

BC STUDENT OUTCOMES

report of findings

Apprenticeship Training in British Columbia: What we can learn from the 2016 Apprenticeship Student Outcomes Survey



The BC Student Outcomes Report of Findings, *Apprenticeship Training in British Columbia: What we can learn from the 2016 Apprenticeship Student Outcomes Survey*, has been prepared by BC Stats for the BC Student Outcomes Research Forum.

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Acknowledgments

The Apprenticeship Student Outcomes (APPSO) Survey, which targets former apprenticeship students who have completed the final level of their technical training, is one of three annual surveys that make up [BC Student Outcomes](#).

The BC Student Outcomes surveys are conducted with funding from the Ministry of Advanced Education, Skills and Training and participating British Columbia post-secondary institutions. Additional funding for the APPSO Survey is provided by the Industry Training Authority.

The [British Columbia Student Outcomes Research Forum](#) oversees all aspects of the project, from data collection to the reporting of survey results. The Forum represents a longstanding partnership among the ministry responsible for post-secondary education, participating post-secondary institutions, and system-wide organizations, such as the BC Council on Admissions and Transfer, the BC Registrars' Association, and the Council of Senior Student Affairs Leaders.

BC Stats acts as steward of the Student Outcomes data and is responsible for providing operational support, day-to-day management, advice, and reports, as directed by the Forum.

Highlights

The 2016 Apprenticeship Student Outcomes (APPSO) Survey was aimed at former students who completed the final year of their apprenticeship training in a B.C. post-secondary institution between July 1, 2014 and June 30, 2015. A total of 2,311 former traditional apprenticeship students completed the survey by telephone or online between January and May 2016. The APPSO response rate for traditional apprentices was 54 percent. **The following are highlights from the survey findings for former traditional apprenticeship students only.**¹ As a result of changes to the list of programs defined as traditional apprenticeship, comparisons to results from previous years are not recommended.

Who are former traditional apprenticeship students?

- 94% were male
- 51% were in one of three program groups: Electrician, Industrial & Heavy Duty Mechanics, or Welding & Precision Production
- 76% took their in-school apprenticeship training in public institutions

What were traditional apprentices' in-school experiences?

- 93% said they were *very satisfied* or *satisfied* with their in-school training
- 84% said the quality of their instruction was *very good* or *good*
- 77% said the quality of tools and equipment was *very good* or *good*
- 88% said they had received their B.C. Certificate of Qualification

What were traditional apprentices' workplace experiences?

- 92% with workplace experience said they were *very satisfied* or *satisfied* with their overall workplace training
- 88% said their in-school technical training was related to their workplace experience
- 87% had trade-related jobs to return to after completing their in-school training; of these, 70% were still working for the same employer at the time of the survey

What are traditional apprentices doing now?

- 98% were in the labour force (employed or looking for work)
- 8.5% of those in the labour force were unemployed
- 90% were employed
- Of the former traditional apprenticeship students who were employed:
 - 98% were working full-time
 - 6% were self-employed
 - 91% said their employment was related to their in-school training
 - 93% said the knowledge and skills they gained through their training had been *very useful* or *somewhat useful* in performing their job
 - \$32 was the median hourly wage

¹ Traditional apprenticeship programs are programs with multiple levels of in-school technical training taken during block release periods from work. These programs result in certification after completion of all levels of the program.

Introduction

The apprenticeship training system in B.C. includes the Industry Training Authority, public post-secondary institutions, private training institutions, and employers. Currently, apprenticeship training is available in more than 100 trades, including 50 Interprovincial Red Seal trades.² The majority of apprenticeship training is provided on-the-job, while approximately 20 percent is delivered as in-class technical training through a post-secondary institution or private training provider.

The majority of apprenticeships require a minimum of four years to complete, though they vary by occupation, ranging from one to five years. A successful apprentice is one who completes the in-school technical training and the required work hours, passes examinations, and is recommended for certification by their sponsoring employer to earn a “ticket” in a skilled trade. That credential, a Certificate of Qualification (C of Q), is issued by the Industry Training Authority on behalf of the Province of British Columbia.

The ministries of Advanced Education, Skills and Training (AEST) and Jobs, Trade and Technology (JTT), the Industry Training Authority (ITA), and the institutions that provide technical training share a commitment to expand and improve delivery of apprenticeship training in British Columbia. Information provided by the annual Apprenticeship Student Outcomes Survey is an important part of that process.

About the 2016 Apprenticeship Survey

The 2016 Apprenticeship Student Outcomes (APPSO) Survey is the twelfth annual survey of former apprenticeship students. Former students who completed their apprenticeship training at a B.C. post-secondary institution between July 1, 2014 and June 30, 2015 were eligible for this survey. These former students were surveyed by telephone and online from January to May 2016.

In total, 4,787 former apprenticeship students were eligible to complete the survey. Of these, 4,290 had taken traditional apprenticeship programs, which are programs with multiple levels of in-school technical training taken during block release periods from work. These programs result in certification only upon completion of all levels of the program. There were 2,311 traditional apprenticeship respondents, making their response rate 54 percent.³

The remainder of those eligible for the survey (n = 497) had taken progressive credential programs. Progressive credential programs are those that provide both on-the-job training and in-school technical training and that result in certification upon completion of each sequential training course for certain programs.⁴ There were 254 progressive credential respondents, resulting in a response rate of 51 percent.

***Traditional apprenticeship programs** have multiple levels of in-school technical training taken during block release periods from work.*

***Progressive credential programs** provide both on-the-job training and in-school technical training that result in certification upon completion of each sequential training course for certain programs.*

To see response rates by institution and by program group, see [Appendix A: Apprenticeship Survey Methodology](#).

2 The Red Seal is recognized across Canada as a signal that the apprentice has passed a standardized national exam.
3 There were 24 former ACE IT students who responded to the survey—13 traditional apprentices and 11 progressive credential apprentices.
4 Starting in 2010, the cohort selection criteria for the APPSO Survey were changed to include former students from these progressive credential programs.

Traditional apprenticeship respondents had completed apprenticeship programs from 38 post-secondary institutions or training organizations (14 public and 24 private). Progressive credential apprenticeship respondents attended programs from 11 post-secondary institutions or training organizations (9 public and 2 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.

Data from the apprenticeship student survey are currently used by AEST and ITA for policy development and to monitor the effectiveness of the training 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 pre-apprenticeship trades training students is currently collected in the annual Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey, which provides AEST and the institutions with valuable outcomes information for non-apprenticeship and pre-apprenticeship trades programs.

For the 2016 APPSO Survey, the list of traditional apprenticeship and progressive credential programs was refined, leading to a more accurate picture of these two groups of former students. As a result of these changes, comparisons to previous years were not possible.

About this report

This report presents a summary of the findings for the 2016 APPSO Survey. The majority of the results presented are for respondents who took **traditional apprenticeship training**. Where possible, the results for **progressive credential programs** are also presented.

When the terms *former students* or *former apprentices* are used, they refer to both the former traditional apprenticeship students **and** the former progressive credential apprenticeship students who responded to the 2016 Apprenticeship Student Outcomes survey. When results are presented for a particular apprenticeship group, the group—that is, former traditional apprentices or former progressive credential apprentices—will be specified.

The report is organized into the following sections:

- details about the former students who were surveyed and what they studied;
- their in-school experiences;
- their workplace training experiences; and
- their subsequent labour force participation, employment, and occupations.

Survey respondents had apprenticed in a variety of trades. The apprenticeship programs named in this report have been organized according to the Classification of Instructional Programs (CIP) coding and grouped into nine categories to simplify reporting. To see how these program groups relate to institutions' program names, see the Excel file in [Appendix B: Apprenticeship Program Groups and Institutions' Programs](#).

Who are former apprenticeship students?

Former apprenticeship students who responded to the 2016 Apprenticeship Student Outcomes Survey were asked about their previous education, including other trades training and credentials already completed. They were also asked about their Aboriginal identity. Gender information was collected from administrative records.

Demographic breakdown

Former apprentices were typically men, and men made up the majority in each program group, regardless of apprenticeship type. Women who completed traditional apprenticeships tended to take Culinary Arts & Personal Services programs. Among progressive credential programs, women were most likely to be found in Culinary Arts & Personal Services or Industrial & Heavy Duty Mechanics programs.

Program group	Female apprentices	
	Progressive credential % women in program group	Traditional apprentices % women in program group
Automotive & Other Mechanics	#	3%
Carpentry	-	#
Culinary Arts & Personal Services	23%	43%
Electrician	-	4%
Industrial & Heavy Duty Mechanics	19%	3%
Plumbing	-	#
Welding & Precision Production	#	5%
Other Construction Trades	-	6%
Other Trades	-	15%
Total	8%	6%

Few former apprentices were women.

Female apprentices were most commonly found in Culinary Arts & Personal Services programs.

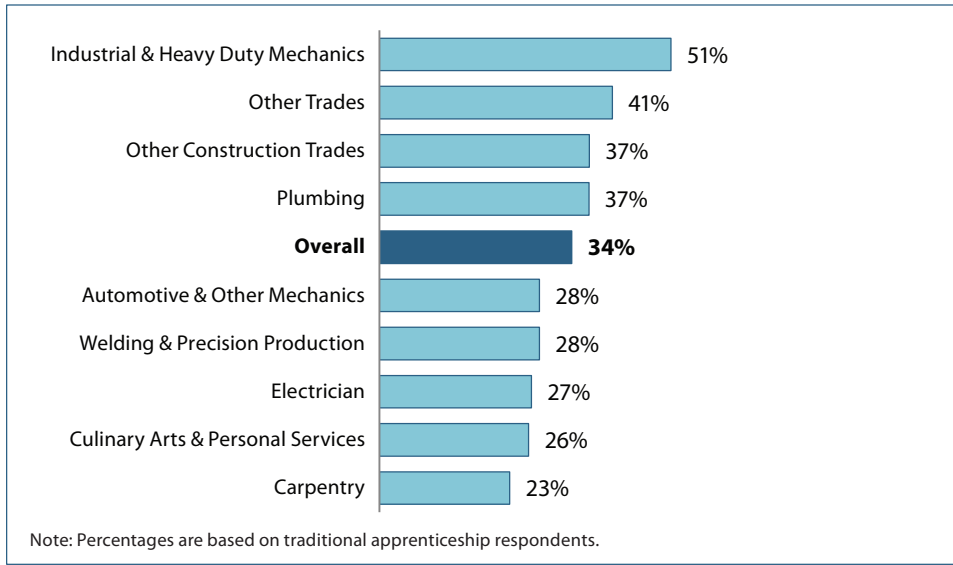
Note: Among traditional apprenticeship respondents, there were 142 women. Among progressive credential respondents, there were 21 women. Low numbers (n<5) have been masked to preserve confidentiality.

Overall, 92 percent of former apprentices were born in Canada. Of the traditional apprenticeship respondents whose country of origin was Canada, 8 percent identified themselves as Aboriginal. Among Canadian-born progressive credential apprenticeship respondents, 12 percent self-identified as Aboriginal.

Approximately one-third of former apprentices had to relocate from their home community to attend their in-school training—34 percent of traditional apprentices relocated and 35 percent of progressive credential apprentices moved to attend their training. Relocation was most prevalent among Industrial & Heavy Duty Mechanics—51 percent of those from traditional programs moved and 85 percent from progressive programs relocated.⁵

⁵ Program group results are not shown for former progressive credential apprentices due to small group sizes.

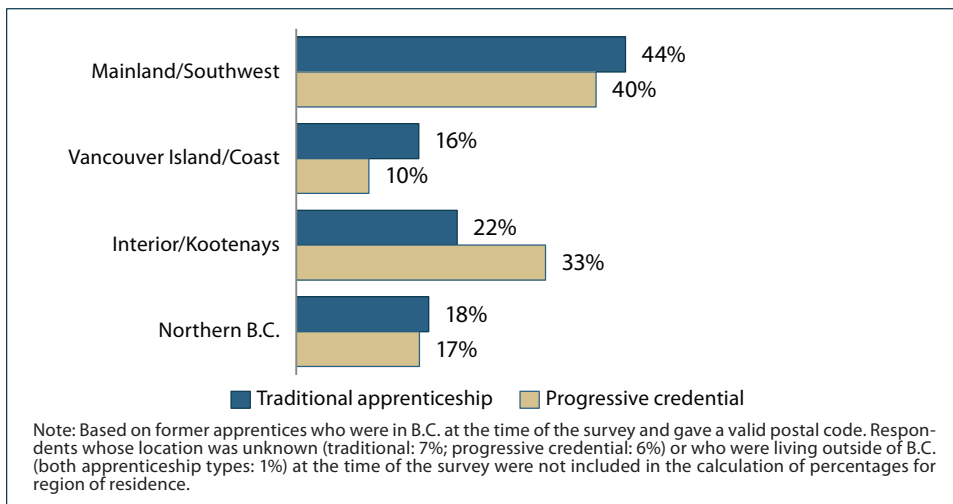
Relocation to attend program – traditional apprentices



Traditional:
Relocating to attend a program was most common among former Industrial & Heavy Duty Mechanics students.

At the time of the survey, the Mainland/Southwest region was the most popular region of residence for former apprentices. Progressive credential respondents were more likely than traditional apprentices to live in the Interior/Kootenays, while traditional apprenticeship respondents were more likely than their counterparts to live in the Vancouver Island/Coast region.

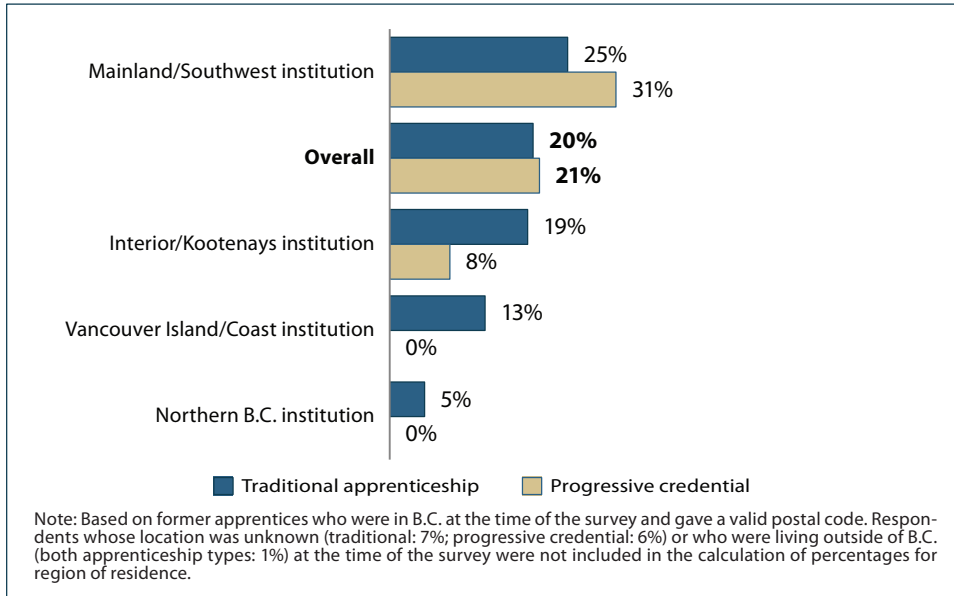
Current region of residence



The Mainland/Southwest region was a popular region of residence among former apprentices.

Former apprentices were likely to remain in the region in which they did their training. Former traditional apprentices who studied in Northern B.C. were most likely to remain in that region. Among former progressive credential respondents, those who attended Mainland/Southwest institutions were least likely to remain in that region.

Moved after training

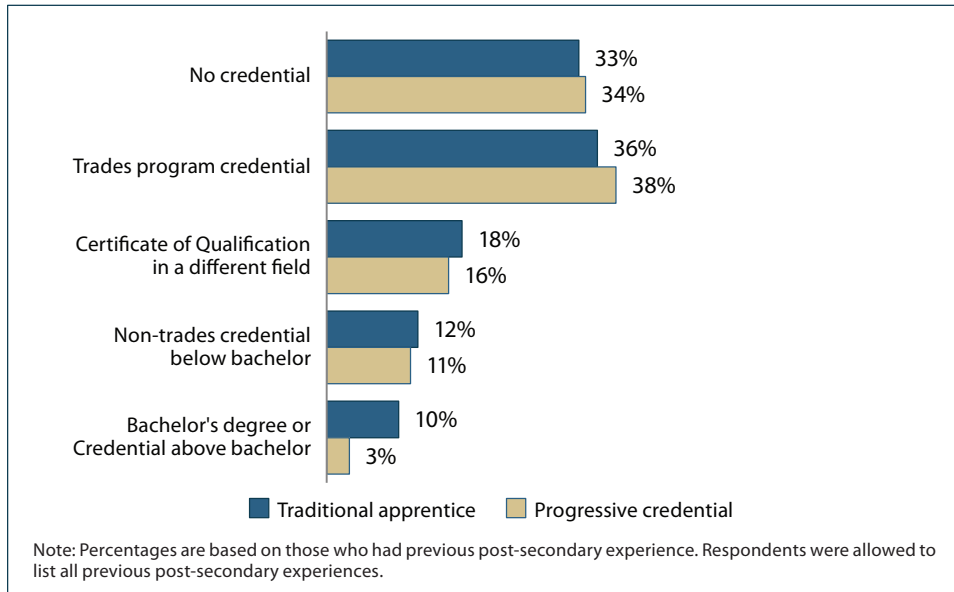


Traditional:
Apprentices who studied in the north tended to stay there after training.

Progressive:
Apprentices who studied in the Northern B.C. and Vancouver Island/Coast regions remained in those regions.

Prior to starting their program, almost half (48 percent) of the traditional apprenticeship respondents and more than four out of ten (43 percent) progressive credential respondents had taken post-secondary education. More than one third of those who had previous post-secondary had a trades program credential.

Previous post-secondary education



Of those with previous post-secondary experience, more than a third received a trades program credential.

Programs

Apprenticeship programs have been organized into nine program groups.^{6,7} In 2016, half of the traditional apprenticeship respondents had taken Electrician, Industrial & Heavy Duty Mechanics, or Welding & Precision Production programs.

Almost half of the former progressive credential apprentices had taken Automotive & Other Mechanics programs.

Program group	Program group			
	Number of former progressive credential apprentices	Percent of former progressive credential apprentices	Number of former traditional apprentices	Percent of former traditional apprentices
Electrician	-	-	466	20%
Industrial & Heavy Duty Mechanics	52	21%	380	16%
Welding & Precision Production	53	21%	326	14%
Plumbing	-	-	282	12%
Automotive & Other Mechanics	119	47%	230	10%
Other Trades	-	-	217	9%
Carpentry	-	-	211	9%
Other Construction Trades	-	-	101	4%
Culinary Arts & Personal Services	30	12%	98	4%
Total	254	100%	2,311	100%

Traditional:
Electrician programs were the most common trades in 2016.

Progressive:
Almost half were in Automotive & Other Mechanics programs.

The former traditional apprenticeship students who were interviewed had completed technical training in 38 different institutions across British Columbia. Progressive credential respondents attended training in 11 different institutions (9 public and 2 private). Apprentices were more likely to have attended public institutions than private.

- 6 The hundreds of courses offered by institutions have been grouped using their CIP codes into nine program categories for reporting. The category “Other Construction Trades” included programs such as Roofer and Glazier. Another category, “Other Trades,” included Arborists, Utility Arborists, Landscape Horticulturalists, Dairy Production Technicians, Mobile Crane Operators, and Heavy Equipment Operators. To see which courses from each institution are included in each program group, refer to Appendix B: Apprenticeship Program Groups and Institutions’ Programs.
- 7 In 2015, a review of the apprenticeship programs was done to report more accurately on the traditional apprenticeship and progressive credential programs. As a result of this review, some programs were reclassified. Comparisons across years are not recommended.

Attendance at public institutions

Public Institutions	% of total progressive credential respondents	% of total traditional apprentice respondents
British Columbia Institute of Technology	--	26%
Okanagan College	31%	11%
College of New Caledonia	3%	9%
Camosun College	--	9%
Thompson Rivers University	--	8%
Vancouver Community College	#	5%
Vancouver Island University	8%	5%
Kwantlen Polytechnic University	39%	5%
North Island College	--	4%
College of the Rockies	#	3%
Northwest Community College	#	3%
Northern Lights College	#	2%
University of the Fraser Valley	9%	2%
Selkirk College	--	2%
Total	94%	76%

Traditional:
Three-quarters of traditional apprentices attended public institutions.

Progressive:
More than 9 out of 10 progressive credential respondents went to public institutions.

Attendance at private institutions – traditional apprentices

Private Institutions	% of traditional apprenticeship respondents
Pacific Vocational College	4%
UA Piping Industry College of B.C.	2%
Joint Apprentice Refrigeration Trade School	2%
IUOE Local 115 Training Association	2%
The Finishing Trades Institute of BC	2%
BC Hydro	2%
RCABC Educational Foundation	2%
Aboriginal Skills Group	1%
Electrical Industry Training Institute	1%
Taylor Pro Training	1%
Funeral Service Association of BC	1%
Enform Canada	1%
Sheet Metal Workers Training Centre	1%
Trowel Trades Training Association	1%
BC Wall & Ceiling Association	1%
Piledrivers, Divers, Bridge, Dock, Loc. 2404	1%
Quadrant Marine Institute	<1%
Greenbelt Veterinary Services	<1%
Sprott-Shaw College	<1%
Christian Labour Association of Canada	<1%
Fenestration Education Society of BC	<1%
Southern Interior Construction Association	#
BC Floor Covering Joint Conference Society	#
Broadband Institute	#
Total	24%

Twenty-six private institutions were represented in the 2016 survey.

Note: Low numbers (n < 5) have been masked (#) to preserve confidentiality. Results are for former traditional apprentices. Progressive credential respondents attended two additional private institutions (not shown above).

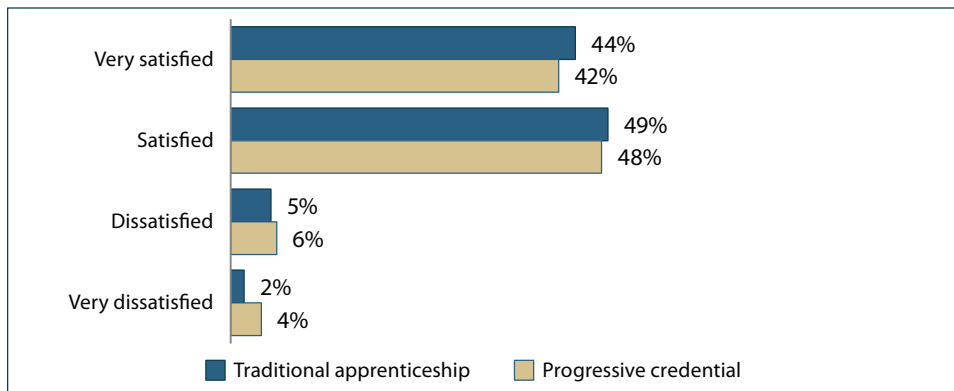
What were their in-school experiences?

Former apprenticeship students were asked to evaluate several aspects of their in-school training. They evaluated course availability, quality of instruction, and program content.

Quality of in-school training

Former apprenticeship students typically said they were *very satisfied* or *satisfied* with the in-school training they received as part of their program.

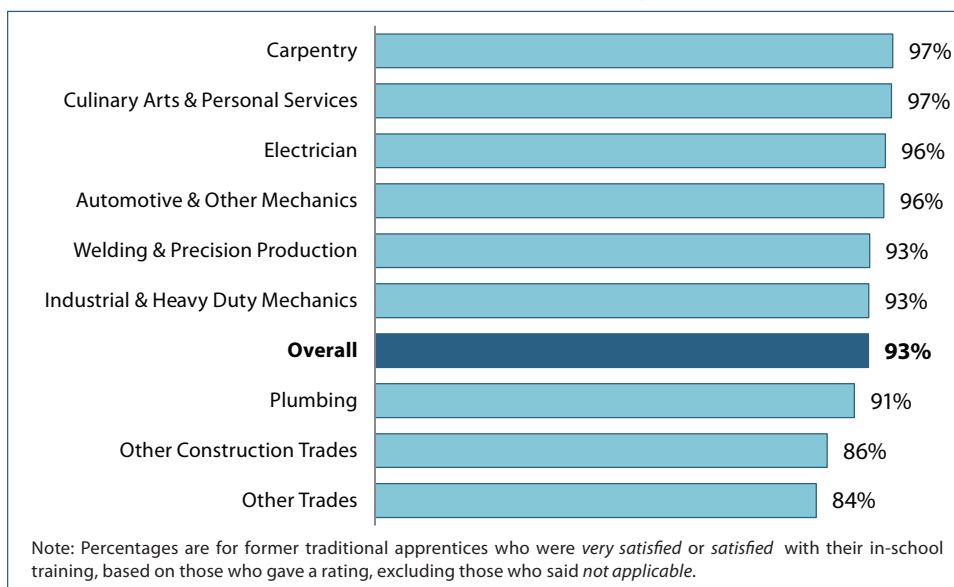
Satisfaction with in-school training – overall



Former apprentices were satisfied with their in-school training.

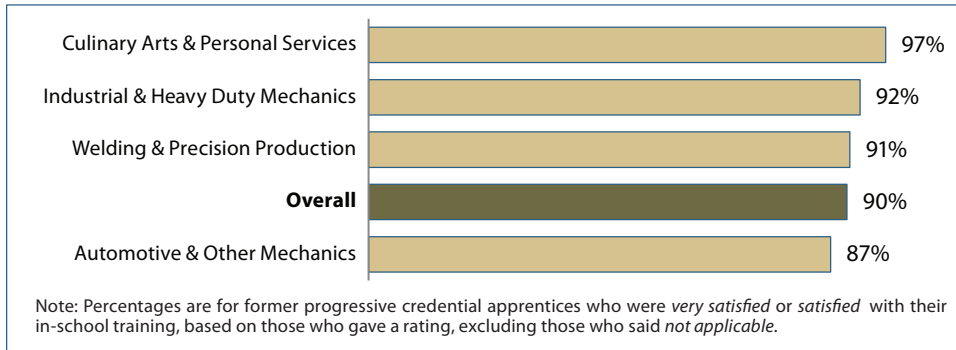
In most program areas, more than nine out of ten former traditional apprentices were satisfied with their in-school training. Former Carpentry and Culinary Arts & Personal Services apprentices reported the highest satisfaction levels. Among progressive credential respondents, satisfaction with in-school training was highest for Culinary Arts & Personal Services apprentices.

Satisfaction with in-school training – traditional apprentices



Traditional:
Satisfaction with in-school training was highest among Carpentry and Culinary Arts & Personal Services apprentices.

Satisfaction with in-school training – progressive credential

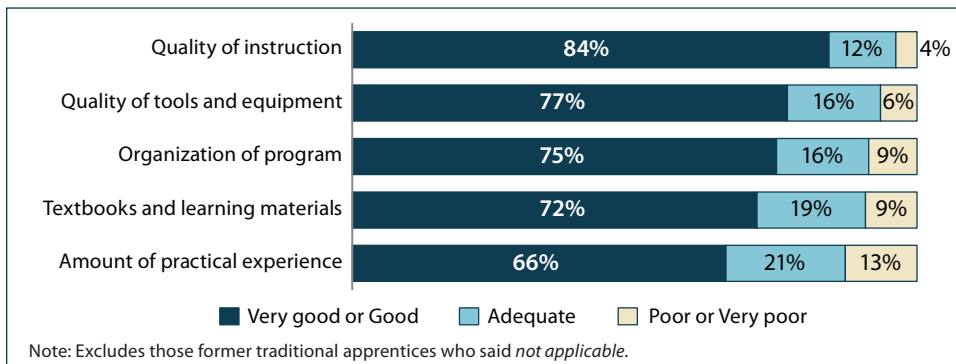


Progressive:
Almost all Culinary Arts & Personal Services apprentices were satisfied with their in-school training.

Former apprenticeship students were asked to rate aspects of their in-school training using a 5-point scale: *very good*, *good*, *adequate*, *poor*, or *very poor*. Very few respondents indicated that these items were *not applicable*.

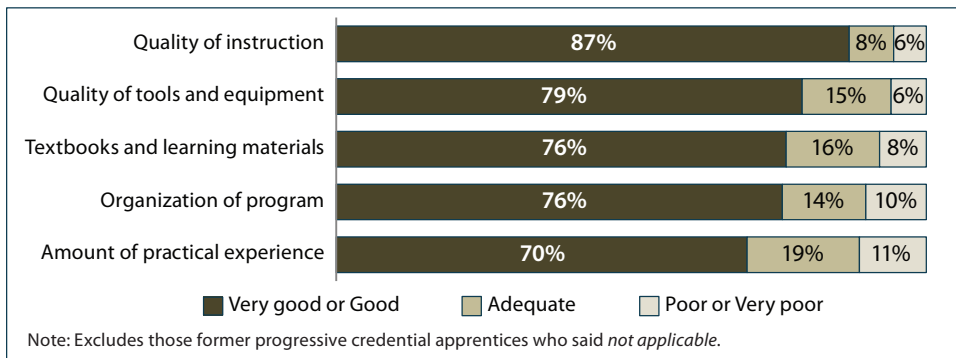
Former traditional apprentices rated the quality of instruction the highest, followed by quality of tools and equipment and program organization. Former apprentices from progressive credential programs gave similar ratings.

Quality of in-school training – traditional apprentices



Quality of instruction was rated highly by former apprentices.

Quality of in-school training – progressive credential

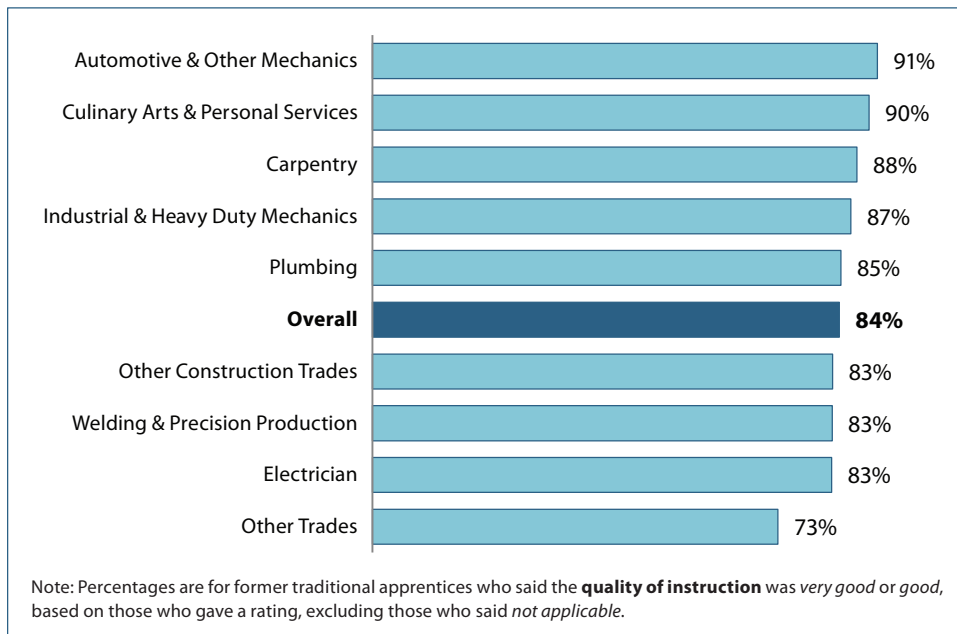


Traditional apprenticeship respondents from different program groups had varying things to say about the quality of instruction, organization of the program, amount of practical experience they received, and the quality of tools and equipment used in their program.

Although the differences among progressive credential program groups were not significant—with the exception of ratings of the amount of practical experience—those from Culinary Arts & Personal Services and Welding & Precision Production programs were most likely to give positive ratings to each aspect of their in-school training. Industrial & Heavy Duty Mechanics were least likely to have something positive to say.

More than nine out of ten former Automotive & Other Mechanics apprentices from traditional programs reported that the quality of instruction was *very good* or *good*. The lowest ratings were from former traditional apprentices from Other Trades programs.

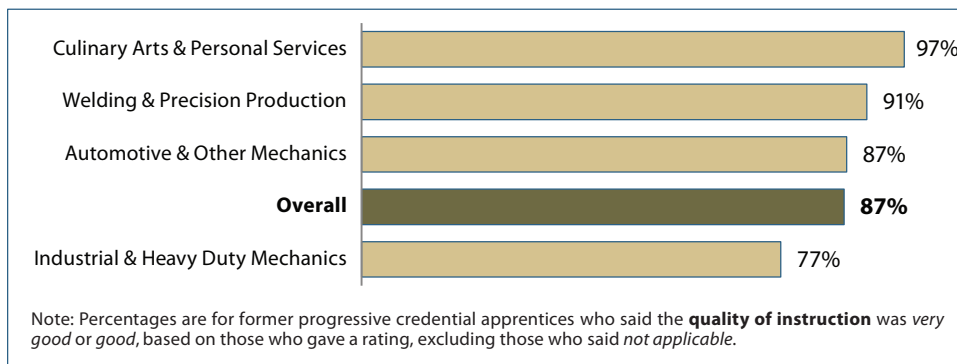
Quality of instruction – traditional apprentices



Traditional:
More than 8 out of 10 former apprentices gave the quality of instruction positive ratings.

Almost all Culinary Arts & Personal Services respondents from progressive credential programs gave high ratings when asked about the quality of the instruction they received.

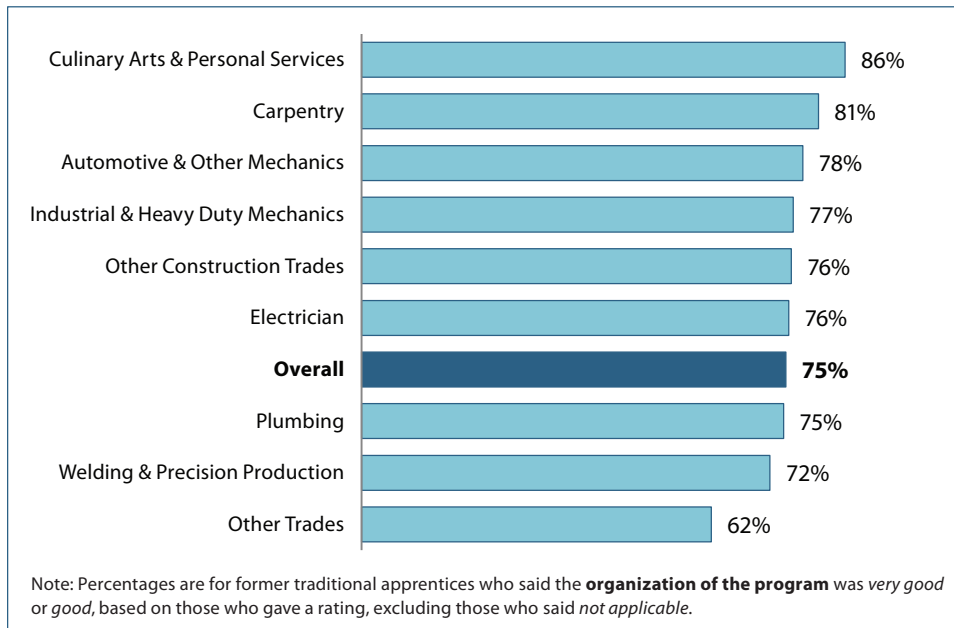
Quality of instruction – progressive credential



Progressive:
Almost all former Culinary Arts & Personal Services apprentices rated the quality of instruction positively.

When asked about the organization of their program, more than eight out of ten former Culinary Arts & Personal Services traditional apprentices said that it was *very good* or *good*, while fewer than two-thirds of those from Other Trades programs gave high ratings to this aspect of their in-school training.

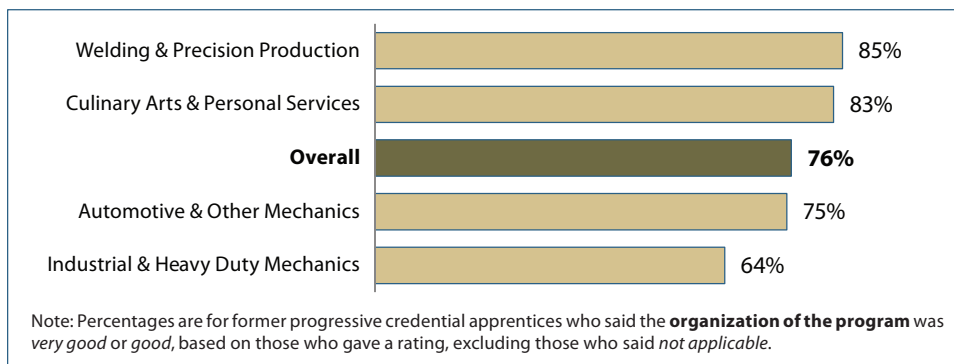
Organization of the program – traditional apprentices



Traditional:
Former Culinary Arts & Personal Services apprentices were most likely to give program organization a high grade.

Among former progressive credential apprentices, program organization was viewed most favourably by Welding & Precision Production respondents, and least favourably by those from Industrial & Heavy Duty Mechanics programs.

Organization of the program – progressive credential

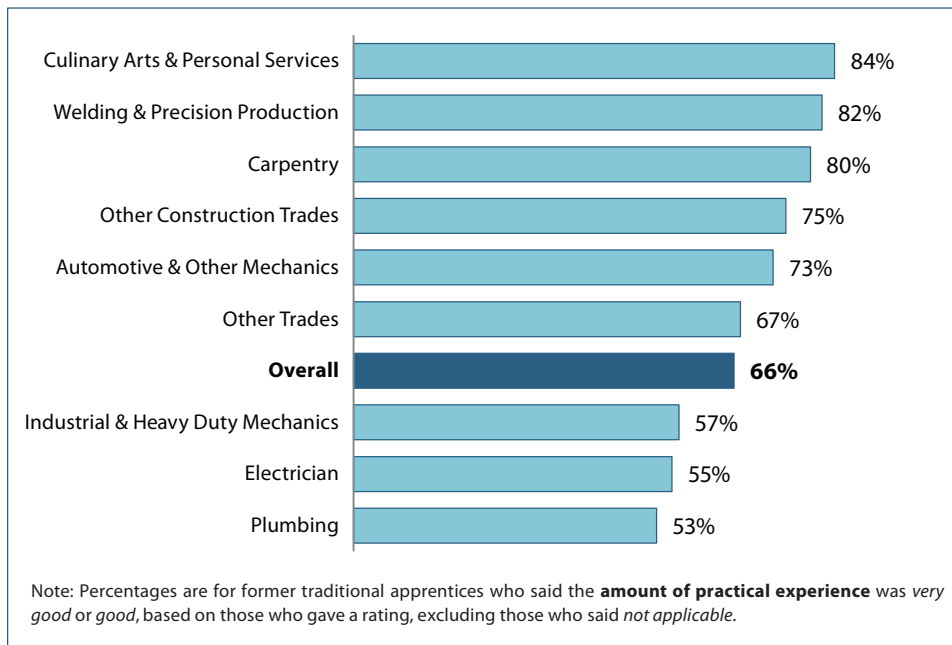


Progressive:
Three-quarters said program organization was *very good* or *good*.

Of all of the aspects of in-school training, ratings of the amount of practical experience varied the most across apprenticeship program groups—varying by over 30 percentage points for traditional apprentices and 42 percentage points for those from progressive credential programs.

Former traditional apprentices in Culinary Arts & Personal Services were most likely to say the amount of practical experience they received was *very good* or *good*, and those from Plumbing programs were least likely.

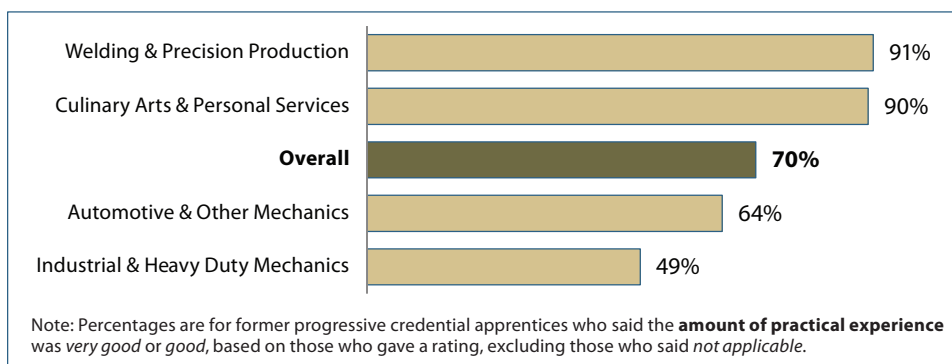
Amount of practical experience – traditional apprentices



Opinions about the amount of practical experience varied widely across traditional and progressive credential apprenticeship program groups.

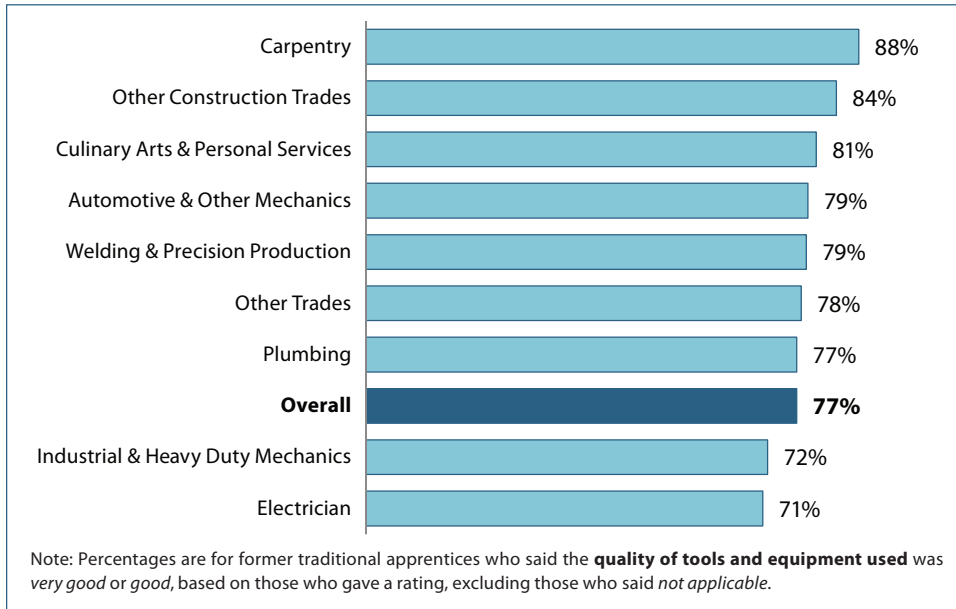
Among progressive credential respondents, those from Welding & Precision Production and Culinary Arts & Personal Services programs tended to say they had a good amount of practical experience, while those from Industrial & Heavy Duty Mechanic programs were far less likely to share this opinion.

Amount of practical experience – progressive credential



More than three-quarters of former apprentices said that the quality of the tools and equipment they had used was *very good* or *good*. Ratings varied among traditional apprenticeship program groups. Almost nine out of ten traditional Carpentry apprenticeship respondents gave positive ratings; the lowest ratings were from former Industrial & Heavy Duty Mechanics and Electrician apprentices.

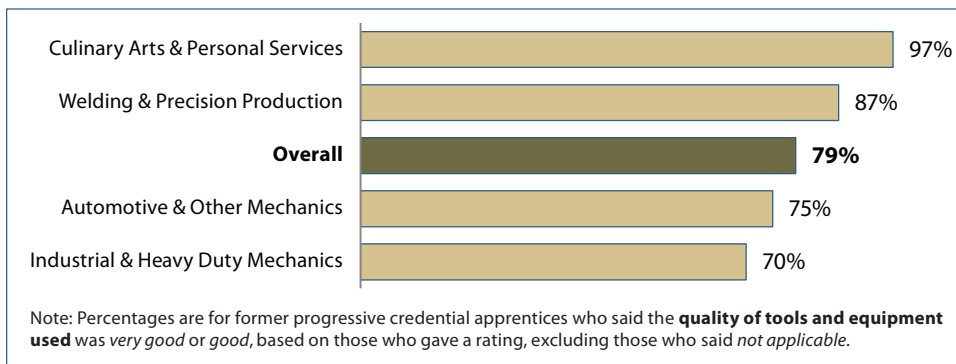
Quality of tools and equipment used – traditional apprentices



Traditional:
Former Carpentry apprentices gave the highest ratings for tool and equipment quality.

For progressive credential respondents, almost all Culinary Arts & Personal Services students gave their equipment and tools high grades, while high ratings were least common among mechanics.

Quality of tools and equipment used – progressive credential

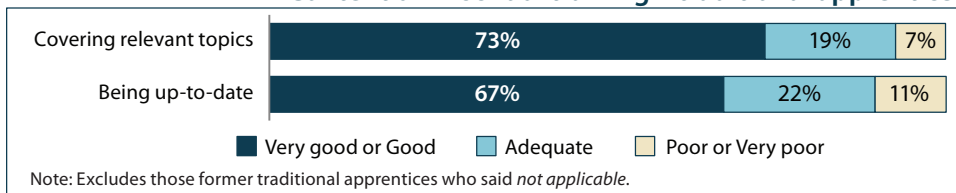


Progressive:
More than three-quarters said the quality of tools and equipment was very good or good.

Former apprenticeship students were asked to rate the content of their in-school training in two areas: covering the topics most relevant to their field and being up-to-date. These areas were rated using the same 5-point scale, from *very good* to *very poor*. The majority of respondents gave either a *very good* or *good* rating to each content area.

When asked about their program’s coverage of relevant topics, almost three-quarters of former traditional apprenticeship students said that it was *very good* or *good*.

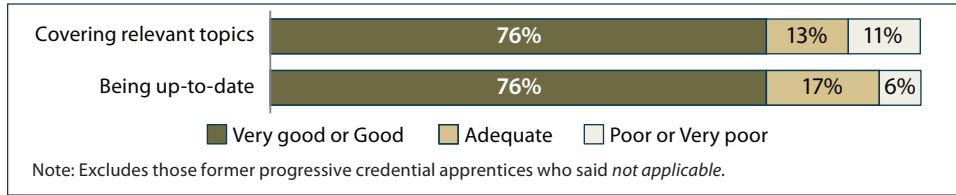
Content of in-school training – traditional apprentices



The content of in-school training got fairly high ratings from a majority of respondents.

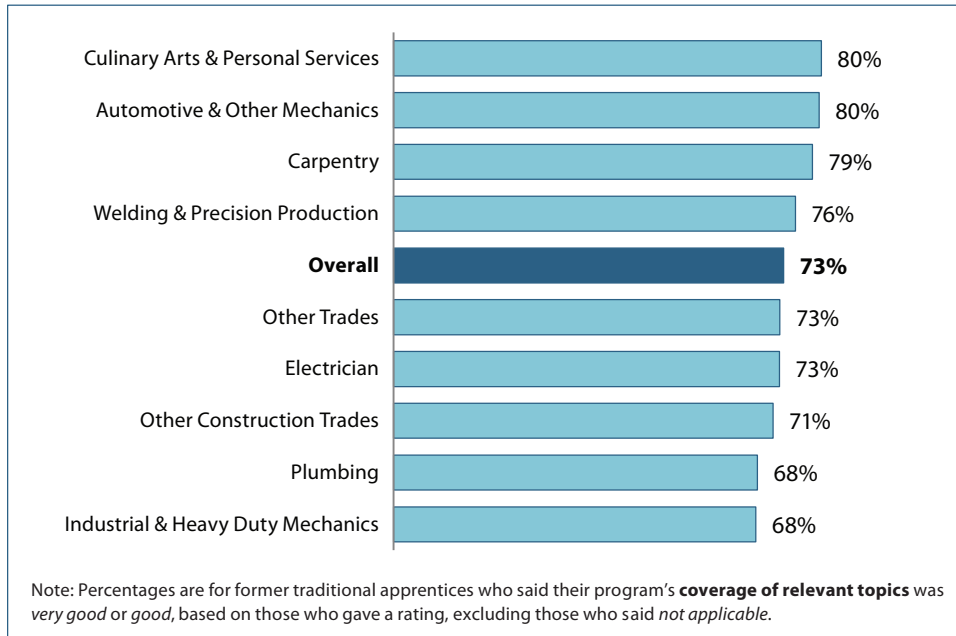
Over three-quarters of former progressive credential apprentices gave high ratings when asked about each of these two aspects of their in-school training.

Content of in-school training – progressive credential



In most program groups, two-thirds or more of the former traditional apprentices said that the courses were *very good* or *good* at covering relevant topics. Former Industrial & Heavy Duty Mechanics apprentices were least likely to report that relevant topics were addressed by their program.

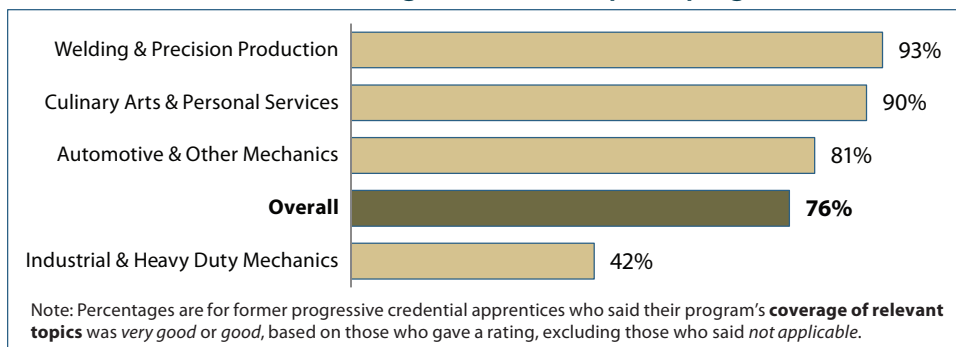
Coverage of relevant topics – traditional apprentices



Traditional:
Those from Plumbing and Industrial & Heavy Duty Mechanics programs were least likely to report program topics were relevant.

Among the progressive credential apprentices, those who had been in Industrial & Heavy Duty Mechanic programs were far less likely than their colleagues to indicate that their program had done a good job of covering relevant topics.

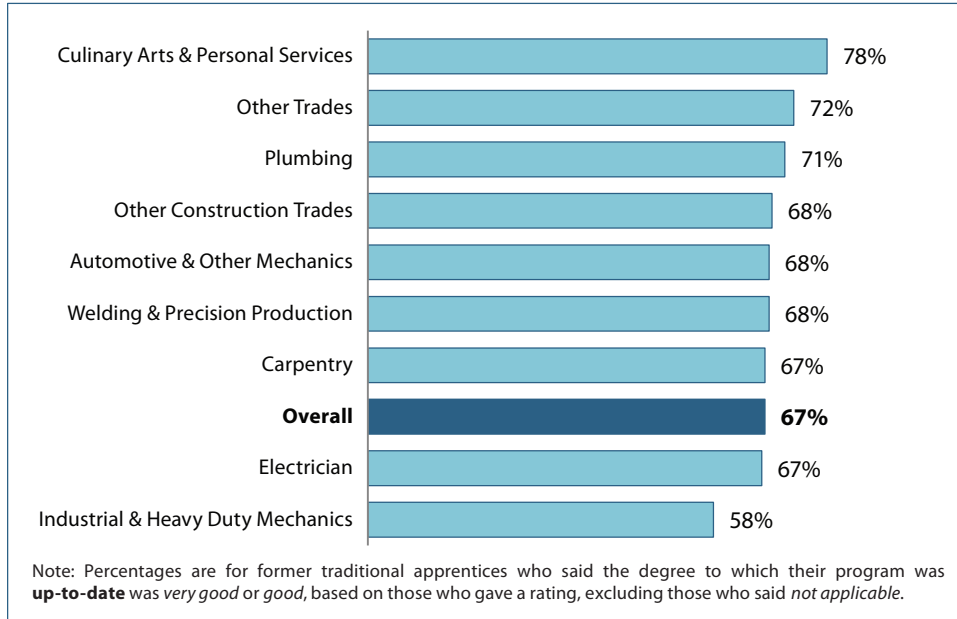
Coverage of relevant topics – progressive credential



Progressive:
Fewer than half of Industrial & Heavy Duty Mechanics said their programs did a good job of covering relevant topics.

In most program groups, two-thirds or more of the former traditional apprentices said that the courses were *very good* or *good* at staying current. Former Industrial & Heavy Duty Mechanics apprentices were least likely to report that their course material was up-to-date.

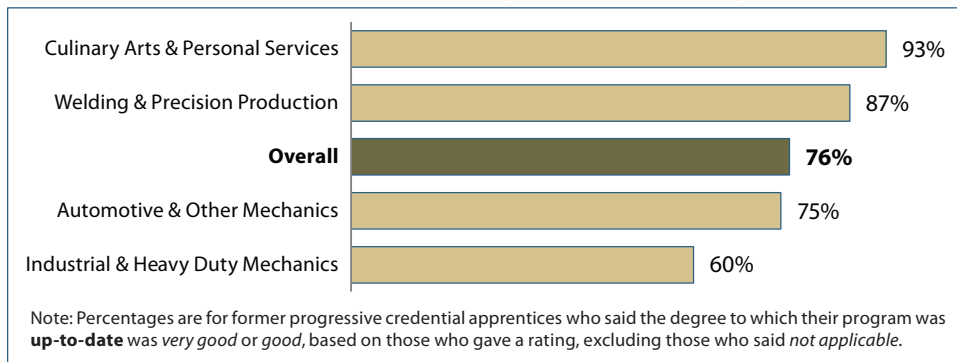
Being up-to-date – traditional apprentices



Traditional:
Industrial & Heavy Duty Mechanics were least likely to say that their programs were up-to-date.

Three-quarters of progressive credential respondents thought their courses were up-to-date. As with traditional apprentices, progressive credential apprentices from Industrial & Heavy Duty Mechanic programs were least likely to indicate that their courses were current.

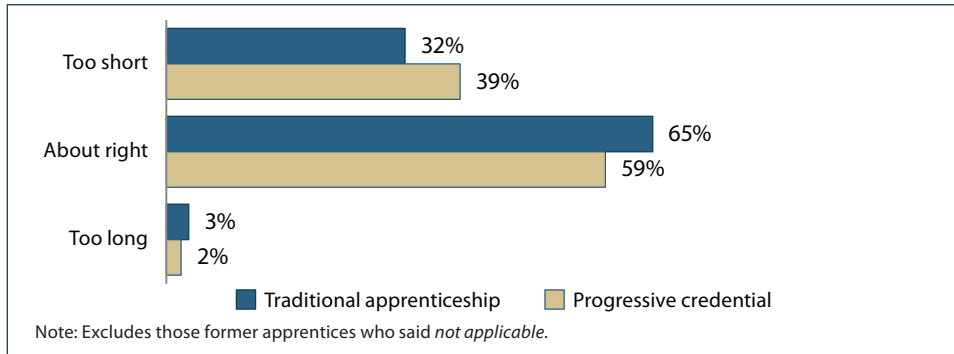
Being up-to-date – progressive credential



Progressive:
Three-quarters said their programs were up-to-date.

Former apprentices from both traditional and progressive credential programs were apt to report that their program's length had been *about right*. Few indicated that their program was *too long*.

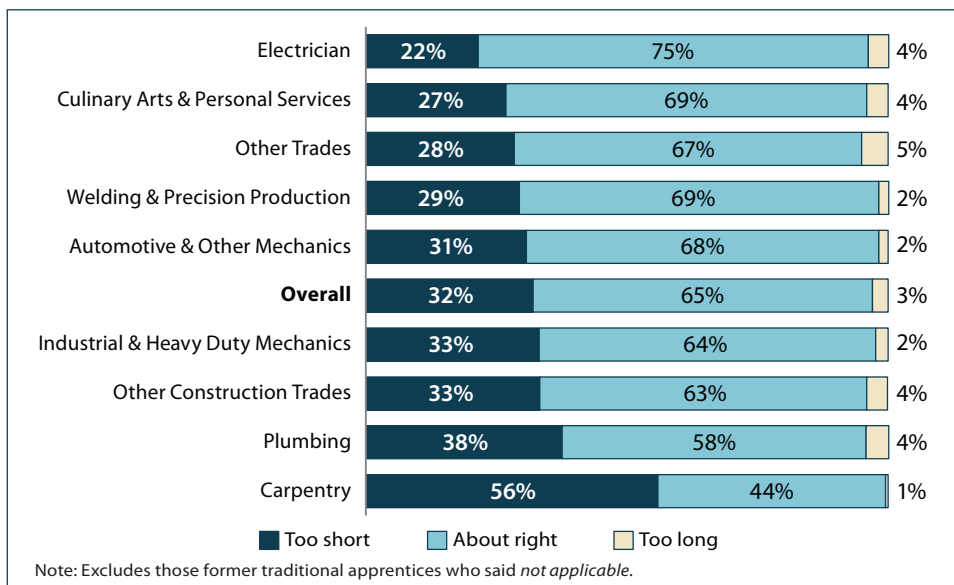
Adequacy of program length



Program length was typically seen as about right.

Former traditional apprentices' assessments of the adequacy of their program's length varied by program group. Former Electrician apprentices were most likely to say that the length of their programs were *about right*, while those from Carpentry programs were least likely to report that their programs were adequate in length.

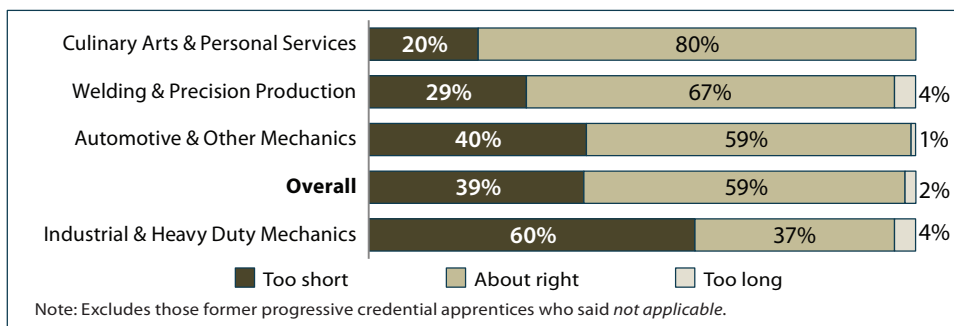
Adequacy of program length – traditional apprentices



Traditional:
Former Carpentry apprentices were most likely to say their program was too short.

Among progressive credential respondents, those from Industrial & Heavy Duty Mechanic programs were least likely to report that their program was an adequate length, while those from Culinary Arts & Personal Services were most likely to indicate that their program was a sufficient length.

Adequacy of program length – progressive credential



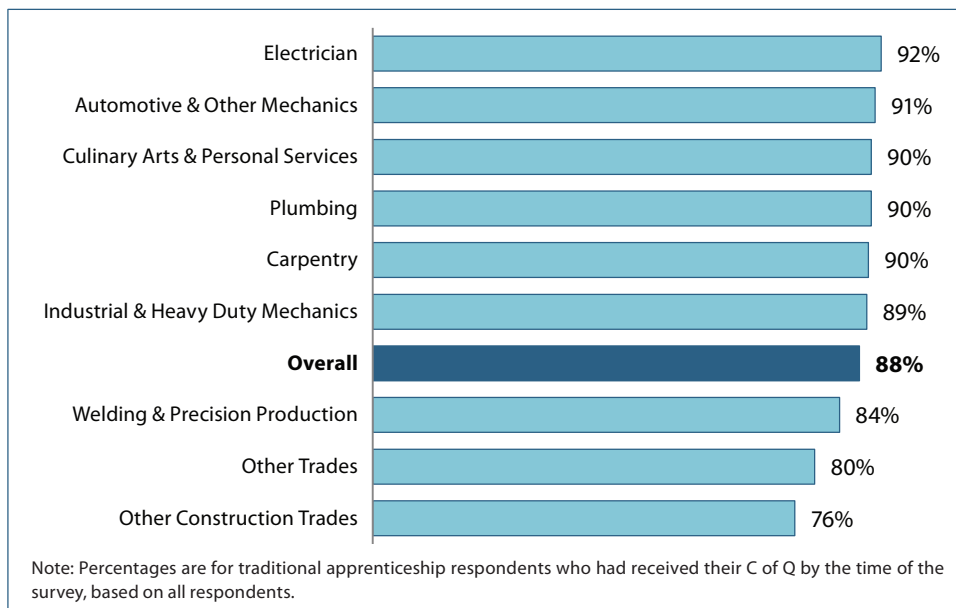
Progressive:
Industrial & Heavy Duty Mechanics were most likely to report their program was too short.

Certification

To receive the British Columbia Certificate of Qualification (C of Q), apprentices must successfully complete a number of work-based training hours, complete or successfully challenge all required levels of technical training, pass examinations, and be recommended for certification by their employer-sponsors (also referred to as employer sign-off).

At the time of the survey, 88 percent of former traditional apprenticeship students and 85 percent of those who had been enrolled in progressive credential programs said they had received their C of Q.⁸ Among former traditional apprentices, certification rates varied across program groups—ranging from 76 percent for Other Construction Trades to 92 percent among Electricians.

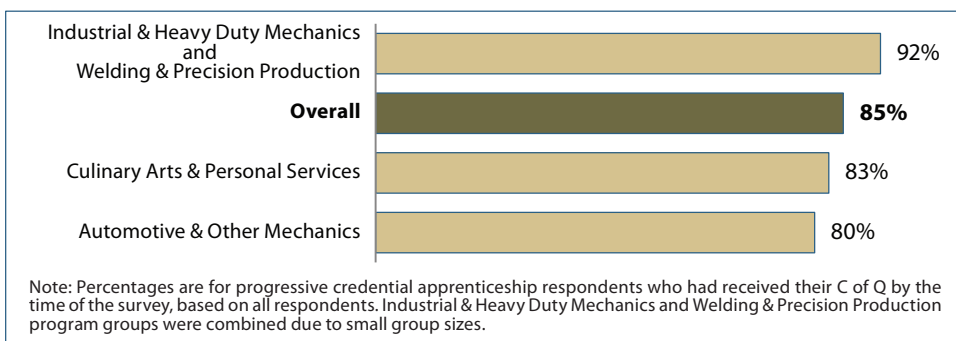
Received Certificate of Qualification – traditional apprentices



Traditional:
Electricians were most likely to have received their C of Q by the time of the survey.

Among progressive credential respondents, those from Industrial & Heavy Duty Mechanics and Welding & Precision Production programs were most likely to have received their C of Q.

Received Certificate of Qualification – progressive credential



Progressive:
Industrial & Heavy Duty Mechanics and Welding & Precision Production respondents were most likely to have received their C of Q by the time of the survey.

⁸ They may also have received Interprovincial or Red Seal endorsement.

What were their workplace experiences?

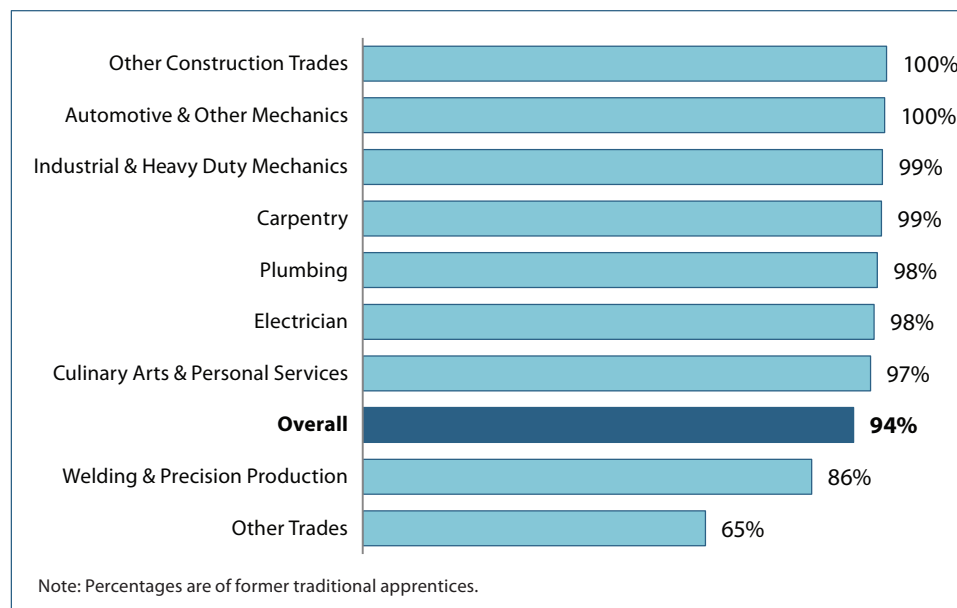
Workplace training

Former students were asked if they had been employed as an apprentice or had a work placement outside their institution. Those who had workplace experiences were asked to rate their overall satisfaction with their workplace experience and to say how related their workplace experience was to their in-school training.

While most former traditional apprentices (94 percent) and progressive credential apprentices (92 percent) said they had been employed as apprentices or had work placements outside of the institutions where they took their training, participation rates varied by program group.⁹

While work placements were very common in most traditional apprenticeship program groups, just under two-thirds of those from Other Trades reported this workplace experience. Within the Other Trades program group, more than half of the Heavy Equipment Operators had neither apprenticeships nor work placements outside of their institutions.

Apprenticeship or work placement – traditional apprentices

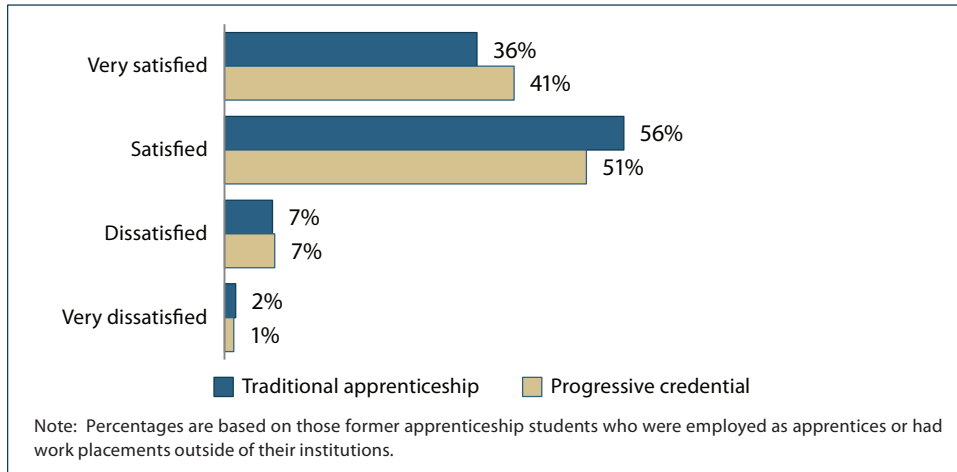


***Traditional:**
Most had been employed as an apprentice or had a work placement outside their institution.*

⁹ Program group results are not shown for former progressive credential apprentices due to small group sizes.

Both former traditional apprenticeship students and those who had taken progressive credential programs tended to be *very satisfied* or *satisfied* with their overall workplace training experience.

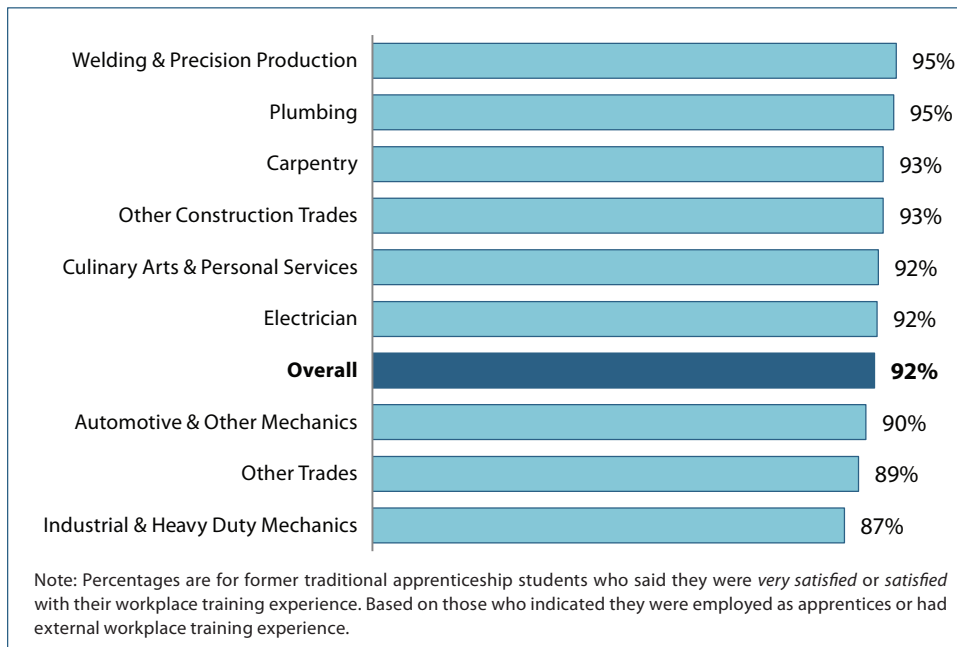
Satisfaction with workplace training experience



Former students were generally satisfied with their workplace training experience.

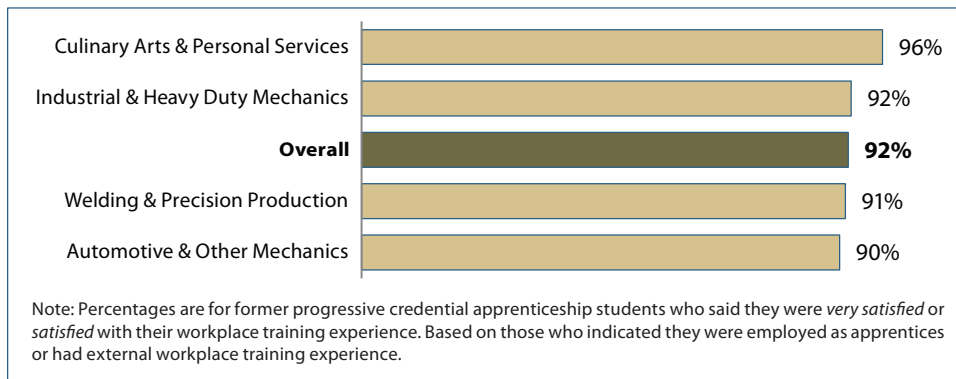
Levels of satisfaction with overall workplace experiences were high across program groups within both traditional apprenticeship and progressive credential programs.

Satisfaction with overall workplace experiences – traditional apprentices



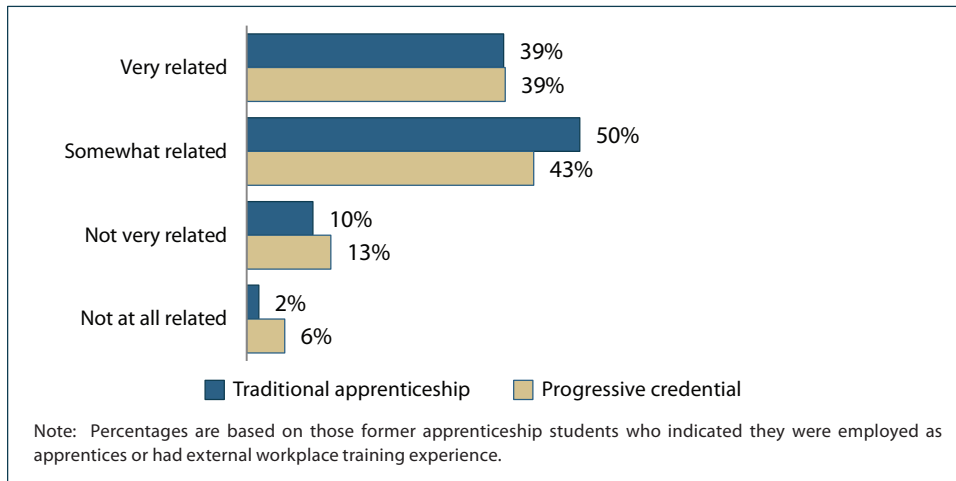
Satisfaction levels were high in all program groups for both types of apprenticeships.

Satisfaction with overall workplace experiences – progressive credential



The majority of respondents, regardless of the type of apprenticeship program they had attended, said their in-school training was *very related* or *somewhat related* to their workplace experience. Very few said their in-school and workplace training were *not at all related*.

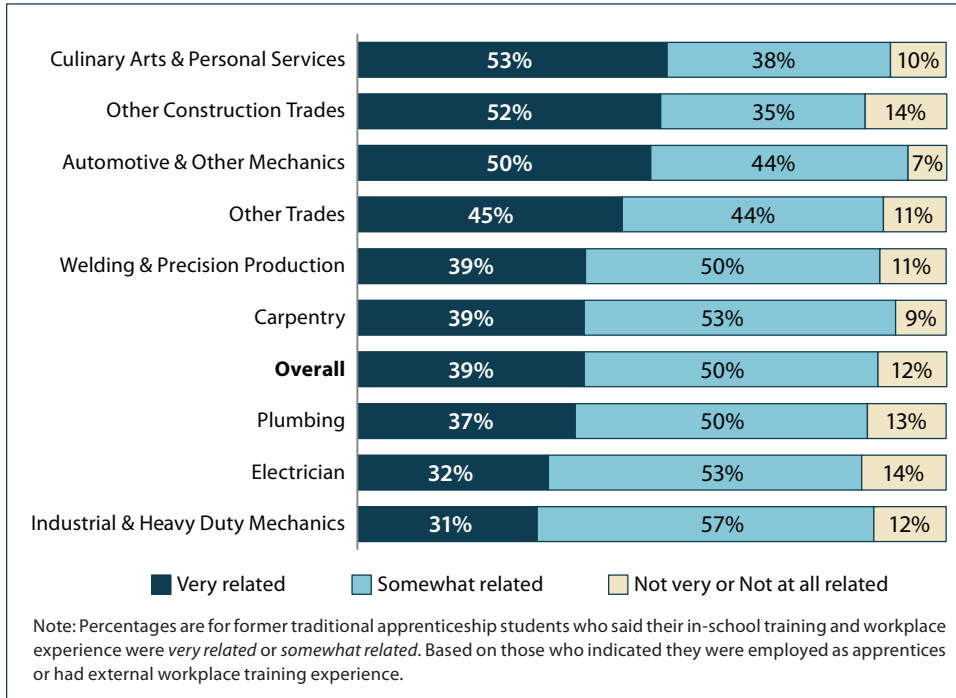
In-school training related to workplace experience



In-school training and workplace experiences were usually seen as related.

Ratings of the relationship between respondents' in-school training and their workplace experience varied by program group. Former traditional apprentices from Culinary Arts & Personal Services and Other Construction Trades programs were the most likely to say that their in-school training was *very related* to their workplace experience, while those from Electrician and Industrial & Heavy Duty Mechanics programs were the least likely to see a strong connection.

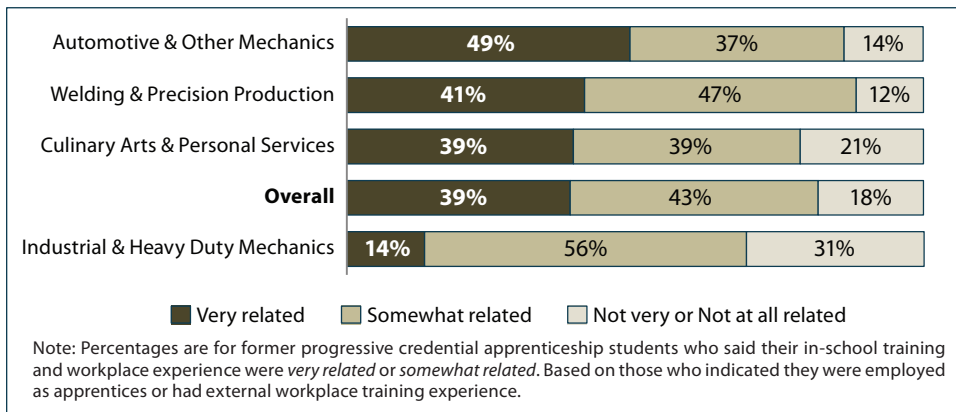
In-school training related to workplace experiences – traditional apprentices



Traditional:
Culinary Arts & Personal Services respondents were most likely say that their in-school training and workplace experiences were related.

Almost half of former Automotive & Other Mechanics who were in progressive credential programs reported a close relationship between the training they did in-school and their workplace experiences. Former Industrial & Heavy Duty Mechanics students from progressive credential programs were unlikely to see a strong relationship between their school-work and work experience.

In-school training related to workplace experiences – progressive credential

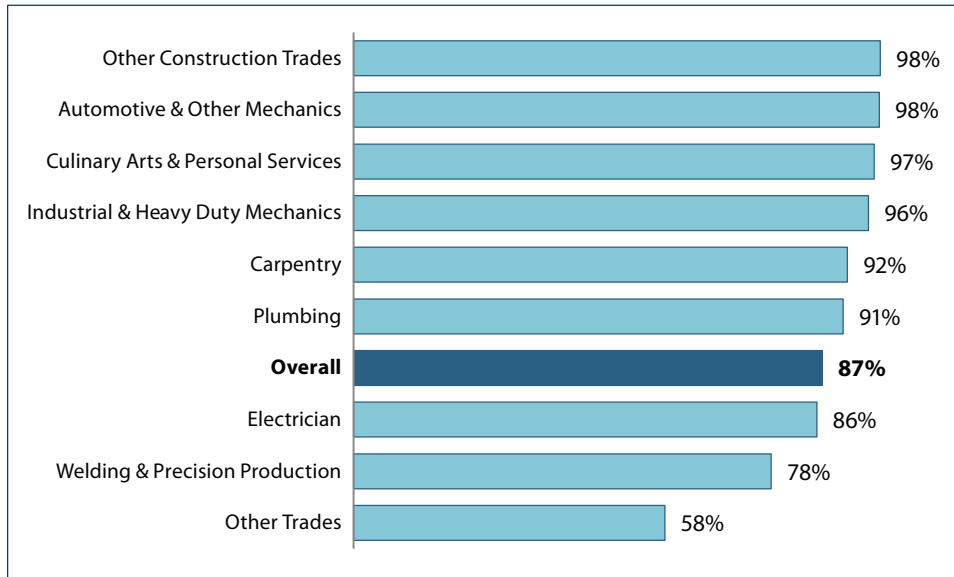


Progressive:
Industrial & Heavy Duty Mechanics were least likely to say their in-school training was related to their workplace experiences.

Trade-related job after training

Overall, almost nine out of ten former traditional apprentices had jobs in their trades to go back to after their final in-school training. Almost all former traditional apprentices from Other Construction Trades and Automotive & Other Mechanics programs returned to jobs in their trades. The rate was much lower for those from Other Trades; within this group, two-thirds of former traditional apprentices from Heavy Equipment Operator programs did not go back to trade-related jobs.

Returned to trade-related jobs after training – traditional apprentices



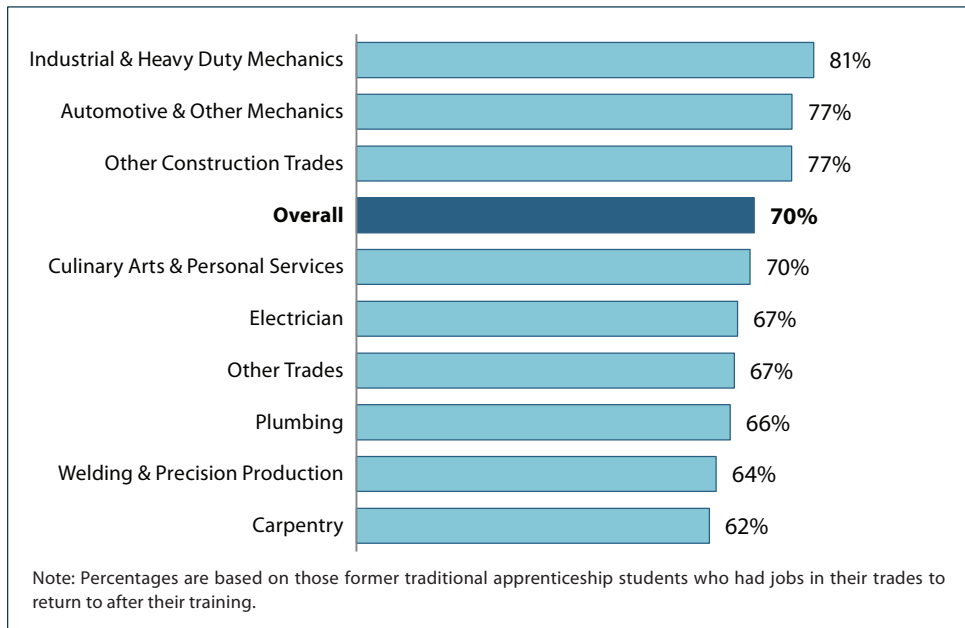
Traditional:
Almost nine out of ten had trade-related jobs to return to after they completed their in-school training.

Among progressive credential respondents 82 percent went back to a trades-related job. Those from Welding & Precision Production Programs were least likely to return to jobs in their trades—just 43 percent did so. In the other program groups, nine out of ten or more returned to trade-related jobs after training.¹⁰

Seven out of ten of the former traditional apprenticeship students who said they had jobs to return to after their training were still working for the same employer at the time of the survey. Continuing with the same employer varied by program group. Respondents from Industrial & Heavy Duty Mechanics programs were the most likely to remain with the same employer, while those from Carpentry programs were the least likely.

¹⁰ Program group results are not shown for former progressive credential apprentices due to small group sizes.

Working for the same employer – traditional apprentices

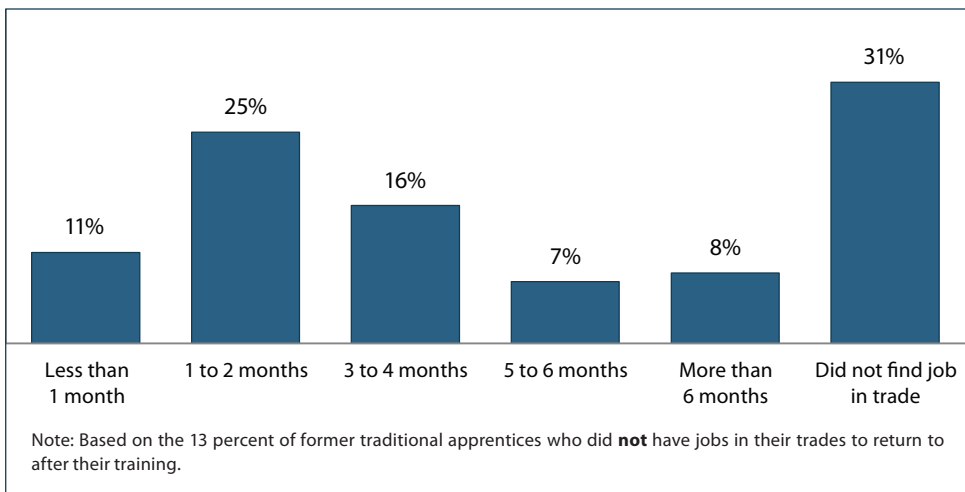


Traditional:
Apprentices who had jobs to return to after their training typically continued to work for the same employers.

Among former progressive credential apprentices who had jobs in their trades to return to after their training, 79 percent were still working for the same employer at the time of the survey.¹¹

Of former traditional apprentices who did not have jobs in their trades to return to after completing their in-school training, more than one-third found jobs in their trades within two months.

Length of time to find job– traditional apprentices

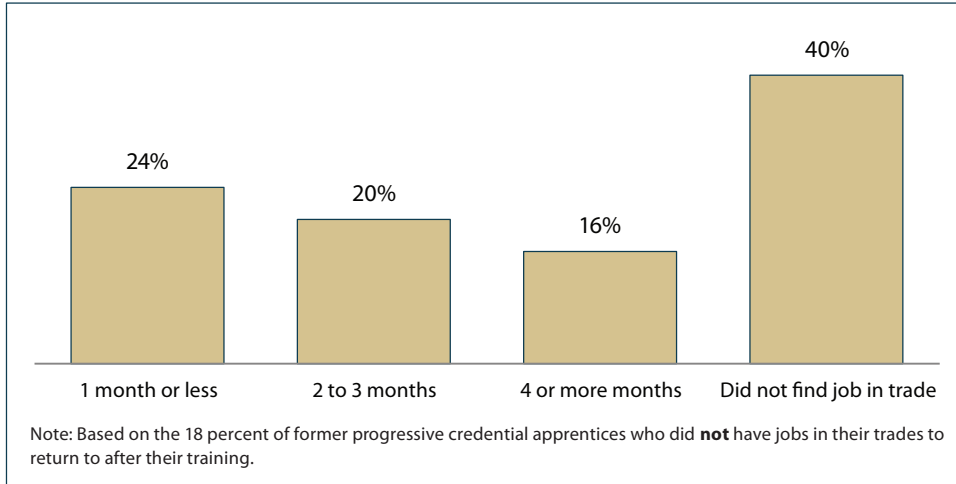


Traditional:
More than one-third of those who did not return to jobs in their trades found jobs within two months.

¹¹ Program group results are not shown for former progressive credential apprentices due to small group sizes.

Among former progressive credential apprentices who did not have jobs in their trades to return to after completing their in-school training, about one-quarter found jobs in their trades within one month.

Length of time to find job – progressive credential



Progressive:
4 out of 10 of those who did not return to jobs in their trades found jobs within three months.

What are they doing now?

Former apprenticeship students were asked a number of questions to determine their labour force status at the time of the survey. Employed respondents were asked about their occupations, hours of work, earnings, and the extent to which their jobs were related to their training.

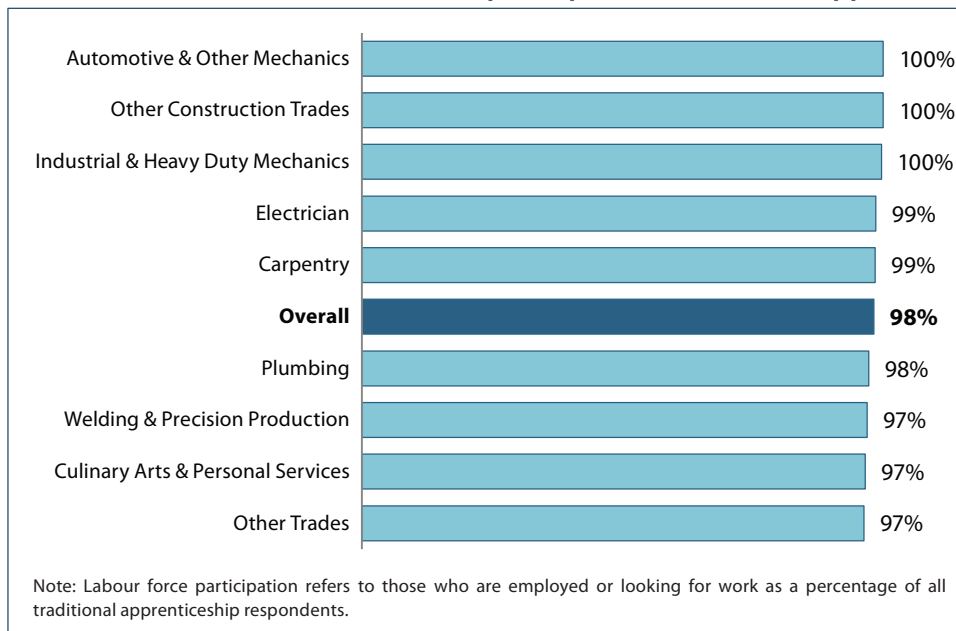
Labour force participation

Almost all (98 percent) of the former traditional apprentices surveyed were in the labour force—that is, they were either employed or looking for work. The majority (95 percent) of former progressive credential students were also in the labour force. In comparison, the labour force participation rate (unadjusted) for the B.C. population aged 20 to 54 was 83 percent, in March of 2016.¹²

The labour force participation rates for former traditional apprentices ranged from 95 percent in the North Coast region to 100 percent in the Kootenay and Vancouver Island/Coast regions. Among former progressive credential apprentices, labour force participation rates ranged from 78 percent for the Vancouver Island/Coast region and 100 percent in the Cariboo and three northern regions.¹³

Labour force participation rates were high across traditional apprenticeship and progressive credential program groups (except for progressive credential Welding & Precision Production).

Labour force participation – traditional apprentices



Traditional:
Almost all former traditional apprentices were in the labour force.

12 Source: Statistics Canada, Labour Force Survey, 2016.

13 The rates were compared by the B.C. Development Regions, which are described here: <http://www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/administrative-boundaries/census-boundaries>. The location of 8 percent of traditional apprenticeship respondents and 7 percent of progressive credential respondents was unknown or outside of B.C. and, as such, these respondents were not included in the calculation of percentages for region of residence.

Labour force participation – progressive credential



Progressive:
Most former progressive credential apprentices surveyed were in the labour force.

The unemployment rate—the number unemployed as a percentage of traditional apprentice respondents in the labour force—was 8.5 percent. The unemployment rate for traditional apprentices varied significantly by program group. It was highest for respondents from Other Trades, Electrician, and Welding & Precision Production program groups and lowest for Industrial & Heavy Duty Mechanics, Other Construction Trades, and Culinary Arts & Personal Services respondents. The rate ranged from 16.9 percent to 1.7 percent.

Unemployment rates varied widely across program groups for both traditional and progressive credential apprentices.

The unemployment rate among former progressive credential apprentice respondents who were in the labour force was 9.6 percent, and was significantly different across program groups. It was highest (27.3 percent) for Welding & Precision Production progressive credential respondents and ranged from 3.8 to 6.7 percent for the other three program groups.¹⁴

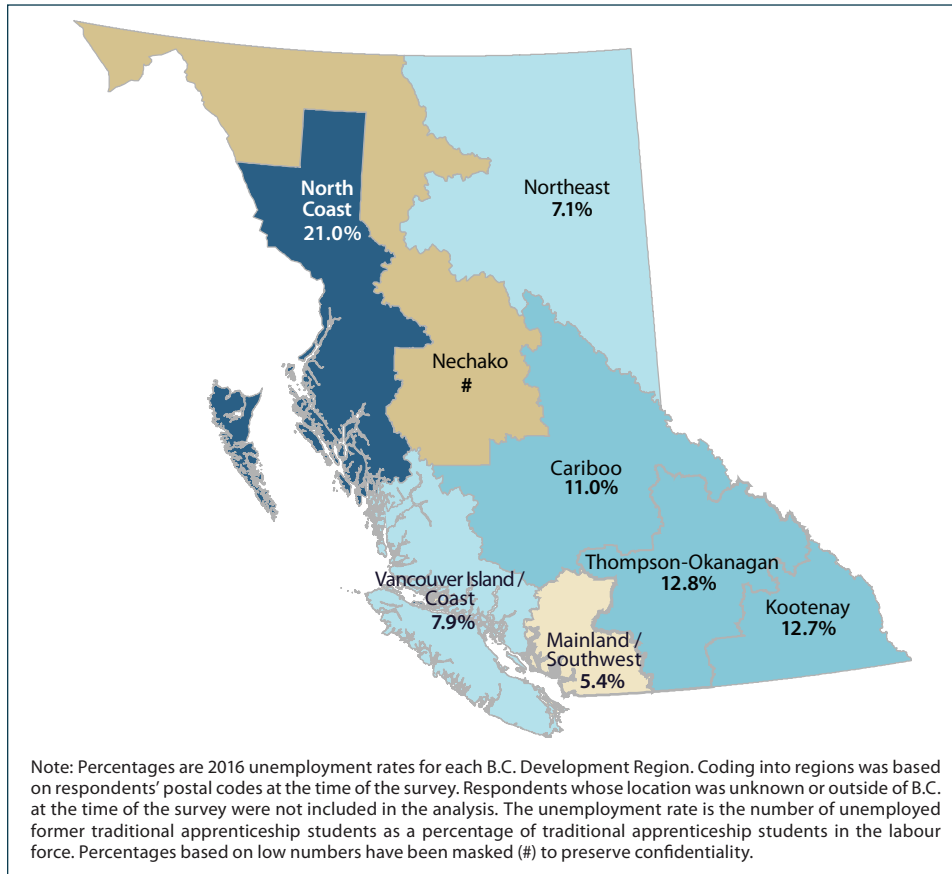
The unemployment rate among former traditional apprentices also varied by region.^{15,16}

14 Program group results are not shown for all former progressive credential apprentices due to small group sizes.

15 The regions are the B.C. Development Regions, which are described here: <http://www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/administrative-boundaries/census-boundaries>.

16 Cariboo: n = 172; Kootenay: n = 110; Mainland/Southwest: 915; Nechako: n = 48; North Coast: n = 62; Northeast: n = 85; Thompson-Okanagan: n = 336; Vancouver Island/Coast: n = 340. Percentages based on small n's should be interpreted with caution. The location of 8 percent of traditional apprenticeship respondents was unknown or outside of B.C. and, as such, these respondents were not included in the calculation of percentages for region of residence.

Regional unemployment rates – traditional apprentices



Traditional:
There were large regional variations in unemployment rates.

Unemployment rates for former progressive credential apprentices ranged widely across regions—from 0 percent to 55.6 percent.¹⁷

At the time of the survey, 90 percent of former traditional apprentices and 85 percent of former progressive credential apprentices were employed. In approximately the same time period, March 2016, the unadjusted employment rate for the B.C. population aged 20 to 54 was 78 percent.¹⁸

The employment rate—the number of employed individuals expressed as a percentage of all traditional apprenticeship respondents—varied by region.¹⁹ The northern regions were home to the greatest variability—the highest employment rate was in Nechako and the lowest was in the North Coast region.²⁰

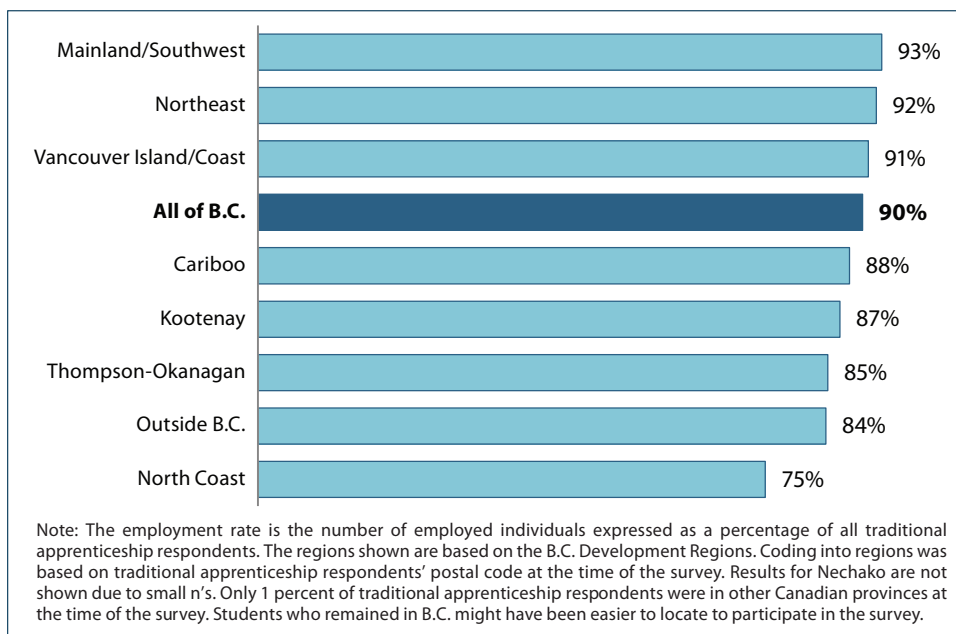
¹⁷ Due to small n's for progressive credential respondents, the results by region are not shown. The location of 7 percent of progressive credential respondents was unknown or outside of B.C. and, as such, these respondents were not included in the calculation of percentages for region of residence.

¹⁸ Source: Statistics Canada, Labour Force Survey, 2016.

¹⁹ The location of 8 percent of traditional apprenticeship respondents was unknown or outside of B.C. and, as such, these respondents were not included in the calculation of percentages for region of residence.

²⁰ Cariboo: n = 174; Kootenay: n = 111; Mainland/Southwest: 934; Nechako: n = 49; North Coast: n = 65; Northeast: n = 86; Thompson-Okanagan: n = 346; Vancouver Island/Coast: n = 345. Percentages based on small n's should be interpreted with caution. Students who remained in B.C. might have been easier to locate to participate in the survey. The location of 7 percent of progressive credential respondents was unknown or outside of B.C. and, as such, these respondents were not included in the calculation of percentages for region of residence.

Regional employment rates – traditional apprentices

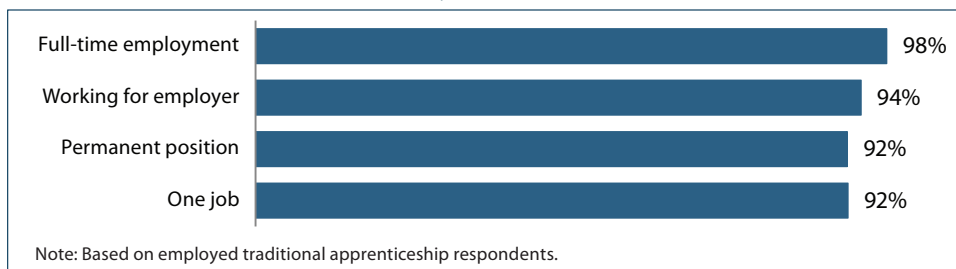


Regional employment rates varied.

Among progressive credential respondents, the employment rate also varied widely by region—from 35 percent in the Vancouver Island/Coast region to over 90 percent in the Kootenay region.²¹

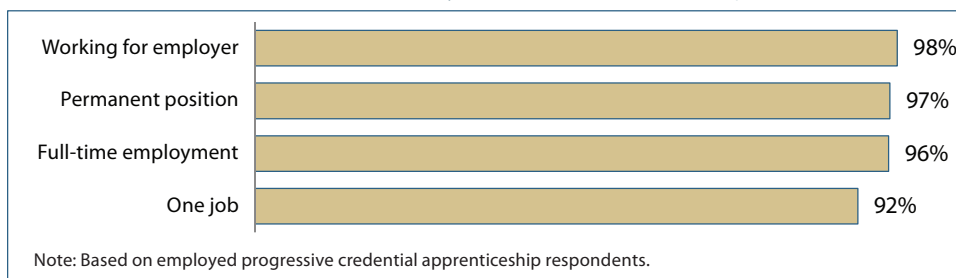
Most employed traditional apprenticeship and progressive credential respondents held a single job²² in a permanent position. Almost all employed former apprentices were in full-time jobs and most were working for an employer (rather than being self-employed).

Employment attributes – traditional apprentices



Employed former apprentices were usually full-time employees working in a permanent position at a single job.

Employment attributes – progressive credential

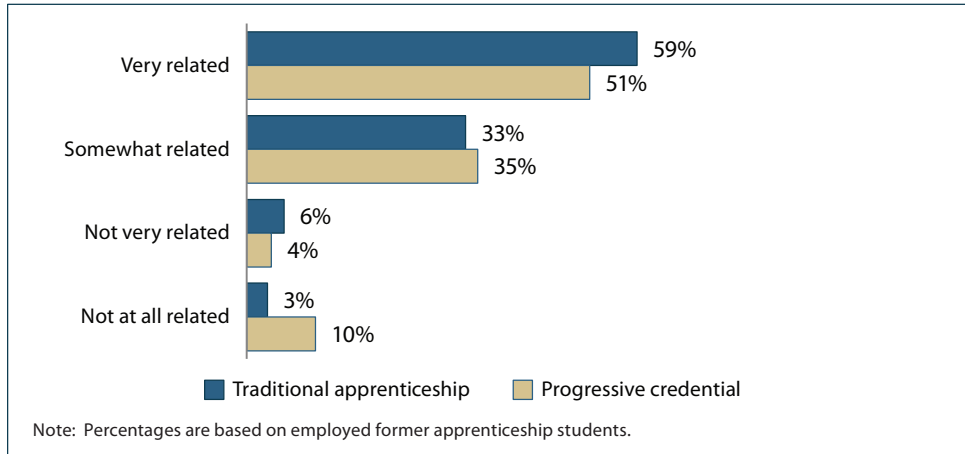


²¹ Specific results are not presented for all progressive credential respondents due to small group sizes.

²² Approximately 7 percent of employed respondents had two jobs, and only 1 percent had three or more jobs.

Employed respondents' in-school training and their employment was highly related—approximately nine out of ten employed former traditional and progressive credential apprentices said their job was *very* or *somewhat related* to their in-school training. Those who had more than one job were asked to think about their main job—that is, the one at which they worked the most hours.

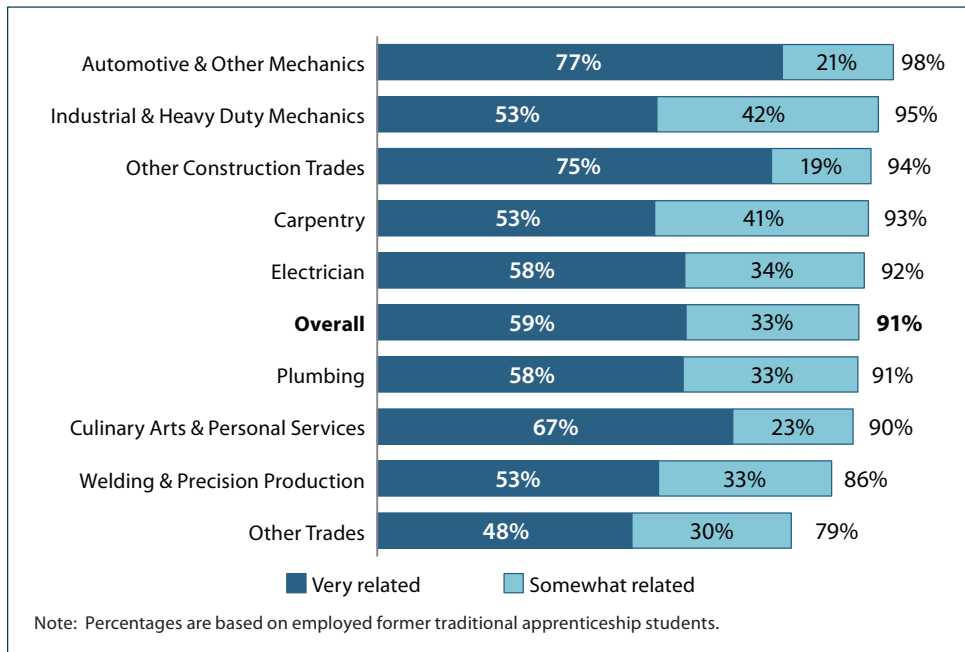
In-school training related to job



In-school training and jobs were closely related.

The extent to which jobs were related to training varied by program group for former traditional apprentices. Automotive & Other Mechanics were most likely to report doing work that was related to their training, while those from Other Trades programs were least likely to say there was a link.

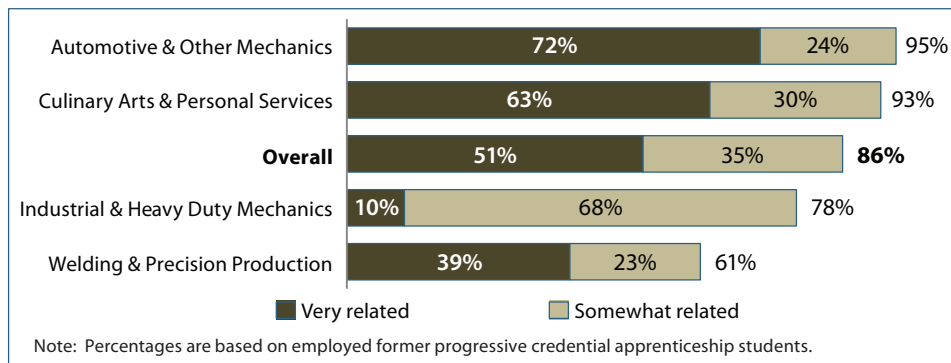
In-school training related to job – traditional apprentices



Automotive & Other Mechanics were most likely to be in a training-related job, among both traditional and progressive credential apprentices.

Among former progressive credential apprentices, Automotive & Other Mechanics were also most likely to report that their in-school training was related to their jobs. Former Welding & Precision Production apprentices from progressive credential programs were least likely to report a connection between their job and training.

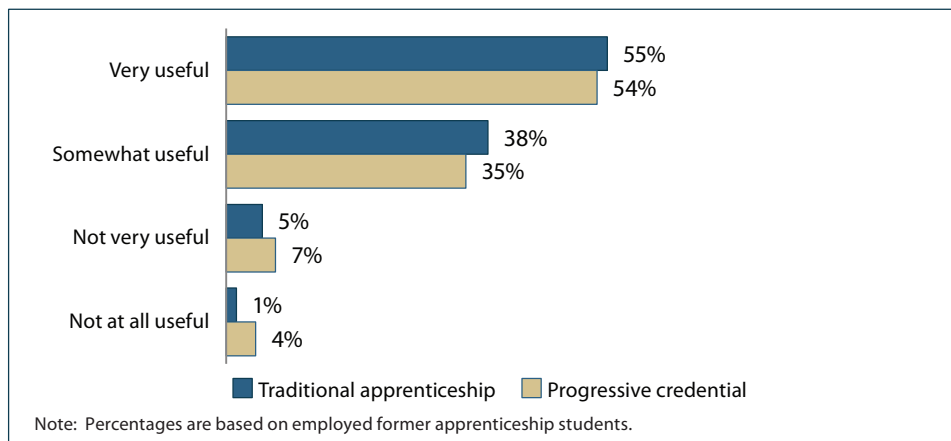
In-school training related to job – progressive credential



Usefulness of knowledge & skills

Among both former traditional apprentices and those from progressive credential programs, a majority said their studies had been *very* or *somewhat useful* in performing their jobs.

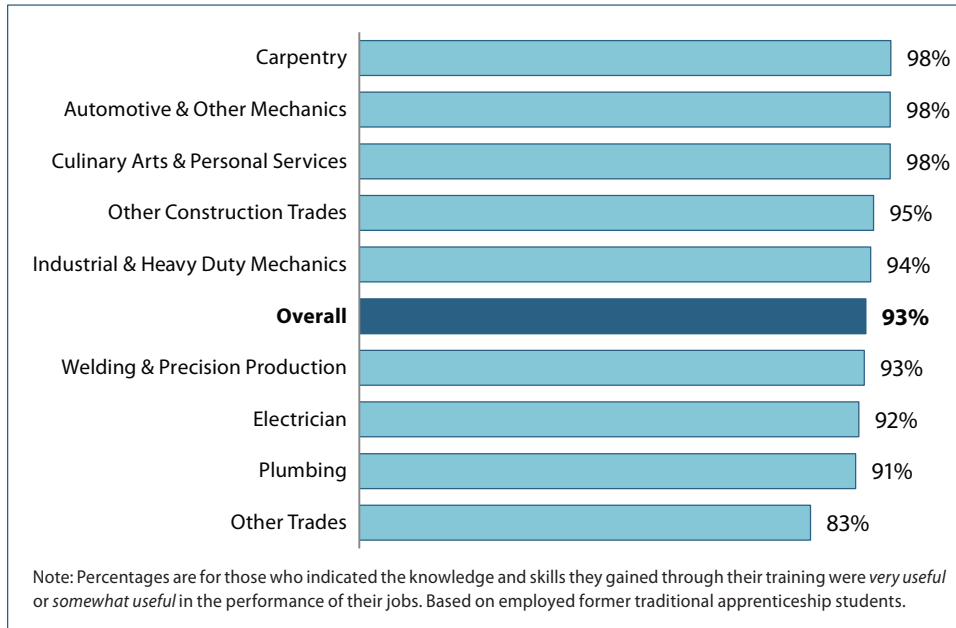
Usefulness of knowledge and skills



Knowledge and skills gained by former apprentices were useful for employment.

Across most program groups, more than nine out of ten former traditional apprentices regarded the knowledge and skills they gained through their studies as useful in the performance of their jobs. Those from Other Trades were least likely to say that what they gained in their studies was valuable to them in their performance of their jobs.

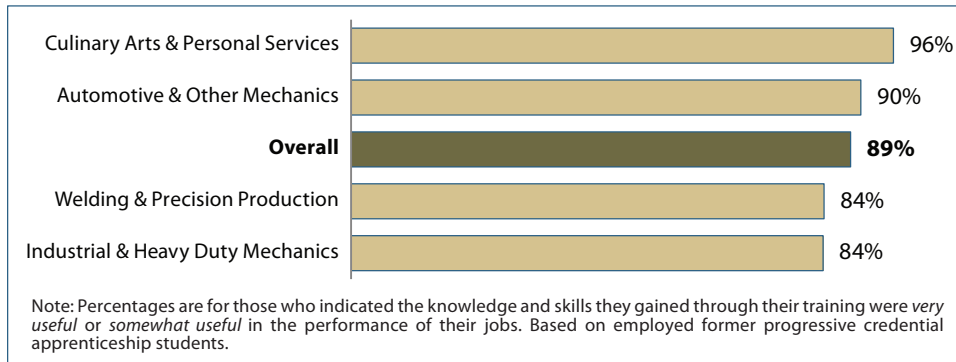
Usefulness of knowledge and skills – traditional apprentices



Traditional:
In most program groups more than 9 out of 10 believed that the knowledge and skills gained were useful.

Among former progressive credential respondents, those from Culinary Arts & Personal Services were most likely to see the usefulness of their knowledge and skills in the performance of their jobs.

Usefulness of knowledge and skills – progressive credential



Progressive:
Almost all Culinary Arts & Personal Services apprentices said the knowledge and skills gained were useful.

Occupation & wage

Almost nine out of ten (88 percent) of the employed traditional apprenticeship respondents and six out of ten (61 percent) of the employed progressive credential respondents were working in Trades, Transport, and Equipment Operators and Related Occupations.²³

²³ The National Occupational Classification (NOC) system, which is a taxonomy of occupations in the Canadian labour market, was used to assign codes (4-digit codes) to the occupations former students had at the time of the survey. The codes and their associated names are used to describe occupations and to aggregate them into occupational categories. The grouping of occupations called “Trades, Transport, and Equipment Operators and Related Occupations” is at the highest or most aggregated level (1-digit). The respondents who had more than one job were asked to describe their main job.

There was a strong relationship between the programs former apprenticeship students' took and their occupations at the time of the survey. For example, more than eight out of ten of those who completed traditional apprenticeships in Electrician programs were employed as Electrical Trades and Electrical Power Line and Telecommunications Workers. Eight out of ten former traditional apprentices and almost nine out of ten former progressive credential students who trained as Automotive & Other Mechanics were working as Automotive Service Technicians at the time of the survey.²⁴ (For detailed results for former traditional apprentices, see [Appendix C: Common Occupations by Program Group](#).)

Former students' apprenticeship programs and occupations at the time of the survey were strongly related.

Employed former apprentices 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 wage 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.

At the time of the survey, former traditional apprentices were earning a higher median hourly wage than were those from progressive credential programs. Employed former traditional apprentices earned a median hourly wage of \$32, while those from progressive credential programs earned a median of \$20 an hour.

Traditional:
Median hourly wage: \$32.

Among the ten most common occupations for former traditional apprenticeship students, the median hourly wage ranged from \$38 for Machinery & Transportation Equipment Mechanics (except motor vehicle) to \$18 for Chefs & Cooks.

Progressive:
Median hourly wage: \$20.

Automotive Service Technicians, Chefs & Cooks, and Machining, Metal Forming, Shaping, and Erecting Trades were among the most common occupations for both former traditional and progressive credential apprentices. In all three of these occupations, median hourly wages were higher among former traditional apprentices.

Median hourly wage among top occupations – traditional apprentices

Occupation	Traditional apprenticeship respondents	Median hourly wage
Machinery & Transportation Equipment Mechanics (except motor vehicle)	254	\$38
Electrical Trades & Electrical Power Line & Telecommunications Workers	292	\$36
Contractors & Supervisors, Industrial, Electrical & Construction Trades & Related Workers	111	\$32
Machining, Metal Forming, Shaping & Erecting Trades	160	\$32
Plumbers, Pipefitters & Gas Fitters	141	\$30
Other Construction Trades	33	\$29
Automotive Service Technicians	148	\$28
Carpenters & Cabinetmakers	144	\$28
Heavy Equipment Operators	32	\$27
Chefs & Cooks	42	\$18

Traditional:
Median hourly wage ranged from \$18 to \$38 among the top ten occupations.

Note: Wages shown are medians; the occupation groups are at the NOC 3-digit level. The occupations shown are the top ten, accounting for 84 percent of the employed traditional apprenticeship respondents who supplied occupation and income information.

²⁴ This grouping of occupations is at the 3-digit NOC level.

Among the four most common occupations held by former progressive credential students, the median hourly wage ranged from \$30 for Supply Chain Logistics, Tracking, and Scheduling Occupations to \$15 for Chefs & Cooks.

Median hourly wage among top occupations – progressive credential

Occupation	Progressive credential respondents	Median hourly wage
Supply Chain Logistics, Tracking & Scheduling Occupations	27	\$30
Machining, Metal Forming, Shaping & Erecting Trades	11	\$24
Automotive Service Technicians	72	\$19
Chefs & Cooks	17	\$15

Note: Wages shown are medians; the occupation groups are at the NOC 3-digit level. The occupations shown are the top four, accounting for 57percent of the employed progressive credential apprenticeship respondents who supplied occupation and income information.

***Progressive:**
Median hourly wage ranged from \$15 to \$30 among the top four occupations.*

Conclusion

Significant efforts are being made to ensure that British Columbia's apprenticeship training system is well-poised to meet the future needs of the province. The Apprenticeship Student Outcomes (APPSO) Survey provides a mechanism for assessing former students' training experiences and labour market outcomes, collecting information that is used to support the development and delivery of apprenticeship training.

The 2016 APPSO Survey collected information from former apprenticeship students who completed the final level of technical training offered by public post-secondary institutions and private training providers. This report focusses on former traditional apprenticeship students, but also includes results for those who were in progressive credential programs.

More than half of those surveyed about their traditional apprenticeships were in Electrician, Industrial & Heavy Duty Mechanics, and Welding & Precision Production programs. Among progressive credential respondents, Automotive & Other Mechanics programs were most common.

As in previous years, former traditional apprentices surveyed in 2016 were predominantly men and usually completed their studies in a public post-secondary institution. The women in these traditional apprenticeships typically completed programs in Culinary Arts & Personal Services.

Former apprentices were satisfied with their in-school training and gave favourable reports of the quality of the instruction they received. A substantial majority of traditional and progressive credential apprentices had achieved their Certificate of Qualification at the time of the survey.

Most traditional apprentices and a very large majority of those from progressive credential programs had a work placement outside of their institution. Respondents were typically satisfied with their workplace training experience and saw their in-school training as related to their workplace experience. Usually, former apprentices had jobs in their trades to return to after their training, with seven out of ten traditional apprentices and eight out of ten progressive credential apprentices still working for the same employer at the time of the survey.

At the time of the survey, almost all of the former traditional apprentices and most from progressive credential programs were in the labour force. The unemployment rate was 8.5 percent among traditional apprentices and 9.6 percent among progressive credential respondents. Unemployment rates for traditional apprentices varied significantly across both regions and program groups.

Former apprentices who were working at the time of the survey experienced good employment conditions—the majority were employed full-time in a single, permanent position that was related to their apprenticeship training. Former traditional apprentices were earning a median hourly wage of \$32 while their progressive credential counterparts were earn-

ing a median wage of \$20 per hour. The majority of both types of apprentices said that the knowledge and skills they gained were useful to them in their work, which may be a result of the strong relationship between their training and occupation at the time of the survey.

The 2016 cohort of former apprenticeship students gave favourable evaluations of their training and had good employment outcomes. Successful apprentices and apprenticeship programs will help British Columbia achieve its goals of economic prosperity and growth in trades and technical fields.

Appendices

Appendix A: Apprenticeship Survey Methodology

Cohort

All apprenticeship students who were enrolled in and had completed the final year of their program (regardless of its length) between July 1, 2014 and June 30, 2015 at a public post-secondary institution or private training institution in B.C. were included in the survey cohort.

Forty post-secondary institutions participated in this project—14 were public and provided 78 percent of the cohort (76 percent of the traditional apprenticeship cohort and 94 percent of the progressive credential cohort). The cohort of students from private institutions was provided by the Industry Training Authority. Since students may take different parts of their programs at different institutions, the *last* institution the student attended was considered the institution of record.

The institution of record submitted the student's name, demographics, and program information in their cohort file. These 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 5 to January 9, 2016. The survey was conducted from January to May, 2016. The average duration of the survey was 14 minutes via telephone and online. Of the 2,565 survey completions, 894 were done online. The online response rate was 19 percent; the telephone rate was 35 percent—the overall response rate was 54 percent.

Participating public institutions

Public institutions	Former apprentices eligible for survey	Former apprentice respondents	Response rate
British Columbia Institute of Technology	1,184	593	50%
Camosun College	279	150	54%
College of New Caledonia	260	163	63%
College of the Rockies	112	54	48%
Kwantlen Polytechnic University	298	183	61%
North Island College	112	66	59%
Northern Lights College	75	43	57%
Northwest Community College	87	46	53%
Okanagan College	560	268	48%
Selkirk College	54	27	50%
Thompson Rivers University	251	136	54%
University of the Fraser Valley	162	62	38%
Vancouver Community College	181	101	56%
Vancouver Island University	229	111	48%
Public Institutions Total	3,844	2,003	52%

Participating private institutions

Private institutions	Former apprentices eligible for survey	Former apprentice respondents	Response rate
Aboriginal Skills Group	50	27	54%
BC Floor Covering Joint Conference Society	#	#	20%
BC Hydro	57	37	65%
BC Wall & Ceiling Association	15	12	80%
Broadband Institute	#	#	100%
Christian Labour Association of Canada	15	7	47%
Electrical Industry Training Institute	42	21	50%
Enform Canada	25	16	64%
Fenestration Education Society of BC	17	6	35%
Funeral Service Association of BC	21	17	81%
Greenbelt Veterinary Services	12	10	83%
IUOE Local 115 Training Association	64	42	66%
Joint Apprentice Refrigeration Trade School	67	47	70%
Pacific Vocational College	141	86	61%
Piledrivers, Divers, Bridge, Dock, Loc. 2404	14	12	86%
Quadrant Marine Institute	14	11	79%
RCABC Educational Foundation	70	35	50%
Salvation Army Cascade Culinary Arts School	#	#	67%
Sheet Metal Workers Training Centre	38	16	42%
Southern Interior Construction Association	17	6	35%
Sprott-Shaw College	14	9	64%
Taylor Pro Training	37	20	54%
The Finishing Trades Institute of BC	66	41	62%
Trowel Trades Training Association	22	13	59%
UA Piping Industry College of B.C.	91	53	58%
White Spot Ltd.	25	14	56%
Private Institutions Total	943	562	60%

Note: Low numbers (n < 5) have been masked (#) to preserve confidentiality.

Response rates by program group –traditional apprentices

Program group	Eligible for survey	Respondents	Response rate
Automotive & Other Mechanics	392	230	59%
Carpentry	415	211	51%
Culinary Arts & Personal Services	189	98	52%
Electrician	901	466	52%
Industrial & Heavy Duty Mechanics	627	380	61%
Plumbing	480	282	59%
Welding & Precision Production	734	326	44%
Other Construction Trades	182	101	55%
Other Trades	370	217	59%
Overall	4,290	2,311	54%

Response rates by program group –progressive credential

Program group	Eligible for survey	Respondents	Response rate
Automotive & Other Mechanics	222	119	54%
Carpentry	-	-	-
Culinary Arts & Personal Services	56	30	54%
Electrician	-	-	-
Industrial & Heavy Duty Mechanics	73	52	71%
Plumbing	-	-	-
Welding & Precision Production	146	53	36%
Other Construction Trades	-	-	-
Other Trades	-	-	-
Overall	497	254	51%

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 2016 survey were first released to the institutions in Excel pivot tables and flat files. Then, the data were released to a wider audience through the [BC Student Outcomes Dashboard](#). The Dashboard provides an at-a-glance graphical snapshot of high-level results. Information from the past three years is available by survey, by institution, by program group, and by individual program.

Analyses 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 apprenticeship students who were responded to the survey—54 percent of those who were eligible—were those from the cohort who could be located and who agreed to be surveyed. They may not be representative of all former students.

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 calculations.

Appendix B: Apprenticeship Program Groups and Institutions' Programs

Appendix C: Common Occupations by Program Group

See Excel file: [2016 APPSO Report of Findings Appendices B & C](#) (attached)



BCStats

Go to the [BC Student Outcomes](#) website for more information on the [Apprenticeship Student Outcomes Survey](#).