experiences

- 19 percent of respondents began their in-school training above Level 1
- 34 percent of those who took previous pre-apprenticeship training began their apprenticeship above Level 1
- 80 percent said their training did *very well* or *well* in helping them develop the skill to learn on their own
- 87 percent rated the helpfulness of their instructors as *very good* or *good*
- 73 percent said their in-school training was *very good* or *good* at covering the topics relevant to their field
- 93 percent said they were *very satisfied* or *satisfied* with their in-school training
- 90 percent said the knowledge and skills they gained from in-school training were useful to them in preparing to write the TQ or IP exams
- 61 percent of respondents said the length of their in-school training was *about right*

Workplace experiences

- 44 percent had more than one employer during their apprenticeship
- 82 percent said their workplace training had an appropriate variety of duties

- 78 percent rated the skills taught on the job as *very good* or *good*
- 91 percent said their in-school training was *very related* or *somewhat related* to their workplace experience
- 91 percent said they were *very satisfied* or *satisfied* with their overall workplace training experience

Employment

- 89 percent of respondents were employed at the time of the survey
- 97 percent were in the labour force: employed or looking for work
- 7.8 percent of respondents who were in the labour force were unemployed at the time of the survey
- 77 percent of employed respondents worked with their current employer for at least one apprenticeship placement
- 95 percent said their job was *very related* or *somewhat related* to their training
- 96 percent said the knowledge and skills they gained were *very useful* or *somewhat useful* in performing their current job
- \$29 was the median hourly wage of those respondents who were employed at the time of the survey

Introduction

In British Columbia, there are currently more than 100 apprentice trade programs that lead to a government-recognized credential and employment as a certified tradesperson. The range of trades occupations is diverse, including construction, automotive, aerospace, graphic arts, horticulture, hospitality, and motion picture. What these occupations have in common is that they require specialized skills, and the training for them is largely done on-the-job—the time spent in classroom or technical training makes up only about 15 percent of an apprenticeship.

When the economy was booming, many apprentices were staying on the job and postponing their technical training. However, in this current period of slower economic activity, employers and their apprentices are being encouraged to focus on training, because while the recession is temporary, future labour shortages are not. Based on projected retirements, a significant shortfall of skilled workers is anticipated within the next decade. The Ministry of Advanced Education and Labour Market Development (ALMD), the Industry Training Authority (ITA), and the institutions that provide technical training remain committed to expanding capacity and improving delivery of apprenticeship programs in B.C. As part of that process, former apprentices are surveyed every year to obtain feedback about their training experience.

About the 2009 Apprenticeship Survey

The 2009 Apprenticeship Student Outcomes (APPSO) Survey is the fifth annual survey of former apprenticeship students. This year, the survey group included former students who completed the final year of their apprenticeship training at a B.C. post-secondary institution between July 1, 2007 and June 30, 2008. Telephone interviews for the survey were conducted from mid-February to the end of March 2009; 2,099 students participated, representing 119 apprenticeship programs offered at 27 institutions (14 public and 13 private).

To provide insight into the apprenticeship experience, former students were 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.

About this report

This report presents a summary of the findings from the 2009 survey. In some cases, comparisons are made with the results from the 2008, 2007, 2006, and 2005 apprenticeship surveys. When the term *former students* is used, it is meant to

represent the former apprenticeship students who responded to one of the Apprenticeship Student Outcomes surveys.

The report is organized into the following sections:

- details about the former students and where they took their programs;
- their in-school experiences;
- their workplace training experiences; and
- their subsequent employment, occupations, and labour force participation.

The former 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. For more information on the survey and the analysis for this report, see [Appendix A: Apprenticeship Survey Methodology](#). To see how these classifications relate to institutions' program names, see [Appendix C: Apprenticeship Program Areas and Institutions' Programs](#).

Respondents have been grouped according to the programs they were enrolled in for their in-school training. For the purposes of this analysis, small programs have been identified as those with fewer than 20 respondents; in each of these programs, the cohort, or number eligible for surveying, was 39 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*.

In 2008, B.C.'s post-secondary education system underwent some significant changes. Five new universities were created, affecting the following three institutions included in this report:

Previous Name	Current Name
Kwantlen University College	Kwantlen Polytechnic University
Malaspina University-College	Vancouver Island University
University College of the Fraser Valley	University of the Fraser Valley

The above changes occurred in September 2008, after students surveyed had already left their programs, but before the 2009 Apprenticeship Survey was actually conducted. This report refers to institutions by their current names.

Former Apprenticeship Students

The 2,099 former students who were interviewed as part of the 2009 Apprenticeship Student Outcomes Survey had completed training in **23** different apprenticeship program areas. 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.

The typical B.C. apprenticeship student in 2009 was a male about 28 years old who was enrolled in a Red Seal industry training program. He completed high school but probably didn't take a high school apprenticeship program, and he had probably taken some previous post-secondary education before enrolling in his apprenticeship program.



More than likely, he started his apprenticeship training at Level 1, although if he had taken foundation industry or other pre-apprenticeship training, his chances of starting at a higher level were improved. If he had taken pre-apprenticeship training, it was most likely in the same field as his apprenticeship program.

The typical apprenticeship student in 2009 went on to receive his TQ or IP certification. At the time of the survey, he was working at a job related to his apprenticeship training, most likely at a workplace where he did an apprenticeship placement, and was earning about \$29 per hour.

Who were former apprenticeship students?

Despite increases in the number of students eligible for the survey in recent years, the characteristics of survey respondents have remained stable over time. The gender distribution, Aboriginal status, median age, and most common programs of males and females have remained virtually identical in each of the past five years. For a detailed listing of the programs taken by respondents by institution, see [Appendix C: Apprenticeship Program Areas and Institutions' Programs](#).

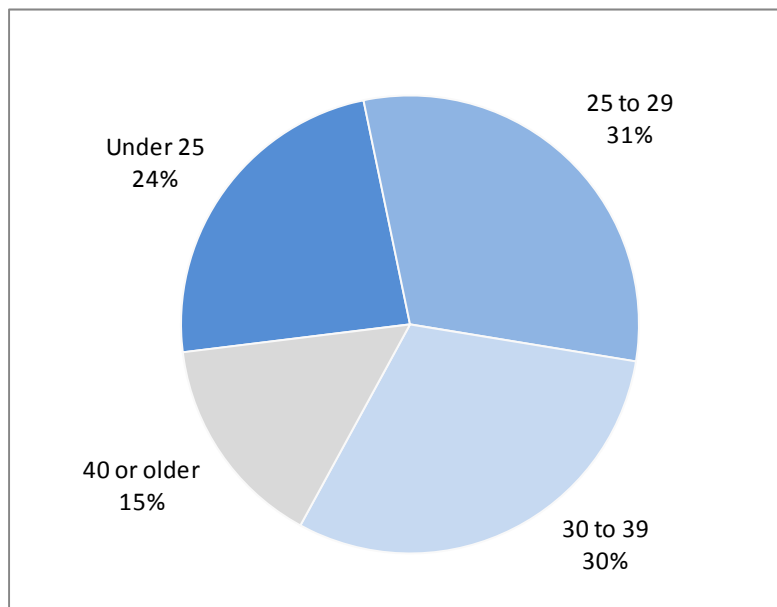
The characteristics of survey respondents have been relatively stable

Characteristic	2009	2008	2007	2006	2005
Eligible for survey	3,568	2,906	2,453	2,414	2,342
Respondents	2,099	1,680	1,414	1,463	1,156
Response rate	59%	58%	58%	61%	49%
% Male	96%	96%	96%	97%	96%
% Female	4%	4%	4%	3%	4%
Most common program (Males)	Electrician	Electrician	Electrician	Electrician	Automotive Mechanics
Most common program (Females)	Culinary Arts	Culinary Arts	Culinary Arts	Culinary Arts	Culinary Arts
% Aboriginal	4%	4%	4%	5%	4%
Median age*	28	28	29	29	29
Age range*	18-60	19-60	19-61	19-59	17-59

*Age is age at time of survey

Former students ranged in age from 18 to 60 years and had a median age of 28 years. At the time of the survey, more than half of the respondents were less than 30 years old, and most were under 40.

More than half of survey respondents were under 30 years old at the time of the survey



What previous education did students have?

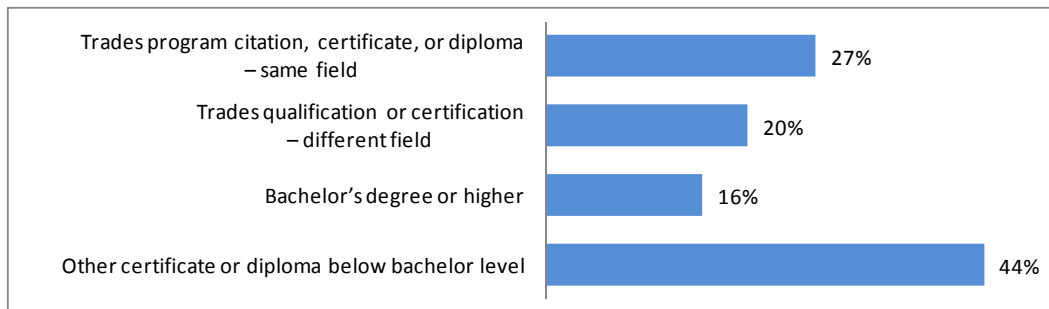
Previous education levels among apprenticeship students vary widely. While about one in ten students had not finished high school, the majority of those surveyed (61 percent) had taken some previous post-secondary education (including foundation industry or other pre-apprenticeship training).

Overall, 91 percent of respondents had completed high school, and 8 percent had taken a high school apprenticeship program. Of those who had taken a high school apprenticeship program, seven out of ten received technical credit for their high school training.

About one-third (34 percent) of former apprentices had taken previous Foundation Industry Training (formerly called Entry level Trades Training (ELTT)), or other pre-apprenticeship training. The vast majority (84 percent) of those who had taken previous pre-apprenticeship training took their apprenticeship in the same trade as their previous training.

Exactly one-quarter of respondents had completed at least one previous post-secondary credential. Of those with a previous credential, just over one-quarter had a trades program citation, certificate, or diploma in the same field as their apprenticeship, and one-fifth had a trades qualification or certification in a different field.

Many respondents with a previous post-secondary credential had a previous trades certification



Note: Percentages are based on those who had a previous post-secondary credential. Students could have more than one type of post-secondary credential. Notations: CF = certificate, DP = diploma, AD = associate degree

What apprenticeship programs did survey respondents take?

The most common apprenticeship programs taken by male and female respondents were a little different than in previous years. While Culinary Arts and Electrician programs were still the most common among female respondents, Autobody Collision & Repair replaced Automotive Mechanics as the third most common program area. Among male respondents, Electrician and Carpentry programs were still the first and second most common programs, respectively. However, Plumbing replaced Automotive Mechanics as the third most common program among male respondents in 2009.

Top 3 Programs – Females (n=86)	Top 3 Programs – Males (n=1,898)
Culinary Arts (35% of female respondents)	Electrician (19% of male respondents)
Electrician (16%)	Carpentry (13%)
Autobody/Collision & Repair (10%)	Plumbing (10%)

As in previous years, about 4 percent of respondents (n=88) identified themselves as Aboriginal, and their most popular programs were: Electrician (16 percent), Carpentry (14 percent), and Steel Fabrication & Welding (13 percent).

In this report, trades programs are grouped into program areas according to Classification of Instructional (CIP) coding. To see which programs are included in each program area, refer to [Appendix C: Apprenticeship Program Areas and Institutions' Programs](#). Program areas are considered either large (20 or more respondents) or small (< 20 respondents). Small program areas are rolled up into an "Other" category. Almost all of the former apprenticeship students surveyed were enrolled in large program areas (95 percent); only five percent were enrolled in small program areas.

Large apprenticeship program areas (20 or more respondents)

Apprenticeship Program Area	Respondents	% of Total Respondents
Electrician	371	18%
Carpentry	247	12%
Plumbing	229	11%
Exterior & Interior Finishing Trades	142	7%
Automotive Mechanics	141	7%
Steel Fabrication & Welding	133	6%
Pipefitter & Sprinkler Fitter	114	5%
Heavy Duty Mechanics	113	5%
Machinist	93	4%
Industrial Mechanics & Maintenance	82	4%
Autobody/Collision & Repair	79	4%
Culinary Arts	76	4%
Heating, Air Conditioning, Refrigeration	53	3%
Precision Metal Working	44	2%
Medium/Heavy Vehicle & Truck Mechanics	43	2%
Construction Heavy Equipment	36	2%
Total large program areas	1,996	95%

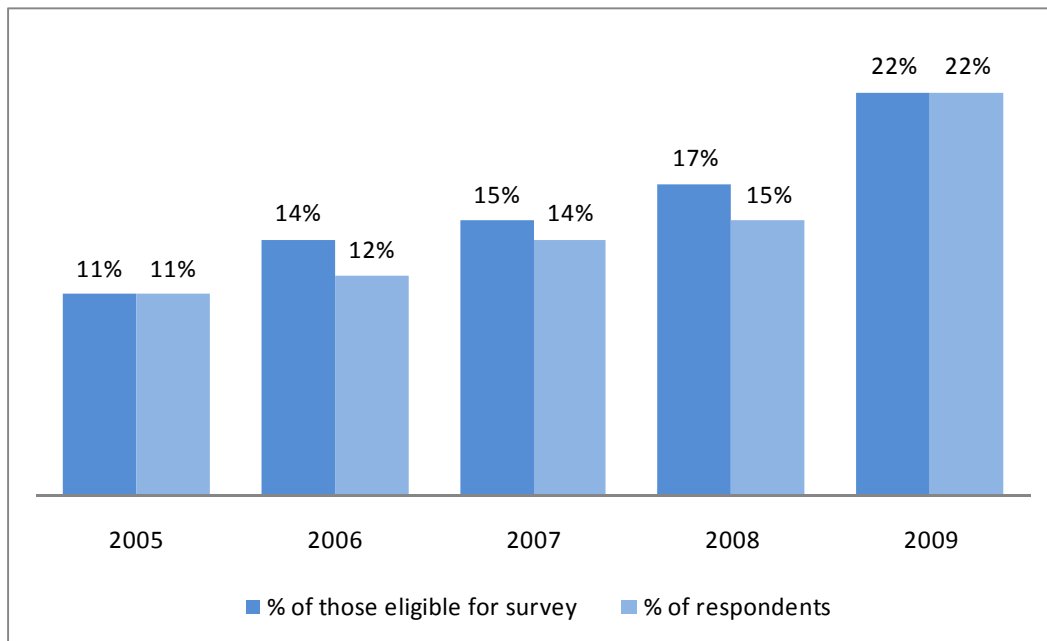
Small apprenticeship program areas (<20 respondents)

Apprenticeship Program Area	Respondents	% of Total Respondents
Horticulture & Landscaping	19	0.9%
Marine & Power Sport	19	0.9%
Industrial Electronics	18	0.9%
Lineworker	15	0.7%
Parts & Warehousing	14	0.7%
Airframe Mechanics & Aircraft Maintenance	12	0.6%
Mortuary Science & Embalming	6	0.3%
Total small program areas	103	4.9%

Did apprentices study in public or private institutions?

Overall, most (78 percent) of the former students eligible for the survey had taken their apprenticeship programs through public post-secondary institutions. However, the proportion of eligible students (and respondents) from private post-secondary institutions has been steadily increasing since 2005.

The proportion of students from private institutions has doubled since 2005



Respondents from participating public institutions

Public Institutions	Respondents	% of Total Respondents
British Columbia Institute of Technology	680	32%
Camosun College	119	6%
College of New Caledonia	124	6%
College of the Rockies	36	2%
Kwantlen Polytechnic University	70	3%
North Island College	57	3%
Northern Lights College	26	1%
Northwest Community College	14	1%
Okanagan College	134	6%
Selkirk College	13	1%
Thompson Rivers University	97	5%
University of the Fraser Valley	36	2%
Vancouver Community College	170	8%
Vancouver Island University	66	3%
Total Respondents from Public Institutions	1,642	78%

Respondents from participating private institutions

Private Institutions	Respondents	% of Total Respondents
B.C. Floor Covering Joint Conference Society	8	0%
B.C. Wall & Ceiling Association - Surrey	25	1%
D.C. 38 Joint Trade Society	12	1%
Electrical Industry Training Institute	19	1%
Funeral Service Association of B.C.	6	0%
Joint Apprentice Refrigeration Trade School	41	2%
Operating Engineers Training Centre	32	2%
Pacific Vocational College	188	9%
Piping Industry Trade School	41	2%
Quadrant Marine Institute	6	0%
R.C.A.B.C. Roofing Institute	28	1%
Sheet Metal Workers Training Institute	23	1%
Trowel Trades Training Association	28	1%
Total Respondents from Private Institutions	457	22%

Some apprenticeship programs are offered exclusively by public institutions, others are offered exclusively by private institutions, and some are offered by both private and public institutions. The following table summarizes the 2009 Apprenticeship Student Outcomes Survey programs by institution type.

Apprenticeship programs included in 2009 survey, by institution type

Apprenticeship Program Area	Private	Public
Airframe Mechanics & Aircraft Maintenance		Yes
Autobody/Collision & Repair		Yes
Automotive Mechanics		Yes
Carpentry		Yes
Construction Heavy Equipment	Yes	Yes
Culinary Arts		Yes
Electrician		Yes
Exterior & Interior Finishing Trades	Yes	Yes
Heating, Air Conditioning, Refrigeration	Yes	Yes
Heavy Duty Mechanics		Yes
Horticulture & Landscaping	Yes	Yes
Industrial Electronics		Yes
Industrial Mechanics & Maintenance		Yes
Lineworker	Yes	
Machinist		Yes
Marine & Power Sport	Yes	Yes
Medium/Heavy Vehicle & Truck Mechanics		Yes
Mortuary Science & Embalming	Yes	
Parts & Warehousing		Yes
Pipefitter & Sprinkler Fitter	Yes	Yes
Plumbing	Yes	Yes
Precision Metal Working		Yes
Steel Fabrication & Welding	Yes	Yes

Did former apprenticeship students take further training?

After completing their apprenticeship programs, some students choose to go on to further studies. At the time of the survey (9 to 20 months after students had left their programs), 12 percent of respondents said they had taken further studies since their trades program ended.

How many students received qualification or certification?

The majority (82 percent) of students said they received their Trades Qualification (TQ)—also called British Columbia Certificate of Qualification (C of Q)—many with Inter-provincial (IP) or Red Seal endorsement. To receive certification, apprentices must successfully complete a number of work-based training hours, complete or successfully challenge all required levels of technical training, and pass examinations.

The results varied by program; the percentages of respondents from small trades programs¹ who received certification varied from 100 to 47 percent. From larger programs, the percentage of those who received certification ranged from a high of 98 percent of Medium/Heavy Vehicle & Truck Mechanics to a low of 59 percent of respondents from Exterior & Interior Finishing Trades (see [Appendix E: Qualification or Certification by Trade – 2009 and 2008](#)).

Students who did not receive their qualification or certification were asked to provide the reason why not. More than a third (38 percent) of those who answered said they had insufficient work hours to receive their qualification or certification. Just over one-quarter (28 percent) said they were unsuccessful on their exam, and 12 percent had not yet written their exam. The remainder of those who did not receive their qualification or certification were waiting for their employer to sign off (8 percent) or still waiting for their certification (7 percent), or they provided some other reason (8 percent).

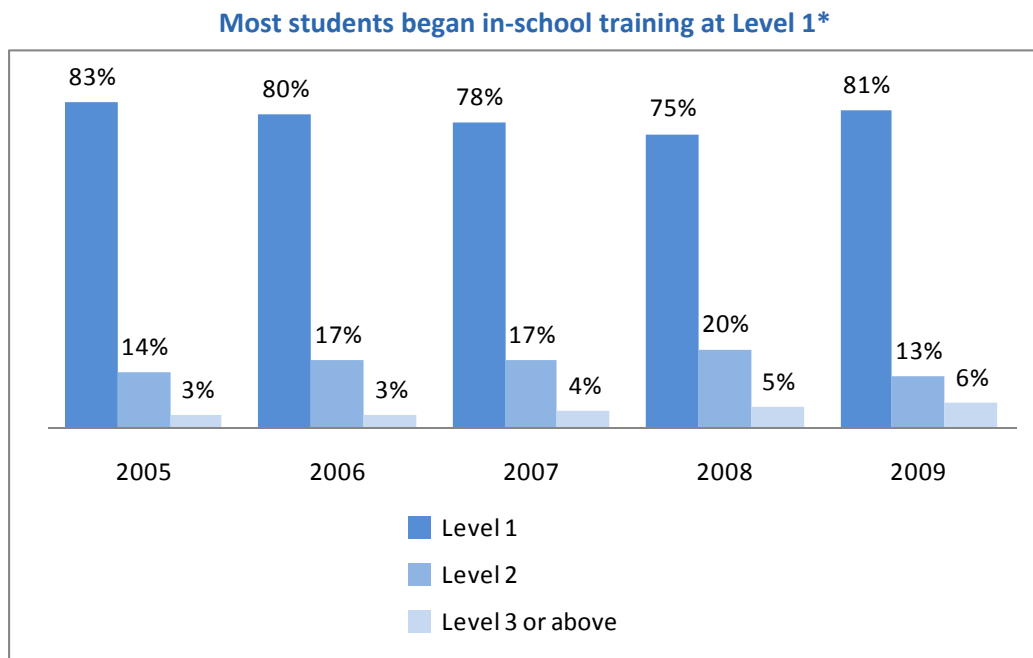
¹ Small programs are those with fewer than 20 respondents.

In-School Experiences

The apprentices surveyed in 2009 were asked a number of questions about their in-school apprenticeship training. Respondents were asked to provide ratings about the quality of instruction, the content of the program, opportunities for skill development, and their beginning level for training.

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

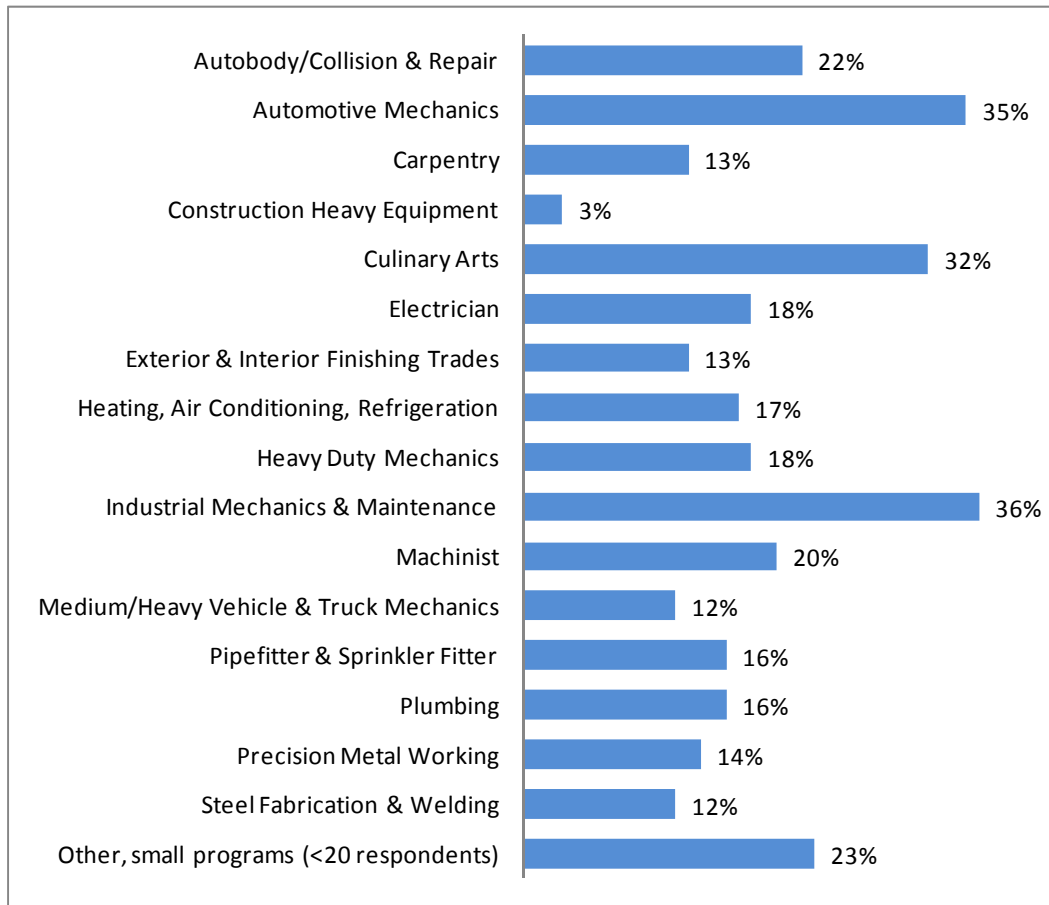
Eight out of ten apprentices surveyed in 2009 began their in-school training at Level 1, and 19 percent began training above Level 1.² Although the proportion of students beginning their in-school training above Level 1 increased during 2006, 2007, and 2008, the proportion fell in 2009.



Placement level in apprenticeship programs varied by program area. For example, in Automotive Mechanics and Industrial Mechanics & Maintenance programs, more than one-third of respondents started above Level 1, but in Construction Heavy Equipment, only 3 percent started their training at Level 2 or above.

² Excludes respondents who said *another level* (n=13 in 2009) where response could not be coded into Levels 1 through 5.

The proportion of students who started above Level 1* varied significantly by program area



*Excludes responses that could not be coded into Levels 1-5

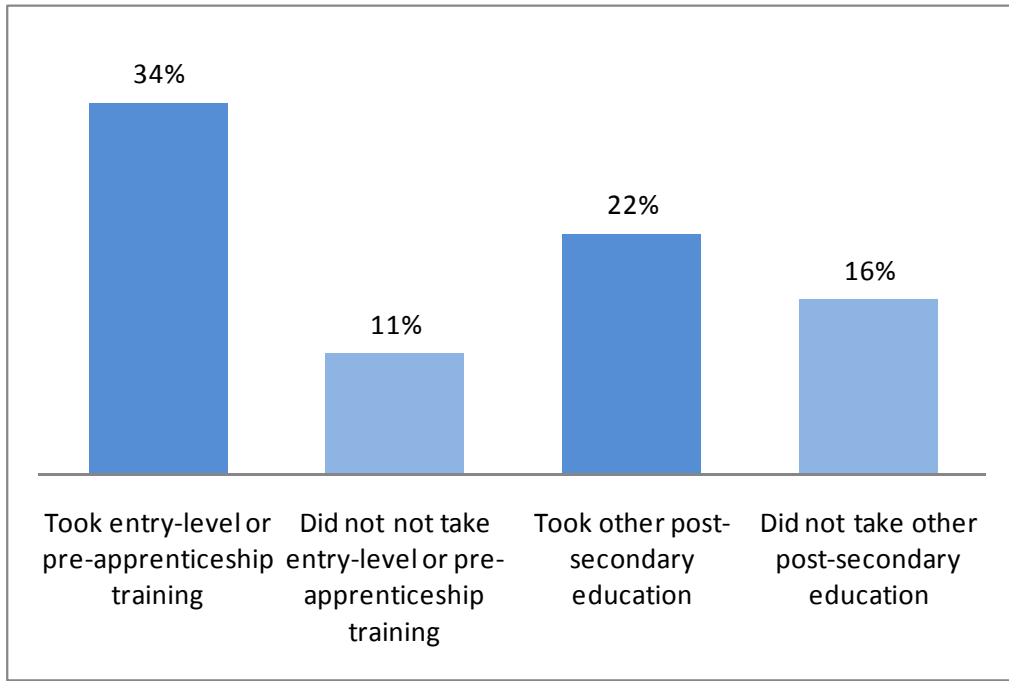
Previous education background also had an impact on starting level. Students who had not completed high school were less likely to start above Level 1 (11 percent), compared with students who had completed high school (20 percent). However, compared with those who had not taken a high school apprenticeship program, those who had taken a high school program were not significantly more likely to start above Level 1, even if they had received technical credit for their high school program.

Respondents who had taken pre-apprenticeship training were also more likely to start above Level 1 (34 percent), compared with those who had not taken such training (11 percent). Students who had taken their pre-apprenticeship training in the same trade appeared to be more likely to start above Level 1 (35 percent) than those who had taken it in a different trade (29 percent), although the difference was not statistically significant.

Similarly, respondents who had taken other previous post-secondary studies were also more likely to start their apprenticeship training at a higher level, although

there were no significant differences based on the type of previous credential (if any) they had obtained.

Students with previous post-secondary education were more likely to start their apprenticeship training above Level 1



Did in-school training provide opportunities to develop skills?

Former apprenticeship students rated 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, it was rated *not applicable*.

Most respondents said their apprenticeship programs helped them to develop skills *very well* or *well*³—especially in mathematics, reading, and critical thinking. Using computers did not receive as many positive responses as other skill areas, and this skill also had the highest proportion of *not applicable* responses. Speaking effectively and writing clearly and concisely were also deemed *not applicable* by large percentages of respondents.

³ Using a 5-point scale that went from *very well* to *very poorly*.

Apprenticeship programs helped students develop many different skills

Skill	Very well or well*	Not applicable
Use mathematics appropriate to field	85%	4%
Read and comprehend material appropriate to field	82%	6%
Analyze and think critically	82%	6%
Work effectively with others	81%	12%
Learn on own	80%	5%
Use other tools and equipment appropriate to field	79%	3%
Resolve issues or problems	76%	8%
Speak effectively	74%	41%
Write clearly and concisely	73%	34%
Use computers appropriate to field	50%	48%

*Percentage calculated excluding those who said *not applicable*.

Ratings of skill development varied considerably across apprenticeship program areas. For example, while 95 percent of respondents from Precision Metal Working felt their program did *very well* or *well* in helping them to use tools and equipment appropriate to their field, only 63 percent of respondents from Electrician programs gave such ratings. Additional ratings of skill development by program area can be found in [Appendix G: 2009 Ratings of In-School and Workplace Training](#).

Ratings of skill development varied across apprenticeship programs

Apprenticeship Program Area	Learn on own*	Use tools & equipment*
Autobody/Collision & Repair	89%	91%
Automotive Mechanics	84%	88%
Carpentry	85%	92%
Construction Heavy Equipment	89%	83%
Culinary Arts	81%	87%
Electrician	77%	63%
Exterior & Interior Finishing Trades	82%	86%
Heating, Air Conditioning, Refrigeration	86%	73%
Heavy Duty Mechanics	76%	77%
Industrial Mechanics & Maintenance	67%	65%
Machinist	73%	80%
Medium/Heavy Vehicle & Truck Mechanics	76%	63%
Pipefitter & Sprinkler Fitter	83%	78%
Plumbing	79%	78%
Precision Metal Working	93%	95%
Steel Fabrication & Welding	78%	87%
Other, small programs (<20 respondents)	75%	71%
Total	80%	79%

*Percentage who said *very well* or *well*, calculated excluding those who said *not applicable*.

How did 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. Respondents gave particularly high ratings to their program instructors—quality of instruction, helpfulness, and availability of instructors were rated positively by more than eighty percent of respondents. Students also rated the variety and fairness of tests, papers, or other assigned work quite favourably. Although most items received very few *not applicable* responses, library materials and computers and software were only applicable to about half of all respondents.

Students rated their instructors very favourably

Aspect of Training	Very good or good*	Not applicable
Helpfulness of instructors	87%	0%
Availability of instructors	83%	3%
Tests, etc. fairly reflecting the material taught	83%	0%
Quality of instruction	82%	0%
Variety of tests, papers, etc.	82%	0%
Organization of program	76%	0%
Quality of tools & equipment	73%	3%
Textbooks & learning materials	67%	0%
Library materials	66%	53%
Amount of practical experience	64%	1%
Quality of computers & software	58%	48%

*Percentage calculated excluding those who said *not applicable*.

By program area, ratings of the quality of various aspects of in-school training varied widely. For example, while 83 percent of students from Culinary Arts programs rated the amount of practical experience as *very good* or *good*, this figure was only 38 percent among students from Industrial Mechanics & Maintenance programs. The following table shows some of the aspects of in-school training that exhibited the most variation in ratings by program area. Additional ratings of in-school training by program area can be found in [Appendix G: 2009 Ratings of In-School and Workplace Training](#).

Respondents' ratings of the quality of their training varied by program area

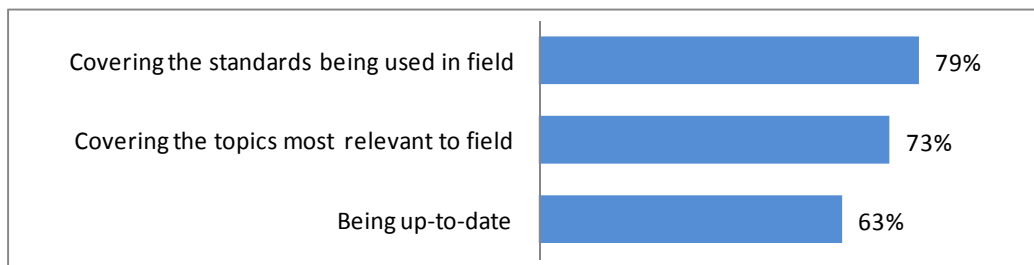
Apprenticeship Program Area	Amount of practical experience*	Textbooks & learning materials*	Quality of tools & equipment*
Autobody/Collision & Repair	78%	77%	89%
Automotive Mechanics	77%	72%	77%
Carpentry	76%	61%	88%
Construction Heavy Equipment	69%	83%	97%
Culinary Arts	83%	75%	89%
Electrician	48%	58%	63%
Exterior & Interior Finishing Trades	71%	47%	87%
Heating, Air Conditioning, Refrigeration	45%	79%	74%
Heavy Duty Mechanics	72%	79%	65%
Industrial Mechanics & Maintenance	38%	62%	56%
Machinist	66%	62%	55%
Medium/Heavy Vehicle & Truck Mechanics	74%	65%	56%
Pipefitter & Sprinkler Fitter	63%	84%	65%
Plumbing	59%	78%	75%
Precision Metal Working	82%	86%	91%
Steel Fabrication & Welding	67%	62%	71%
Other, small programs (<20 respondents)	55%	64%	59%
Total	64%	67%	73%

*Percentage who said *very good* or *good*, 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 majority of respondents rated each of these items favourably, with 79 percent of students giving positive ratings to the standards covered and 73 percent giving such ratings to the topics covered. The proportion who felt the program was up-to-date was lower, at 63 percent.

Most students rated the content of their training as *very good* or *good*



Note: Percentages calculated excluding those who said *not applicable*.

Like other ratings of in-school training, the responses differed significantly by program area. For example, in Autobody/Collision & Repair programs, 94 percent of respondents rated covering the standards being used in the field as *very good* or *good*, but in Medium/Heavy Vehicle & Truck Mechanics programs, only 56 percent of respondents gave such ratings.

Ratings of in-school content varied considerably by program area

Apprenticeship Program Area	Being up-to-date*	Covering relevant topics*	Covering standards in field*
Autobody/Collision & Repair	84%	84%	94%
Automotive Mechanics	64%	82%	82%
Carpentry	64%	77%	80%
Construction Heavy Equipment	72%	89%	94%
Culinary Arts	69%	86%	82%
Electrician	50%	64%	81%
Exterior & Interior Finishing Trades	56%	62%	73%
Heating, Air Conditioning, Refrigeration	81%	83%	87%
Heavy Duty Mechanics	50%	64%	72%
Industrial Mechanics & Maintenance	46%	58%	62%
Machinist	66%	72%	71%
Medium/Heavy Vehicle & Truck Mechanics	40%	58%	56%
Pipefitter & Sprinkler Fitter	78%	80%	87%
Plumbing	83%	83%	86%
Precision Metal Working	82%	91%	93%
Steel Fabrication & Welding	66%	63%	80%
Other, small programs (<20 respondents)	57%	66%	62%
Total	63%	73%	79%

*Percentage who said *very good* or *good*, calculated excluding those who said *not applicable*.

How could in-school training be improved?

The former students surveyed were asked how the training in their programs could be improved—1,663 (79 percent) gave an answer. The most common suggestion was to update the program’s curriculum, learning materials, tools, or equipment. One third (33 percent) of those who gave a suggestion felt some aspect of their training should be brought more up to date or better reflect the current conditions in their trade.

More newer and relevant equipment. The 1980's and 1990's equipment was not up to industry standards.

The curriculum should be updated to the current ITA standards. Even the instructors have this complaint.

The second most common suggestion was to provide more hands-on or practical training, mentioned by 20 percent of those who provided a comment.

The program needs more hands-on, practical work. Whatever we are studying we should be able to do as well.

I think that there should have been more shop time and less classroom time.

Almost the same number (19 percent) suggested that the length of the in-school training should be increased.

The course could be a bit longer. It's a lot of information thrown at a student in the five or six weeks that we are there.

Make it eight weeks instead of six weeks.

Other common suggestions included: revising certification exams, ensuring better preparation for certification exams, improving program organization, and improving the quality of teaching.

Remove unnecessary information from the IP examination as it is useless.

There should be more preparation for the certification exam.

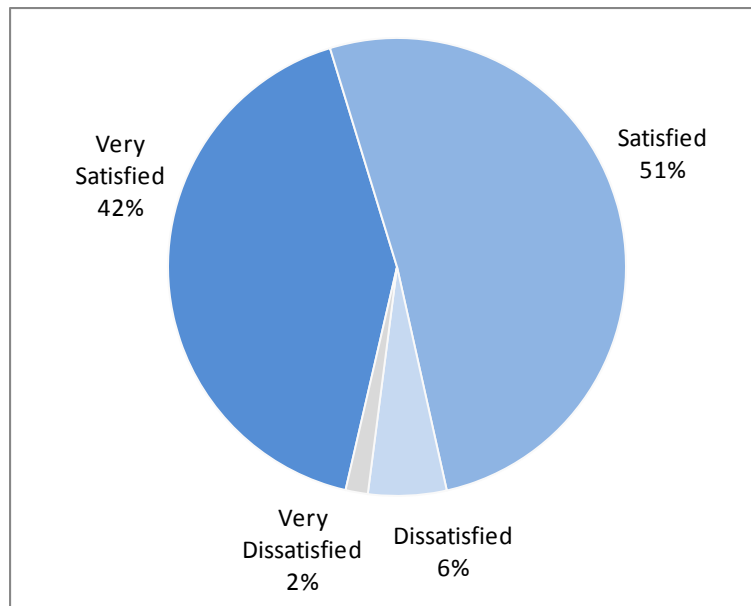
The program could have better preparation and be more organized, as it is too disorganized.

More experienced instructors.

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

Almost all respondents (93 percent) said they were *very* satisfied or *satisfied* with their in-school training. There has not been a significant change in overall satisfaction with in-school training since this survey began in 2005. Although overall satisfaction with in-school training has not varied over time, it does vary across program areas. [Appendix H: 2009 Respondents' Satisfaction Ratings, by Apprenticeship Program Area](#), provides the most recent results by program area.

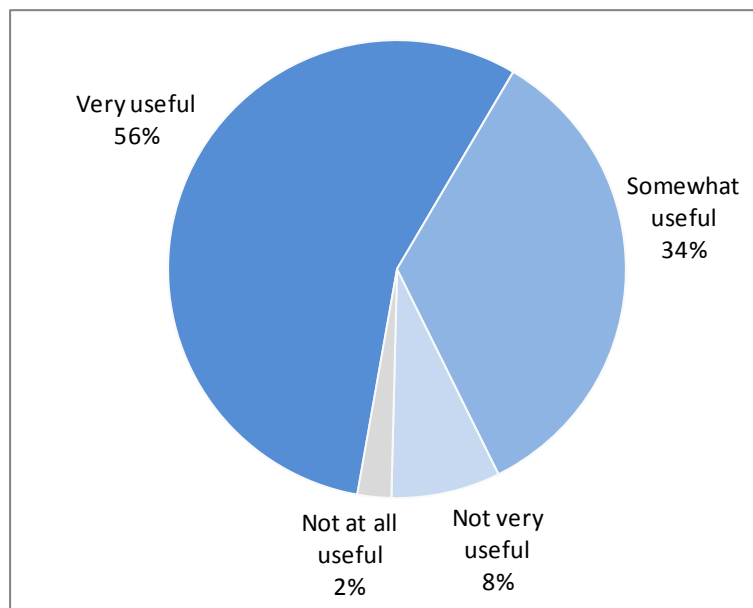
Almost all respondents were satisfied with their in-school training



How useful was in-school training when preparing for certification exams?

Nine out of ten respondents agreed that the knowledge and skills they gained from in-school training were *very useful* or *somewhat useful* to them in preparing to write the TQ or IP certification examination. Among large programs, this proportion ranged from 77 percent (Exterior & Interior Finishing Trades) to a high of 100 percent (Precision Metal Working). Among respondents from small programs, 98 percent found the knowledge and skills they gained in school useful in preparing them to write their certification exams.

Nine out of ten respondents found their in-school training useful in preparing them to write the TQ or IP certification exam



Was the length of the program adequate?

Respondents were asked if the length of their in-school training was adequate to cover the material. Although the majority (61 percent) replied *about right*, just over one-third (34 percent) felt their in-school training was too short, and 5 percent felt it was too long.

In most program areas, the results were similar to the overall average, although there were a few notable exceptions. In Precision Metal Working programs, almost all (93 percent) respondents felt their training was about right, and only 7 percent felt it was too short. On the other hand, in Machinist programs, the majority (54 percent) said their training was too short, and only 38 percent said it was about right. And finally, in Automotive Mechanics, Carpentry, and Culinary Arts programs, respondents were split almost exactly 50-50 between saying their program was *about right* or *too short*, with very few saying *too long*.

Workplace Experiences

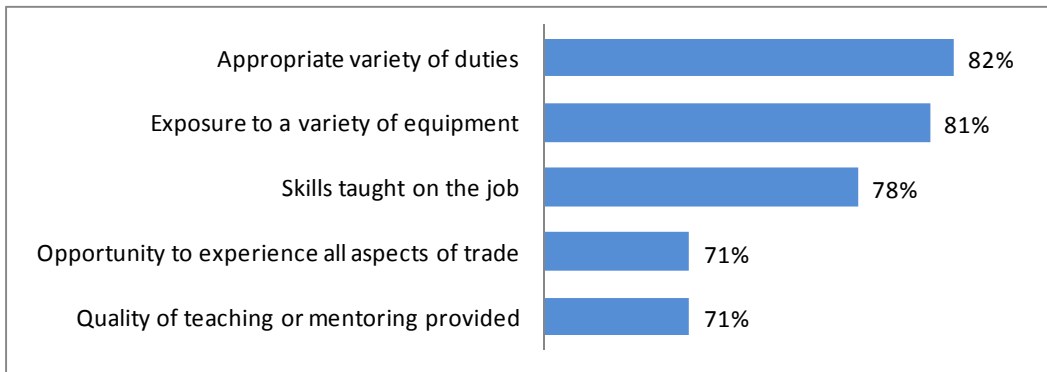
The survey included a number of questions for former students about their on-the-job experiences as apprentices. In addition to rating various aspects of their workplace experiences, students were also asked to say how related their workplace experience was to their in-school training and to provide a rating of their overall satisfaction with their workplace experience.

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 students had more than one employer during their apprenticeship, they were asked to rate their training with their last employer—44 percent of respondents said they had more than one employer during their apprenticeship.

All aspects of workplace training were rated positively (*very good* or *good*) by the majority of respondents, although appropriate variety of duties and exposure to a variety of equipment received the highest ratings.

Several aspects of workplace training were rated as *very good* or *good* by the majority of respondents



Note: Percentages calculated excluding those who said *not applicable*.

There was variation in ratings of workplace training by program area, although some aspects of workplace training exhibited more variability than others. For example, positive ratings of opportunity to experience all aspects of the trade ranged considerably, from 88 percent in Autobody/Collision & Repair programs to 59 percent in Machinist programs. In contrast, ratings of appropriate variety of duties were consistently high, with a range of 70 to 86 percent among the different program areas. These results are provided in the table below, and additional ratings of workplace training can be found in [Appendix G: 2009 Ratings of In-School and Workplace Training](#).

Ratings of *appropriate variety of duties* were consistently high across programs

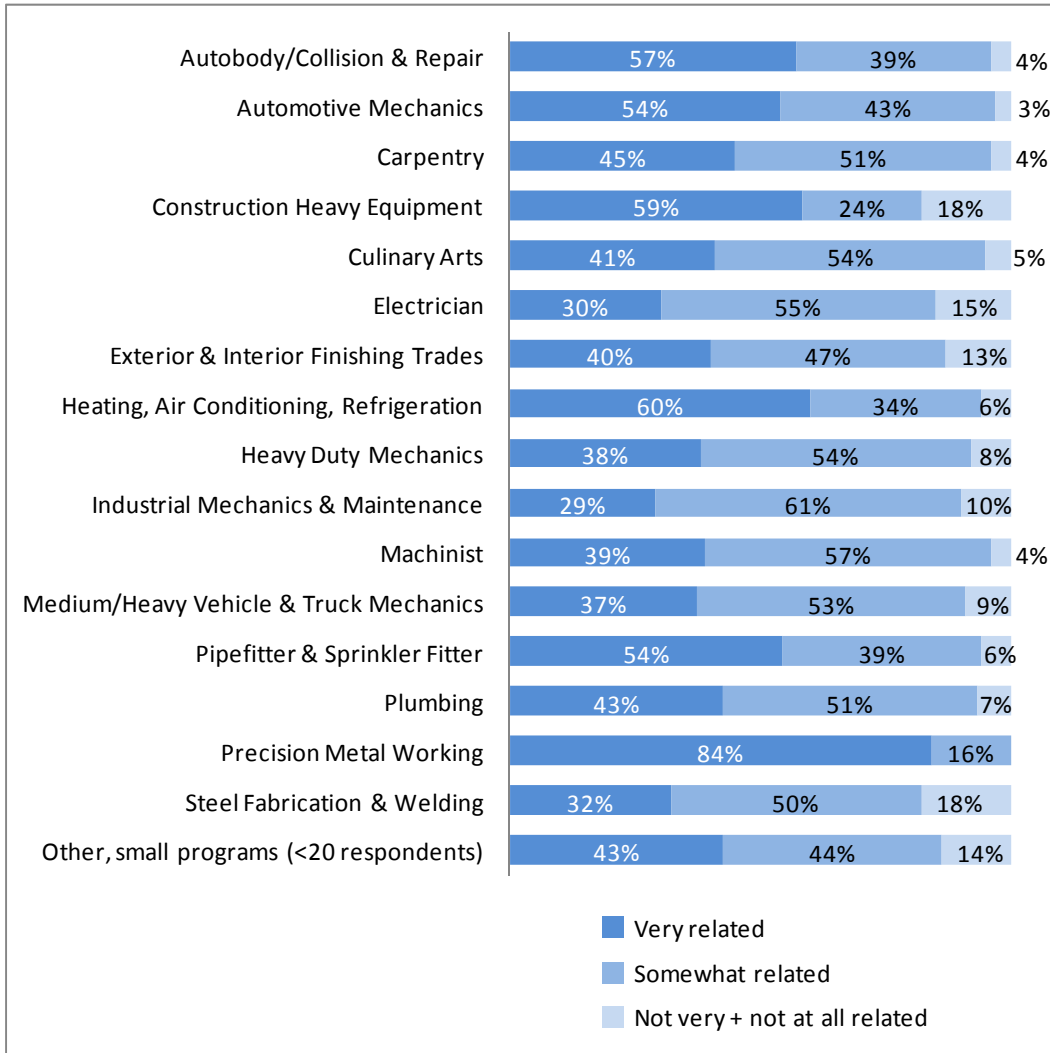
Apprenticeship Program Area	Appropriate variety of duties*	Opportunity to experience all aspects of trade*
Autobody/Collision & Repair	84%	88%
Automotive Mechanics	84%	76%
Carpentry	85%	70%
Construction Heavy Equipment	81%	73%
Culinary Arts	73%	63%
Electrician	84%	68%
Exterior & Interior Finishing Trades	86%	78%
Heating, Air Conditioning, Refrigeration	79%	69%
Heavy Duty Mechanics	74%	68%
Industrial Mechanics & Maintenance	73%	63%
Machinist	70%	59%
Medium/Heavy Vehicle & Truck Mechanics	77%	72%
Pipefitter & Sprinkler Fitter	86%	75%
Plumbing	81%	68%
Precision Metal Working	84%	77%
Steel Fabrication & Welding	84%	65%
Other, small programs (<20 respondents)	82%	79%
Total	82%	71%

*Percentage who said *very good* or *good*, calculated excluding those who said *not applicable*.

How related was the workplace experience to in-school training?

Survey respondents were asked how related their in-school training was to their workplace experience. The vast majority (91 percent) said it was *very related* or *somewhat related*. Although there was some variation in responses by program area, the proportion of respondents who said their in-school training was *very related* or *somewhat related* to their workplace experience was consistently high across all programs, ranging from 82 percent (Construction Heavy Equipment and Steel Fabrication & Welding) to 100 percent (Precision Metal Working).

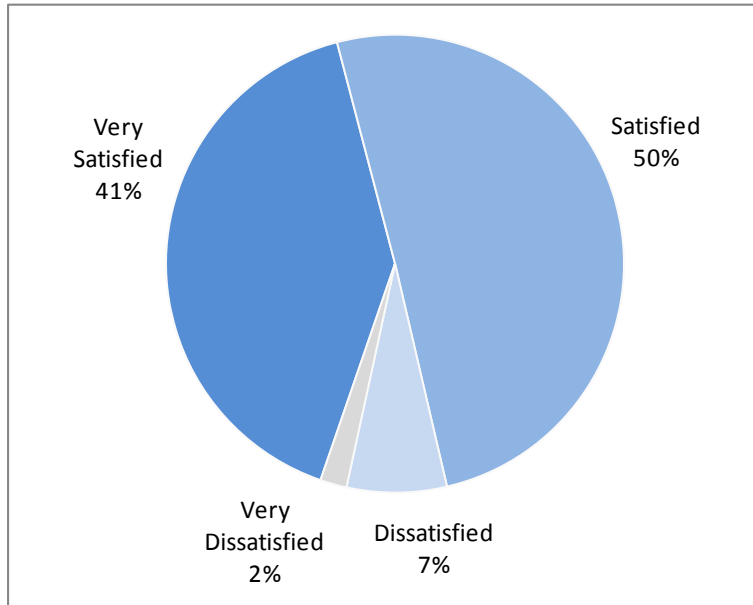
Large majorities of students found their workplace experience was related to their in-school training



How satisfied were former apprentices with their workplace training?

The vast majority of respondents (91 percent) said they were *very satisfied* or *satisfied* with their overall workplace training experience. There has not been a significant change in overall satisfaction with workplace training since 2005. Although overall satisfaction with workplace training has not varied over time, it does vary across program areas. [Appendix H: 2009 Respondents' Satisfaction Ratings, by Apprenticeship Program Area](#), provides the most recent results by program area.

More than ninety percent of students were satisfied with their overall workplace training experience



Employment

Students were asked a number of questions about employment: some questions related to labour force participation, others were related to industry and occupation. Respondents who were employed were also asked about their hours of work, earnings, and the relation of their current employment to their apprenticeship training.

How have labour market conditions in B.C. changed over the past year?

The employment outcomes of former apprentices surveyed in 2009 should be considered in the context of what has been happening in the overall B.C. economy over the past year.

In the latter half of 2008, British Columbia entered an economic slowdown, and labour market conditions began tightening. Between March 2008 and March 2009, there were 83,400 job losses in B.C.⁴ Many of these losses (-34,000) were in the construction industry, where approximately half of all employed apprenticeship survey respondents have been working in recent years.

As a result of tightening labour market conditions, the employment rate (unadjusted) among B.C.'s population age 20 to 59 fell from 79.7 percent in March of 2008 to 75.9 percent in March of 2009. The fall in the employment rate for the population age 20 to 59 was paralleled by a rise in their unemployment rate, from 3.9 percent in March of 2008, to 7.2 percent in March of 2009.⁵

What was the labour force participation of former students?

At the time of the survey, virtually all respondents—97 percent—were in the labour force; that is, employed or looking for work. In comparison, the labour force participation rate (unadjusted) for the B.C. population aged 20 to 59 was 81.8 percent in March of 2009.⁶

Labour force participation of survey respondents was high across all apprenticeship program area areas, ranging from 88 percent to 100 percent.

What was the unemployment rate at the time of the survey?

The unemployment rate for the former students surveyed—that is, the percentage of those in the labour force that were unemployed—was 7.8 percent overall. Unemployment rates varied significantly by program area, from zero percent

⁴ Source: Statistics Canada, Labour Force Survey.

⁵ Ibid.

⁶ Ibid.

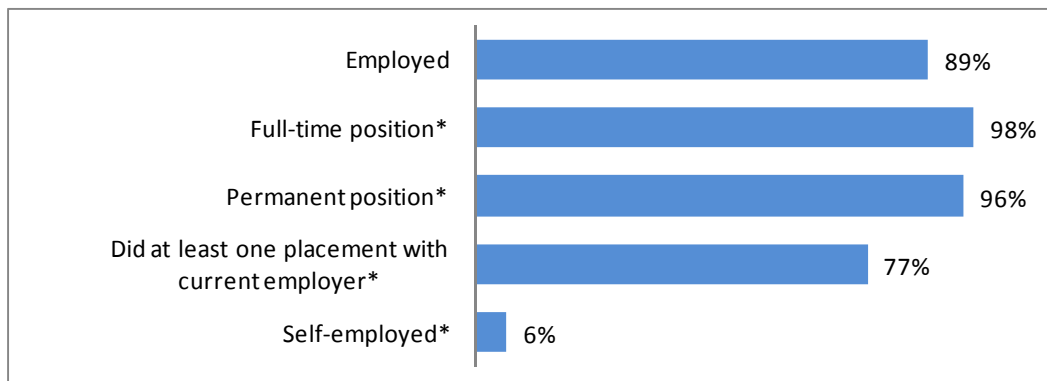
(Heating, Air Conditioning, Refrigeration), to 28 percent (Construction Heavy Equipment). Only one other program had an unemployment rate above 10 percent: Precision Metal Working (17 percent).

What were former students' employment outcomes?

Almost nine out of ten respondents (89 percent) were employed at the time of the survey. The typical former apprenticeship student was employed full-time⁷ (98 percent of those employed) in a permanent position (96 percent). Of those who were working, 6 percent were self-employed, although this percentage was substantially higher among students who were enrolled in Pipefitter & Sprinkler Fitter programs (15 percent) and Carpentry programs (17 percent).

For many students, an apprenticeship work placement will offer them a position when they complete their program. In 2009, more than three-quarters (77 percent) of employed apprentices said that they had completed at least one placement with their current employer.

Former apprentices were employed in full-time, permanent positions, often working at one of their previous placements



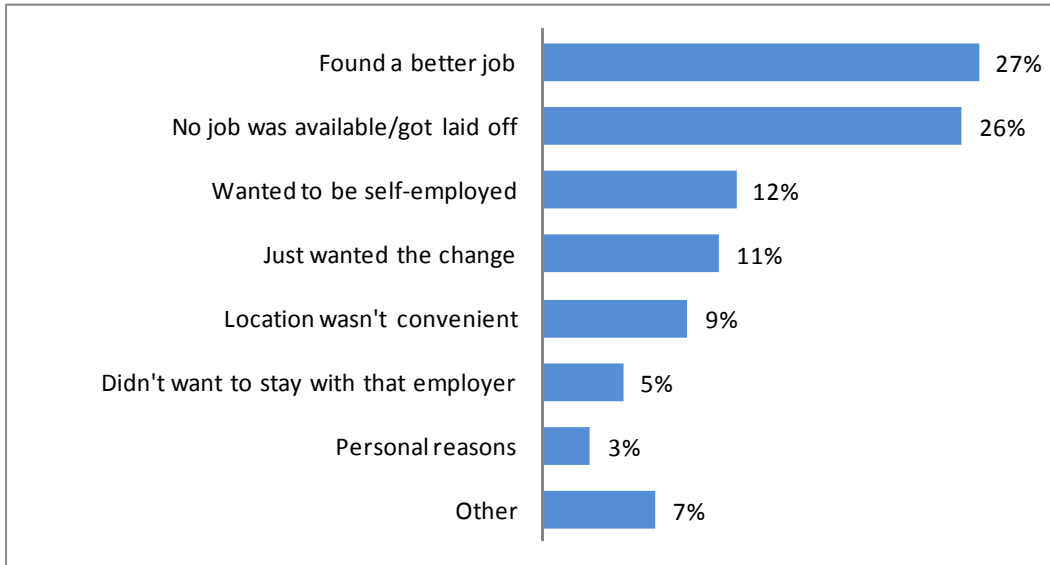
*Percentages are based on those employed

Why weren't students employed at a previous apprenticeship placement?

Respondents who were employed, but not working for an employer with whom they did an apprenticeship placement, were asked why they were not working at a previous placement. The most common reason former students gave was that they found a better job (27 percent), although almost the same number (26 percent) said that no job was available or they got laid off. Overall, the majority of those not working at a prior apprenticeship placement cited voluntary reasons (found a better job, wanted to be self-employed, just wanted the change, didn't want to stay with that employer, etc.) for doing so.

⁷ Full-time employment is defined as working 30 hours or more per week.

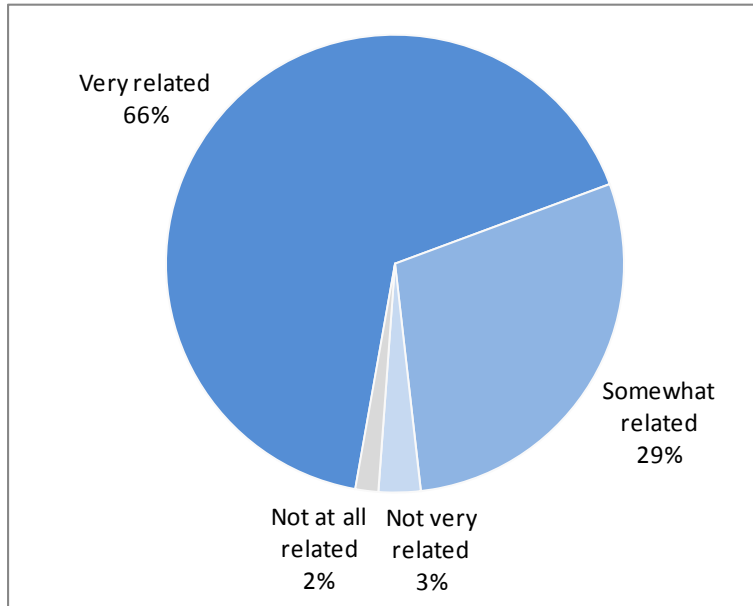
The majority of former students cited voluntary reasons for not working at a previous placement



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

Of employed former apprenticeship students, two-thirds (66 percent) rated their job (or main job if they had more than one) as *very related* to their apprenticeship program, and a further 29 percent said it was *somewhat related*.

Most employed respondents said their current job was related to their apprenticeship training



Although ratings did vary somewhat across program areas, the percentage of former students who said their current job was *very related* or *somewhat related* to their

training was 90 percent or higher in all large programs, and was 96 percent in small programs.

How useful were knowledge and skills gained for job performance?

Respondents who were employed at the time of the survey were asked how useful the knowledge and skills they gained in their program have been in performing their job. Overall, 96 percent of employed respondents said their training was *very useful* or *somewhat useful* in performing their job, although responses did vary somewhat by program area. For detailed results by program area, see [Appendix I: Usefulness of In-School Training when Performing Job](#).

What occupations did former apprenticeship students have?

As in previous years, a large majority—91 percent—of those employed reported that their main job was in Trades, Transport, and Equipment Operators and Related Occupations.⁸ The second most common occupation category was Sales and Service Occupations, with 5 percent of respondents. Generally, former students found jobs that were in the same field as their apprenticeship program, as indicated by their high ratings of the relatedness of in-school training to work. See [Appendix F: Common Occupations by Selected Apprenticeship Trade Program Areas](#) for more information.

What was 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 \$29. The median hourly wage among former apprenticeship students has been increasing steadily since 2005—wage figures in previous years were: \$24 (2005), \$25 (2006), \$27 (2007), and \$28 (2008.)⁹

Median hourly wages are quite different across occupations, however. The fifteen most commonly cited occupations in 2009, and their associated wage rates, are shown in the table below. Among these occupations, the median hourly wage ranges

⁸ The National Occupational Classification (NOC) system (a taxonomy of occupations in the Canadian labour market) was used to assign codes to the occupations former students had at the time of the survey.

⁹ Annual wage figures have not been adjusted for inflation.

from a low of \$17 (Chefs & Cooks, Butchers & Bakers), to a high of \$34 (Technical Occupations in Electronics & Electrical Engineering).

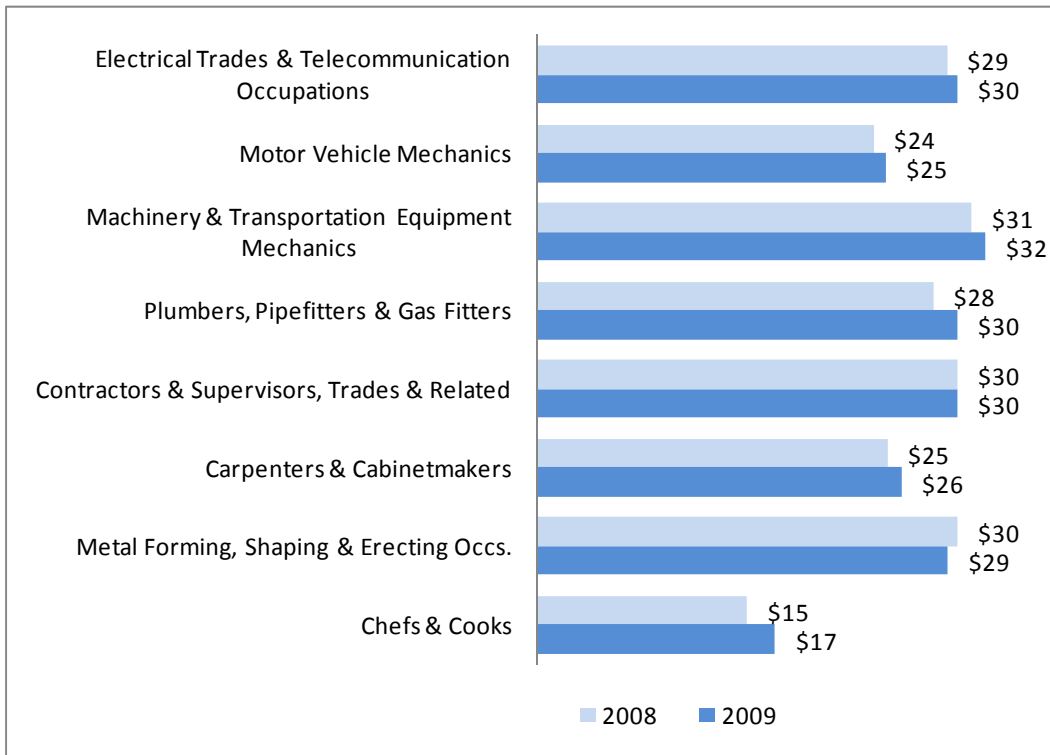
Hourly wage of most common occupations, 2009

Occupation*	Respondents	Median Hourly Wage
Electrical Trades & Telecommunication Occupations	285	\$30
Motor Vehicle Mechanics	256	\$25
Machinery & Transportation Equipment Mechanics	243	\$32
Plumbers, Pipefitters & Gas Fitters	240	\$30
Contractors & Supervisors, Trades & Related	221	\$30
Carpenters & Cabinetmakers	154	\$26
Metal Forming, Shaping & Erecting Occupations	98	\$29
Chefs & Cooks	48	\$17
Masonry & Plastering Trades	37	\$27
Machinists & Related Occupations	37	\$29
Printing Press operators, Commercial Divers & Other Trades & Related Occupations, n.e.c.	30	\$32
Other Construction Trades	30	\$27
Butchers & Bakers	16	\$17
Technical Occupations in Electronics & Electrical Engineering	15	\$34
Other Mechanics	15	\$20

*National Occupation Code – 3-digit level

Despite the economic slowdown that began in British Columbia in the latter half of 2008, the median hourly wage rate among the overall B.C. population increased from \$19 in March 2008 to \$20 in March 2009. Among former apprenticeship students, the results were similar. As shown in the graph below, the median wage rate in some of the most common occupations of former apprenticeship students increased between 2008 and 2009, and where there were decreases, they were small.

Median hourly wage rates among the most common occupations remained relatively stable between 2008 and 2009



Note: Annual wage figures have not been adjusted for inflation.

Conclusions

For five years now, the Apprenticeship Student Outcomes Survey of former apprenticeship students has gathered information for analysis and reporting. In 2009, the number of apprenticeship students eligible for the survey increased substantially from 2008—growing by 23 percent. Former students continue to share many of the same characteristics as in previous years.

Former apprenticeship students who responded to the survey were predominately male. More than half of all 2009 respondents were under age 30, and their median age was 28. Respondents represented 23 different program areas, although 40 percent had been enrolled in Carpentry, Electrician, or Plumbing programs.

Most respondents had completed high school (91 percent), and a relatively small number of students (8 percent) reported taking a high school apprenticeship program. Of those who had taken a high school apprenticeship program, the majority (70 percent) received technical credit for their high school training.

Before enrolling in their apprenticeship program, approximately one-third (34 percent) of respondents had taken foundation industry or other pre-apprenticeship training, and of those, 84 percent had taken their training in the same field as their apprenticeship program. The majority (61 percent) of former apprentices had taken some previous post-secondary education (including pre-apprenticeship training), and one-quarter had a previous post-secondary credential.

In-school experiences

Although the majority (78 percent) of students who completed the survey in 2009 attended public institutions, this proportion has decreased since 2008 (85 percent). This decrease is a result of a substantial increase (+57 percent) in the number of eligible students from private institutions between 2008 and 2009, coupled with a higher response rate among students from private institutions (58 percent in 2009 versus 51 percent in 2008).

Although apprenticeship students generally enter their programs at the first level, some students are admitted to their in-school apprenticeship program at a higher or more advanced level. There was considerable variation in the percentage of students starting above the first level by program area. Previous education also had an effect on a student's starting level, with students who had taken pre-apprenticeship training the most likely to start at an advanced level.

Several aspects of in-school training were rated positively by the majority of former students, although there was considerable variation by program. Former apprentices found their in-school training particularly helpful in developing their skills in mathematics, analytical thinking, and reading and comprehension. When asked to rate the quality of their in-school training, respondents rated their instructors quite favourably—giving high ratings to helpfulness of instructors,

availability of instructors, and quality of instruction. Students also found the variety and fairness of tests, papers, and other assigned work to be quite good.

In terms of program content, most students found their courses covered the standards and topics relevant to their field, but they were less likely to say that their training was up-to-date. Again, responses varied considerably by program area.

Overall, 93 percent of students were satisfied with their training, and nine out of ten found that the knowledge and skills that they gained were useful in preparing them to write their certification exams.

Workplace training

Former apprentices gave high ratings to several aspects of their workplace training. Respondents gave particularly high ratings to an appropriate variety of duties, exposure to a variety of equipment, and skills taught on the job. Ratings of opportunity to experience all aspects of the trade and quality of teaching or mentoring provided were not as high, but ranged considerably by program.

The vast majority of students said their in-school training was related to their workplace experience, and this figure was high in all program areas. Overall, 91 percent of former apprentices were satisfied with their overall workplace training experience.

Labour force participation

At the time of the survey, almost all former apprentices were participating in the labour market (either working or looking for work). In March 2009, the unemployment rate among former students surveyed was 7.8 percent, although this figure varied considerably by program area. The unemployment rate among former apprentices was higher than in 2008 (2.6 percent), but there were substantial job losses in B.C. between March 2008 and March 2009. Many of these job losses occurred in the Construction industry, where approximately half of all employed apprenticeship survey respondents have been working in recent years.

Almost all respondents who were employed were working full-time, in permanent positions. Approximately three-quarters of former apprenticeship students were working for an employer with whom they did a previous placement.

Former apprenticeship students were very likely to be working in occupations related to their training, and almost all found their training useful in performing their job. More than ninety percent of former apprentices were working in trades, transport, and equipment operators and related occupations at the time of the survey. Despite the fact that B.C.'s labour market conditions slowed considerably between March 2008 and March 2009, the overall median hourly wage rate in B.C. continued to climb slightly during this time. Likewise, the median wage of former apprenticeship students increased to \$29 in 2009, with wages increasing, staying the same, or declining only slightly in the most common occupations among former apprenticeship students.

Appendices

Appendix A: Apprenticeship Survey Methodology

Apprenticeship Survey Project

The Apprenticeship Student Outcomes (APPSO) Survey project is conducted with funding from the Ministry of Advanced Education and Labour Market Development (ALMD), the British Columbia Industry Training Authority (ITA), and participating British Columbia post-secondary institutions. 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 ALMD, participating post-secondary institutions, 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.

Apprenticeship Survey Committee

The steering committee for this apprenticeship survey project, made up of representatives from B.C.'s public apprenticeship training institutions, ALMD, and the ITA, is a subcommittee of the BC OWG. The Apprenticeship committee has responsibility for oversight of the survey and the resulting publications.

The apprenticeship survey project uses the methodology developed for the Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey.¹⁰ The Apprenticeship committee developed the survey instrument, which uses many of the same questions as the DACSO survey questionnaire. In particular, the apprenticeship questionnaire includes the questions designed for performance measures used by ALMD and the institutions.

Use of data from the Apprenticeship Survey

Data from the apprenticeship student survey are currently used by ALMD and ITA for policy development and to monitor the effectiveness of the post-secondary system. Participating B.C. post-secondary institutions 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 or trades training students is currently collected in the annual DACSO survey, so ALMD and the institutions also have access to pertinent and valuable outcomes information for non-apprenticeship and pre-apprentice trades programs.

¹⁰ Formerly known as the College and Institute Student Outcomes (CISO) Survey.

Cohort

The survey cohort included all apprenticeship students who *completed the final year of their apprenticeship programs* at a participating B.C. 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, 2007 and June 30, 2008 at a B.C. public post-secondary institution or at a B.C. 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, birth date, program start date, and completion date.

There were 27 B.C. post-secondary institutions that participated in this project—14 of them were public. These public institutions provided 78 percent of the survey respondents. The cohort of students from private institutions was provided by the ITA. The following tables list the participating institutions, the number of former apprentices from each who were eligible for the survey, and the number who responded to the survey.

Participating public institutions

Public Institutions	Eligible for Survey	Respondents	Response Rate
British Columbia Institute of Technology	1,122	680	61%
Camosun College	216	119	55%
College of New Caledonia	169	124	73%
College of the Rockies	60	36	60%
Kwantlen Polytechnic University	111	70	63%
North Island College	121	57	47%
Northern Lights College	47	26	55%
Northwest Community College	22	14	64%
Okanagan College	236	134	57%
Selkirk College	19	13	68%
Thompson Rivers University	154	97	63%
University of the Fraser Valley	57	36	63%
Vancouver Community College	346	170	49%
Vancouver Island University	105	66	63%
Public Institutions - Total	2,785	1,642	59%

Participating private institutions

Private Institutions	Eligible for Survey	Respondents	Response Rate
B.C. Floor Covering Joint Conference Society	15	8	53%
B.C. Wall & Ceiling Association - Surrey	42	25	60%
D.C. 38 Joint Trade Society	33	12	36%
Electrical Industry Training Institute	46	19	41%
Funeral Service Association of B.C.	15	6	40%
Joint Apprentice Refrigeration Trade School	60	41	68%
Operating Engineers Training Centre	45	32	71%
Pacific Vocational College	329	188	57%
Piping Industry Trade School	67	41	61%
Quadrant Marine Institute	8	6	75%
R.C.A.B.C. Roofing Institute	48	28	58%
Sheet Metal Workers Training Institute	37	23	62%
Trowel Trades Training Association	38	28	74%
Private Institutions - Total	783	457	58%

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

Data collection

Field testing of the survey instrument was done January 19 to January 22, 2009, using a sub-sample of students from three institutions—there were 75 respondents surveyed. 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
- Using a number of directories to trace former students whose phone numbers were missing or incorrect
- Asking for a forwarding number, where possible
- Sending emails with the toll-free number, where possible

The telephone interviews for the survey were conducted from February 10 to March 30, 2009. Of the 3,568 students identified as eligible for the survey cohort, 2,099 completed the survey (**59 percent response rate**). The average administration time of the survey was 18.1 minutes.

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

Overall call results, 2009 Apprenticeship Student Outcomes Survey

Call Result	N	Percent of Cohort
Completion	2,099	58.8%
Incomplete Survey	37	1.0%
Refused/ Declined	313	8.8%
Specific Appointment	8	0.2%
Soft Appointment	55	1.5%
Left Message - Call Again	271	7.6%
Busy	2	0.1%
No Answer	12	0.3%
Not in Service/ Wrong Number	589	16.5%
Moved - Left Toll Free Number	4	0.1%
Business (Not Employed There)	5	0.1%
Travelling Within Canada/US	18	0.5%
Travelling/ Moved Outside of Canada/ US	29	0.8%
Communication Problem	9	0.3%
Serious Illness	2	0.1%
Deceased	1	0.0%
Ineligible (Still in same program)	19	0.5%
Non-qualifier	88	2.5%
No Phone Number/ No North American Number	7	0.2%
Total - All Records	3,568	100.0%

Analysis and Reporting

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. Data from the 2009 survey were first released through the web-based Student Outcomes Reporting System (SORS) on June 23, 2009. Apprenticeship SORS provides access to five years of Apprenticeship Survey data in a variety of formats—through report templates, individual questions, and pivot tables. The public version of Apprenticeship SORS—available on the student outcomes website under “Search BC Post-Secondary Student Survey Results”—was released at the same time and provides information for the general public in report form. The most recent three years of data are combined to produce reports at the individual trade or program level.

Analysis for this report included frequencies, crosstabs, and comparison of means; in addition, statistical 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—59 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.

Some of the 23 apprenticeship program areas had relatively small numbers; for these programs, the numbers were too small to permit comparative or in-depth analysis.

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 gave a valid response to the question—those who refused the question, or said *don't know*, were not included in the calculation.

Appendix B: 2009 Institution Names and Codes

Institution Name	Code
B.C. Floor Covering Joint Conference Society	BCFC
B.C. Wall & Ceiling Association - Surrey	BCWCA
British Columbia Institute of Technology	BCIT
Camosun College	CAM
College of New Caledonia	CNC
College of the Rockies	COTR
D.C. 38 Joint Trade Society	JTS
Electrical Industry Training Institute	EITI
Funeral Service Association of B.C.	FSABC
Joint Apprentice Refrigeration Trade School	JARTS
Kwantlen Polytechnic University	KWN
North Island College	NIC
Northern Lights College	NLC
Northwest Community College	NWCC
Okanagan College	OKN
Operating Engineers Training Centre	OETC
Pacific Vocational College	PVC
Piping Industry Trade School	PIPE
Quadrant Marine Institute	QUADR
R.C.A.B.C. Roofing Institute	RCABC
Selkirk College	SEL
Sheet Metal Workers Training Institute	SMWTC
Thompson Rivers University	TRU
Trowel Trades Training Association	TTTA
University of the Fraser Valley	FVAL
Vancouver Community College	VCC
Vancouver Island University	VIU

Appendix C: Apprenticeship Program Areas and Institutions' Programs

Apprenticeship Program Area	Institution's Program Name	Institution	Respondents
Airframe Mechanics & Aircraft Maintenance			
	Aerostructures Apprentice	BCIT	12
Autobody/Collision & Repair			
	Auto Collision Repair Apprentice Level 3	VCC	26
	Auto Paint & Refinishing Apprentice Level 1	VCC	26
	Apprentice Auto Paint/Refinishing	OKN	20
	Auto Refinishing Prep Apprentice Level 1	VCC	6
	Auto Glass Installer Apprentice Level 2	VCC	#
Automotive Mechanics			
	Automotive Technician Apprentice	BCIT	46
	Apprentice Auto Service Tech	OKN	23
	Auto Tech Apprentice Level 4	VCC	17
	Automotive Service Technician - Apprenticeship Training	CAM	13
	Automotive Apprenticeship	VIU	12
	Auto Technician GM (ASEP) Apprentice	BCIT	11
	Automotive Mechanics IV	CNC	8
	Automotive Service Technician Apprenticeship	FVAL	5
	Automotive Service Tech Apprentice Level 4	NLC	4
	Auto Tech Acura/Honda(AHAP) Apprentice	BCIT	#
Carpentry			
	Carpentry Apprentice	BCIT	68
	Apprentice Carpentry	OKN	48
	Carpenter - Apprenticeship Training	CAM	30
	Carpentry Apprenticeship	VIU	22
	Apprentice-Carpentry	KWN	21
	Carpentry Apprenticeship	FVAL	19
	Carpentry Apprentice - Level 4	NWCC	13
	Carpentry Apprentice	TRU	11
	Carpentry IV	CNC	8
	Carpentry Apprenticeship Year 4	COTR	7
Construction Heavy Equipment			
	Heavy Equipment Operator	OETC	18
	Construction Industry Mobile Crane Operating	OETC	14
	Piledriver and Bridgework Apprentice	BCIT	4
Culinary Arts			
	Culinary Arts Apprentice 3	VCC	43
	Baking & Pastry Apprentice Level 3	VCC	10
	Baking Apprenticeship	VIU	10
	Culinary Arts Apprenticeship	VIU	7
	Professional Cook - Apprenticeship Training	CAM	6
	Professional Cooking Apprenticeship Year 3	COTR	#

Apprenticeship Program Area	Institution's Program Name	Institution	Respondents
Electrician			
	Electrical Apprentice	BCIT	143
	Electrical Apprentice IV	CNC	46
	Apprentice Electrician	OKN	43
	Electrical Apprentice	TRU	42
	Electrician - Apprenticeship Training	CAM	30
	Electricity Apprentice	NIC	29
	Apprenticeship Year 4 - Electrical	SEL	13
	Electricity Apprenticeship	FVAL	12
	Electrical Apprenticeship Year 4	COTR	7
	Electrician Apprenticeship Level 4	NLC	6
Exterior& Interior Finishing Trades			
	Joinery (Cabinetmaker) Apprentice	BCIT	34
	Roofing	RCABC	28
	Wall & Ceiling Installer - Modular Program	BCWCA	25
	LXR Bricklayer	TTTA	14
	Cement Masonry	TTTA	8
	Floor Covering	BCFC	8
	Glazing Apprentice	BCIT	7
	Painting & Decorating	JTS	7
	Tilesetting	TTTA	6
	Glazier - Modular Program	JTS	5
Heating, Air Conditioning, Refrigeration			
	Refrigeration	JARTS	41
	Refrigeration Apprentice	BCIT	11
	Heat/Frost Insulation Apprentice	BCIT	#
Heavy Duty Mechanics			
	Diesel Commercial Transport Mechanic Apprentice Level 4	VCC	23
	Heavy Duty Mechanics Apprentice	TRU	21
	Diesel Heavy Duty Mechanics Apprentice Level 4	VCC	18
	Heavy Duty Mechanics Apprentice	BCIT	14
	Heavy Duty Mechanics Apprenticeship	VIU	14
	Heavy Duty Mechanic IV	CNC	11
	Heavy Duty Mechanics Apprenticeship Year 4	COTR	6
	Heavy Duty Tech Apprentice Level 4	NLC	4
	Heavy Duty Apprenticeship	NIC	#
Horticulture & Landscaping			
	Apprentice-Landscape Horticulture	KWN	12
	Utility Arborist	EITI	4
	Apprentice-Production Horticulture	KWN	#

Apprenticeship Program Area	Institution's Program Name	Institution	Respondents
Industrial Electronics			
	Industrial Instrumentation Apprentice	BCIT	11
	Industrial Electrician Apprenticeship	NIC	7
Industrial Mechanics & Maintenance			
	Millwright Apprentice	BCIT	35
	Apprentice-Millwright	KWN	20
	Millwright Apprenticeship Technical Training	NIC	12
	Millwright Apprenticeship Year 4	COTR	11
	Millwright Apprentice Level 4	NLC	#
	Planermill Maintenance Technician I	CNC	#
	Planermill Tech 1 - Level I Apprentice	COTR	#
Lineworker			
	Power Line Technician	EITI	15
Machinist			
	Millwright IV	CNC	49
	Machinist Apprentice	BCIT	44
Marine & Power Sport			
	Inboard/Outboard Apprentice	BCIT	9
	Marine Repair Technician	QUADR	6
	Motorcycle Mechanic Apprentice	BCIT	4
Medium/Heavy Vehicle & Truck Mechanics			
	Commercial Transport Apprentice	BCIT	30
	Commercial Transport Vehicle Mechanic	TRU	11
	Commercial Transport Tech Apprentice Level 4	NLC	#
Mortuary Science & Embalming			
	Embalmer & Funeral Director	FSABC	6
Parts & Warehousing			
	Apprentice-Industrial Engine	KWN	13
	Apprentice-Automotive Parts	KWN	#
Pipefitter & Sprinkler Fitter			
	Domestic/Commercial Gasfitting	PVC	47
	Sprinklerfitting	PVC	31
	Gasfitting Apprentice	BCIT	11
	Sprinklerfitting	PIPE	9
	Steamfitting Apprentice	BCIT	9
	Steamfitting & Pipefitting	PIPE	7
Plumbing			
	Plumbing	PVC	110
	Plumbing Apprentice	BCIT	50
	Plumbing	PIPE	25
	Plumber - Apprenticeship Training	CAM	24
	Plumbing Apprentice	TRU	12
	Plumbing Apprenticeship	NIC	6
	Plumber Apprentice Level 4	NLC	#
Precision Metal Working			
	Sawfitting Apprentice	BCIT	19
	Circular Sawfiler Apprentice	BCIT	13
	Benchperson Apprentice	BCIT	12

Apprenticeship Program Area	Institution's Program Name	Institution	Respondents
Steel Fabrication & Welding			
	Steel Fabrication Apprentice	BCIT	39
	Sheet Metal Apprentice	BCIT	28
	Sheet Metal Work	SMWTC	23
	Sheet Metal Worker - Apprenticeship Training	CAM	16
	Welding Apprentice Level 4	NLC	6
	Boilermaker Apprentice	BCIT	5
	Ironworker Apprentice	BCIT	5
	Welding Apprenticeship Level 4	COTR	4
	Welding Apprentice	BCIT	#
	Welding Apprentice - Level 4	NWCC	#
	Welding Apprentice - Year 3	CNC	#
	Welding Apprenticeship	NIC	#
	Welding Apprenticeship	VIU	#

To preserve confidentiality, these data are not shown.

Appendix D: Response Rates by Program

Apprenticeship Program Area	Eligible for Survey	Respondents	Response Rate
Airframe Mechanics & Aircraft Maintenance	18	12	67%
Autobody/Collision & Repair	144	79	55%
Automotive Mechanics	222	141	64%
Carpentry	439	247	56%
Construction Heavy Equipment	61	36	59%
Culinary Arts	172	76	44%
Electrician	639	371	58%
Exterior & Interior Finishing Trades	237	142	60%
Heating, Air Conditioning, Refrigeration	82	53	65%
Heavy Duty Mechanics	184	113	61%
Horticulture & Landscaping	39	19	49%
Industrial Electronics	30	18	60%
Industrial Mechanics & Maintenance	134	82	61%
Lineworker	33	15	45%
Machinist	123	93	76%
Marine & Power Sport	23	19	83%
Medium/Heavy Vehicle & Truck Mechanics	66	43	65%
Mortuary Science & Embalming	15	6	40%
Parts & Warehousing	23	14	61%
Pipefitter & Sprinkler Fitter	186	114	61%
Plumbing	410	229	56%
Precision Metal Working	66	44	67%
Steel Fabrication & Welding	222	133	60%
Total	3,568	2,099	59%

Appendix E: Qualification or Certification by Trade – 2009 and 2008

Apprenticeship Program Area	2009		2008	
	% Qualified	Valid responses	% Qualified	Valid responses
Airframe Mechanics & Aircraft Maintenance	64%	11	#	#
Autobody/Collision & Repair	67%	79	82%	72
Automotive Mechanics	81%	139	69%	190
Carpentry	81%	247	75%	195
Construction Heavy Equipment	69%	35	75%	32
Culinary Arts	76%	74	68%	69
Electrician	89%	370	86%	300
Exterior & Interior Finishing Trades	59%	135	64%	110
Heating, Air Conditioning, Refrigeration	85%	53	88%	41
Heavy Duty Mechanics	89%	113	84%	68
Horticulture & Landscaping	47%	19	67%	18
Industrial Electronics	56%	18	67%	18
Industrial Mechanics & Maintenance	91%	82	82%	39
Lineworker	100%	15	92%	13
Machinist	87%	93	79%	76
Marine & Power Sport	61%	18	47%	17
Medium/Heavy Vehicle & Truck Mechanics	98%	43	96%	48
Mortuary Science & Embalming	100%	6	100%	9
Parts & Warehousing	86%	14	100%	10
Pipefitter & Sprinkler Fitter	85%	111	91%	43
Plumbing	86%	226	83%	157
Precision Metal Working	77%	43	74%	38
Steel Fabrication & Welding	79%	131	81%	98
Total	82%	2,075	79%	1,666

To preserve confidentiality, these data are not shown.

Appendix F: Common Occupations by Selected Apprenticeship Trade Program Areas

Apprenticeship Program Area	National Occupation Code – 3 Digit Level	Respondents	Percent in Occupation*
Airframe Mechanics & Aircraft Maintenance			
	Machinery & Transportation Equipment Mechanics	11	92%
Autobody/Collision & Repair			
	Motor Vehicle Mechanics	66	88%
Automotive Mechanics			
	Motor Vehicle Mechanics	119	92%
Carpentry			
	Carpenters and Cabinetmakers	128	61%
	Contractors & Supervisors, Trades & Related	65	31%
Construction Heavy Equipment			
	Crane Operators, Drillers and Blasters	14	61%
Culinary Arts			
	Chefs and Cooks	48	69%
	Butchers and Bakers	16	23%
Electrician			
	Electrical Trades & Telecommunication Occupations	263	82%
	Contractors & Supervisors, Trades & Related	47	15%
Exterior & Interior Finishing Trades			
	Masonry and Plastering Trades	37	29%
	Other Construction Trades	30	24%
	Contractors & Supervisors, Trades & Related	26	21%
	Carpenters and Cabinetmakers	24	19%
Heating, Air Conditioning, Refrigeration			
	Machinery & Transportation Equipment Mechanics	46	90%
Heavy Duty Mechanics			
	Machinery & Transportation Equipment Mechanics	65	62%
	Motor Vehicle Mechanics	33	31%
Industrial Electronics			
	Technical Occupations in Electronics & Electrical Engineering	10	56%
Industrial Mechanics & Maintenance			
	Machinery & Transportation Equipment Mechanics	67	93%
Lineworker			
	Electrical Trades & Telecommunication Occupations	14	93%
Machinist			
	Machinery & Transportation Equipment Mechanics	45	53%
	Machinists and Related Occupations	36	42%
Medium/Heavy Vehicle & Truck Mechanics			
	Motor Vehicle Mechanics	37	93%
Parts & Warehousing			
	Recording, Scheduling & Distributing Occupations	13	93%
Pipefitter & Sprinkler Fitter			
	Plumbers, Pipefitters and Gas Fitters	68	65%
	Contractors & Supervisors, Trades & Related	18	17%

Apprenticeship Program Area	National Occupation Code – 3 Digit Level	Respondents	Percent in Occupation*
Plumbing			
	Plumbers, Pipefitters and Gas Fitters	170	83%
	Contractors & Supervisors, Trades & Related	26	13%
Precision Metal Working			
	Printing Press operators, Commercial Divers & Other Trades & Related Occupations, n.e.c.	29	97%
Steel Fabrication & Welding			
	Metal Forming, Shaping & Erecting Occupations	95	81%
	Contractors & Supervisors, Trades & Related	16	14%

NOCs with fewer than 10 students are not shown, therefore categories do not add to 100%

Appendix G: 2009 Ratings of In-School and Workplace Training

(i) How well did in-school training help former students develop skills?

Apprenticeship Program Area	Analyze & Think Critically	Use Math	Use Tools & Equipment
Airframe Mechanics & Aircraft Maintenance	73%	82%	67%
Autobody/Collision & Repair	96%	74%	91%
Automotive Mechanics	91%	82%	88%
Carpentry	81%	89%	92%
Construction Heavy Equipment	94%	87%	83%
Culinary Arts	87%	83%	87%
Electrician	80%	91%	63%
Exterior & Interior Finishing Trades	77%	87%	86%
Heating, Air Conditioning, Refrigeration	90%	84%	73%
Heavy Duty Mechanics	85%	78%	77%
Horticulture & Landscaping	63%	78%	74%
Industrial Electronics	88%	69%	71%
Industrial Mechanics & Maintenance	72%	82%	65%
Lineworker	67%	73%	80%
Machinist	79%	83%	80%
Marine & Power Sport	80%	71%	74%
Medium/Heavy Vehicle & Truck Mechanics	76%	70%	63%
Mortuary Science & Embalming	67%	#	100%
Parts & Warehousing	64%	40%	40%
Pipefitter & Sprinkler Fitter	86%	87%	78%
Plumbing	81%	86%	78%
Precision Metal Working	98%	89%	95%
Steel Fabrication & Welding	76%	88%	87%
Total	82%	85%	79%

*Percentage who said *very well* or *well*, calculated excluding those who said *not applicable*.

To preserve confidentiality, these data are not shown.

(ii) How did respondents rate aspects of in-school training?

Apprenticeship Program Area	Quality of Instruction	Organization of Program	Quality of Tools & Equipment
Airframe Mechanics & Aircraft Maintenance	92%	75%	82%
Autobody/Collision & Repair	97%	90%	89%
Automotive Mechanics	92%	87%	77%
Carpentry	81%	74%	88%
Construction Heavy Equipment	92%	86%	97%
Culinary Arts	92%	79%	89%
Electrician	76%	75%	63%
Exterior & Interior Finishing Trades	77%	68%	87%
Heating, Air Conditioning, Refrigeration	85%	81%	74%
Heavy Duty Mechanics	81%	73%	65%
Horticulture & Landscaping	89%	53%	100%
Industrial Electronics	78%	56%	56%
Industrial Mechanics & Maintenance	74%	59%	56%
Lineworker	73%	33%	36%
Machinist	85%	77%	55%
Marine & Power Sport	44%	44%	42%
Medium/Heavy Vehicle & Truck Mechanics	79%	60%	56%
Mortuary Science & Embalming	67%	#	75%
Parts & Warehousing	29%	50%	27%
Pipefitter & Sprinkler Fitter	80%	85%	65%
Plumbing	85%	83%	75%
Precision Metal Working	89%	93%	91%
Steel Fabrication & Welding	87%	79%	71%
Total	82%	76%	73%

*Percentage who said *very good* or *good*, calculated excluding those who said *not applicable*.

To preserve confidentiality, these data are not shown.

(iii) How did respondents rate apprenticeship workplace training with their last employer?

Apprenticeship Program Area	Quality of Teaching/ Mentoring	Skills Taught on the Job	Exposure to a Variety of Equipment
Airframe Mechanics & Aircraft Maintenance	83%	67%	50%
Autobody/Collision & Repair	78%	82%	81%
Automotive Mechanics	75%	77%	84%
Carpentry	71%	78%	89%
Construction Heavy Equipment	61%	71%	87%
Culinary Arts	56%	69%	72%
Electrician	72%	80%	80%
Exterior & Interior Finishing Trades	78%	85%	89%
Heating, Air Conditioning, Refrigeration	60%	64%	77%
Heavy Duty Mechanics	61%	71%	76%
Horticulture & Landscaping	68%	63%	84%
Industrial Electronics	89%	89%	83%
Industrial Mechanics & Maintenance	56%	73%	69%
Lineworker	80%	80%	80%
Machinist	70%	72%	70%
Marine & Power Sport	74%	84%	89%
Medium/Heavy Vehicle & Truck Mechanics	69%	70%	74%
Mortuary Science & Embalming	83%	83%	100%
Parts & Warehousing	79%	86%	93%
Pipefitter & Sprinkler Fitter	79%	86%	86%
Plumbing	72%	80%	81%
Precision Metal Working	80%	84%	89%
Steel Fabrication & Welding	70%	81%	80%
Total	71%	78%	81%

*Percentage who said *very good* or *good*, calculated excluding those who said *not applicable*.

Appendix H: 2009 Respondents' Satisfaction Ratings, by Apprenticeship Program Area

(i) How satisfied were former students with the education they received from their institution?

Apprenticeship Program Area	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Valid responses
Airframe Mechanics & Aircraft Maintenance	17%	75%	8%	0%	12
Autobody/Collision & Repair	44%	53%	3%	0%	79
Automotive Mechanics	41%	55%	3%	1%	141
Carpentry	42%	53%	4%	1%	247
Construction Heavy Equipment	58%	36%	3%	3%	36
Culinary Arts	45%	53%	0%	3%	76
Electrician	38%	54%	7%	1%	370
Exterior & Interior Finishing Trades	37%	54%	8%	1%	142
Heating, Air Conditioning, Refrigeration	42%	55%	2%	2%	53
Heavy Duty Mechanics	35%	58%	6%	2%	113
Horticulture & Landscaping	37%	58%	5%	0%	19
Industrial Electronics	44%	44%	6%	6%	18
Industrial Mechanics & Maintenance	33%	57%	9%	1%	82
Lineworker	33%	47%	20%	0%	15
Machinist	45%	52%	3%	0%	93
Marine & Power Sport	11%	68%	16%	5%	19
Medium/Heavy Vehicle & Truck Mechanics	30%	53%	9%	7%	43
Mortuary Science & Embalming	0%	100%	0%	0%	6
Parts & Warehousing	7%	43%	43%	7%	14
Pipefitter & Sprinkler Fitter	51%	39%	7%	4%	114
Plumbing	52%	42%	4%	2%	229
Precision Metal Working	55%	45%	0%	0%	44
Steel Fabrication & Welding	47%	46%	6%	2%	133
Total	42%	51%	6%	2%	2,098

Note: Percentages are based on valid responses only.

(ii) How satisfied were former students with their overall workplace training experience?

Apprenticeship Program Area	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Valid responses
Airframe Mechanics & Aircraft Maintenance	0%	75%	0%	25%	12
Autobody/Collision & Repair	28%	67%	1%	4%	78
Automotive Mechanics	37%	54%	8%	1%	141
Carpentry	39%	56%	4%	2%	245
Construction Heavy Equipment	47%	41%	6%	6%	32
Culinary Arts	31%	58%	11%	0%	74
Electrician	42%	50%	7%	0%	371
Exterior & Interior Finishing Trades	51%	42%	5%	2%	142
Heating, Air Conditioning, Refrigeration	42%	48%	8%	2%	52
Heavy Duty Mechanics	40%	47%	8%	5%	113
Horticulture & Landscaping	32%	47%	21%	0%	19
Industrial Electronics	65%	29%	6%	0%	17
Industrial Mechanics & Maintenance	35%	46%	16%	2%	82
Lineworker	67%	33%	0%	0%	15
Machinist	32%	53%	11%	4%	93
Marine & Power Sport	63%	16%	21%	0%	19
Medium/Heavy Vehicle & Truck Mechanics	30%	56%	9%	5%	43
Mortuary Science & Embalming	67%	#	#	#	6
Parts & Warehousing	64%	36%	0%	0%	14
Pipefitter & Sprinkler Fitter	50%	47%	3%	1%	113
Plumbing	43%	49%	8%	1%	228
Precision Metal Working	36%	52%	9%	2%	44
Steel Fabrication & Welding	39%	53%	6%	2%	131
Total	41%	50%	7%	2%	2,084

Note: Percentages are based on valid responses only.

To preserve confidentiality, these data are not shown.

Appendix I: Usefulness of In-School Training when Performing Job

How useful was training when performing job?

Apprenticeship Program Area	Very Useful	Somewhat Useful	Not Very Useful	Not At All Useful	Valid responses
Airframe Mechanics & Aircraft Maintenance	67%	33%	0%	0%	12
Autobody/Collision & Repair	71%	27%	1%	1%	75
Automotive Mechanics	67%	33%	0%	0%	129
Carpentry	65%	33%	2%	0%	209
Construction Heavy Equipment	74%	22%	4%	0%	23
Culinary Arts	53%	43%	3%	1%	70
Electrician	49%	46%	4%	0%	320
Exterior & Interior Finishing Trades	51%	44%	2%	3%	126
Heating, Air Conditioning, Refrigeration	63%	35%	2%	0%	51
Heavy Duty Mechanics	57%	38%	4%	1%	105
Horticulture & Landscaping	86%	14%	0%	0%	14
Industrial Electronics	78%	22%	0%	0%	18
Industrial Mechanics & Maintenance	46%	50%	3%	1%	72
Lineworker	60%	40%	0%	0%	15
Machinist	58%	42%	0%	0%	85
Marine & Power Sport	31%	56%	6%	6%	16
Medium/Heavy Vehicle & Truck Mechanics	60%	38%	0%	3%	40
Mortuary Science & Embalming	83%	#	#	#	6
Parts & Warehousing	14%	50%	36%	0%	14
Pipefitter & Sprinkler Fitter	67%	31%	0%	2%	104
Plumbing	56%	40%	2%	1%	204
Precision Metal Working	77%	20%	3%	0%	30
Steel Fabrication & Welding	58%	37%	4%	1%	117
Total	58%	38%	3%	1%	1,855

Note: Percentages are based on valid responses only.

To preserve confidentiality, these data are not shown.



BCStats

For more information on the Apprenticeship Student Outcomes Survey,
see http://outcomes.bcstats.gov.bc.ca/APPPO/APPPO_Info.aspx