

BC STUDENT OUTCOMES

information paper

Occupational Skill Level:

The Level of Skill Required for the Occupations of Graduates from Diploma, Certificate, and Associate Degree Programs

How many graduates work in jobs that require post-secondary education? What different levels of skill do graduates require for their occupations? Have those levels changed over time? What are the trends?

Introduction

Every year, former post-secondary students who left diploma, associate degree, or certificate programs in B.C. are asked to participate in a province-wide survey. Respondents are asked a number of questions about their employment outcomes, and those who are employed are asked to describe their occupations. The information they provide is used to code their jobs using the National Occupational Classification (NOC) system, which is used to describe occupations and to aggregate them into occupational categories and to assign a skill level.

Every year, former post-secondary students are asked to participate in a province-wide survey.

Skill level is the type and amount of education and training required for an occupation. In determining skill level, the experience required for entry and the complexity and responsibilities typical of an occupation are considered in relation to other occupations. Four skill level categories are identified in the NOC:

Skill level is the type and amount of education and training typically required for an occupation.

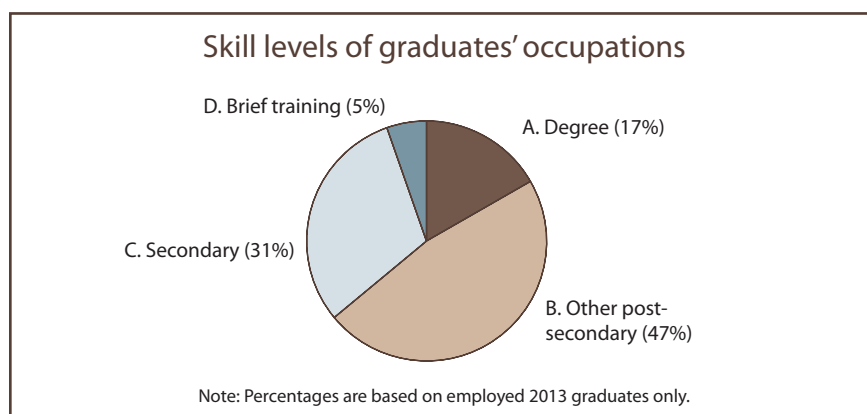
- Skill level A: Degree (bachelor's, master's, doctorate); includes Management
- Skill level B: Other post-secondary education (for credentials such as diplomas or certificates), apprenticeship, or equivalent in other training and work experience
- Skill level C: Secondary school, extensive on-the-job training
- Skill level D: Brief work demonstration or on-the-job training

Data for this paper came from the Diploma, Associate Degree, and Certificate Student Outcomes surveys, 2009 to 2013. Throughout these years, 76 percent of respondents had graduated from their programs, and of these graduates, 80 percent were employed at the time of the survey, 9 to 20 months after they left their programs. Of the employed graduates, 98 percent (45,760) gave enough information on their jobs to allow them to be coded using the National Occupational Classification system. In 2013, 15,853 former students responded to the survey; there were 9,850 employed graduates. Unless otherwise noted, the percentages in this paper are based on employed graduates who submitted occupational information.

Data for this paper came from the 2009 to 2013 Diploma, Associate Degree, and Certificate Student Outcomes surveys.

Occupational skill levels

The majority (80 percent) of the diploma, associate degree, and certificate graduates surveyed in 2013 were employed. Over 60 percent of the occupations these former students were in required a degree or other post-secondary education or the equivalent in other training and experience (skill levels A and B, as described above). The largest proportion of graduates (47 percent) were in positions with a skill level B, defined as requiring a diploma, certificate, or equivalent.

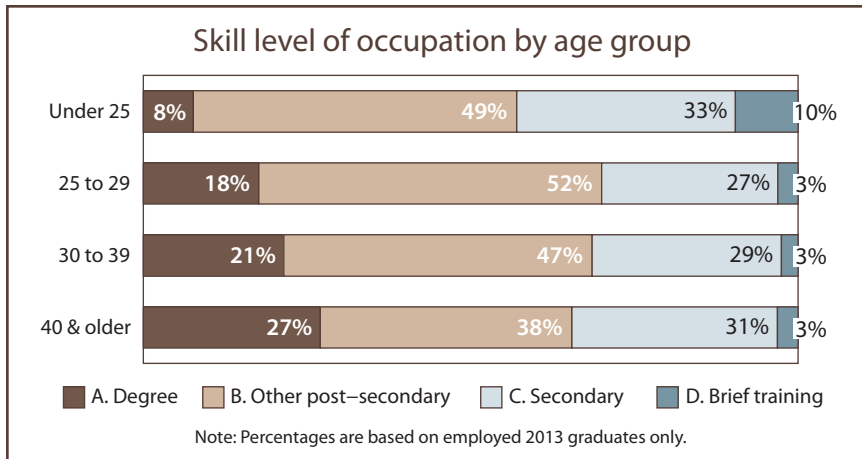


Skill levels of graduates' occupations

The largest proportion of graduates were in positions with a skill level defined as requiring a diploma, certificate, or equivalent.

Differences in skill levels between groups

There were some differences in occupational skill levels that appeared between certain groups of respondents. Some of the most obvious differences occurred between age groups. Unsurprisingly, younger respondents were more likely than older respondents to be in less skilled jobs, and the percentage of graduates in positions that required degree-level skills increased with age.

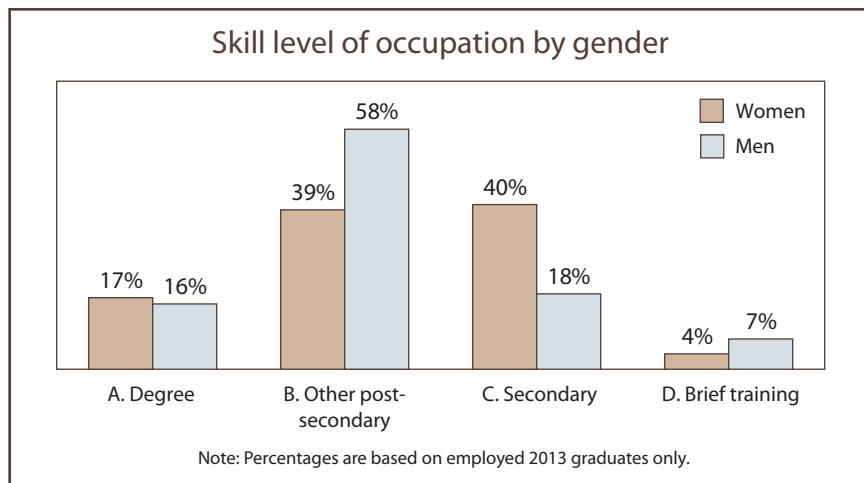


Skill level of occupation by age group

The percentage of graduates in positions that required degree-level skills increased with age.

The differences in occupational skill level by gender were not as predictable as those related to age. Men were much more likely than women to be in jobs requiring skill level B: skills equivalent to post-secondary education other than a degree. Men's high percentage of occupations in this skill level is likely related to their participation in trades (see pages 4 and 9).

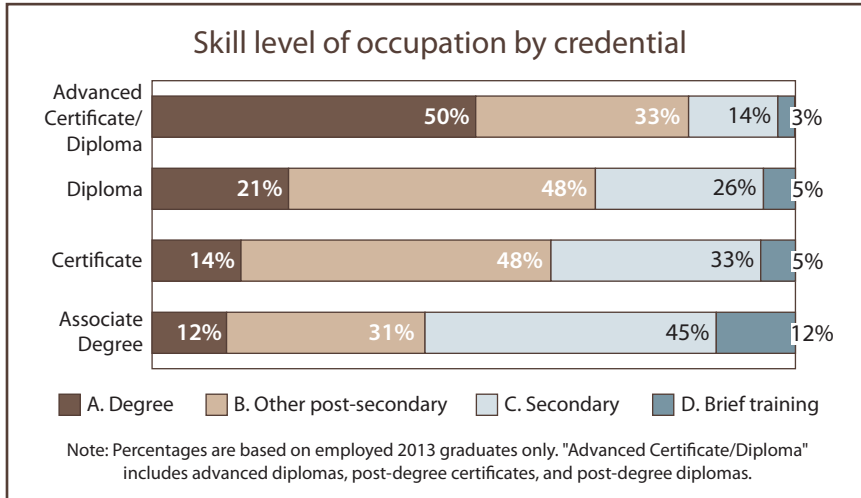
Compared with men, women were more likely to have jobs that required only secondary education and on-the-job training (skill level C). These jobs included nurses' aides, teaching assistants, receptionists, and clerks.



Skill level of occupation by gender

Men were much more likely than women to be in jobs requiring skill level B.

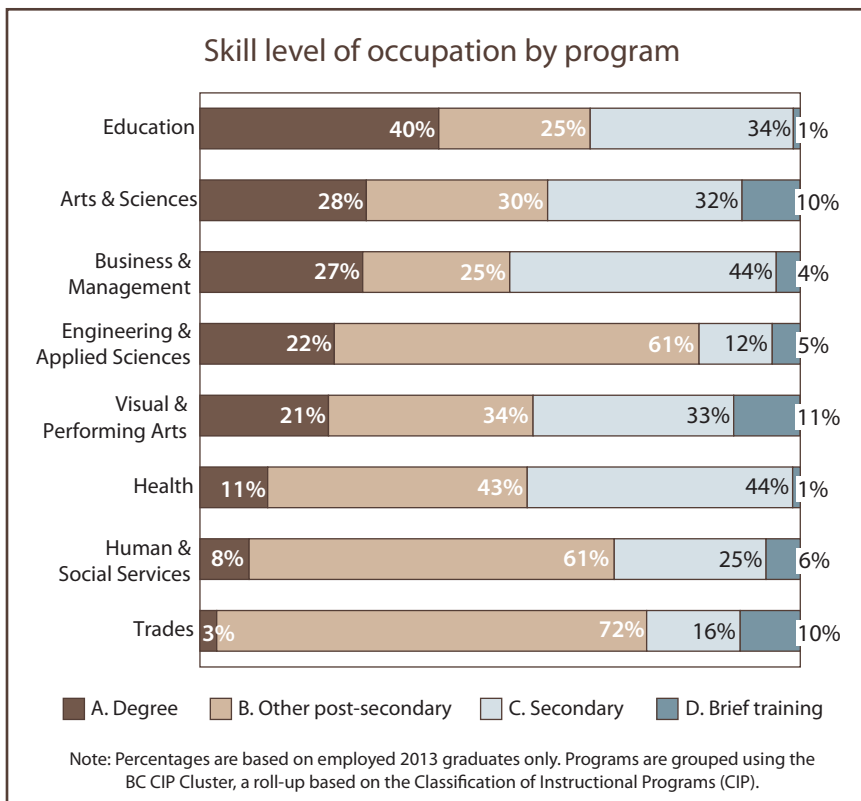
There were also some differences by credential awarded. Respondents who received an advanced or post-degree certificate or diploma were by far the most likely group to be working in jobs at the degree level. Given that most of these respondents already had degrees, this result was expected. Between those with diplomas and certificates, respondents from diploma programs were more likely to be in the highest-skilled jobs, while those with certificates were more likely to be in lower-skilled positions, those requiring only secondary school education or substantial on-the-job training (skill level C).



Skill level of occupation by credential

Between those with diplomas and certificates, respondents from diploma programs were more likely to be in the highest-skilled jobs.

Looking at respondents' occupational skill level by program¹ showed that former Education students had the highest rate of employment in degree-level positions, while those from Trades programs were most likely to have jobs that required level B skills, which reflected their employment in post-apprenticeship positions. Respondents from Business & Management and Health programs had high rates of employment in jobs that required secondary school and on-the-job training. For former Business & Management students, these jobs included office clerks, tellers, and receptionists; for respondents from Health programs, typical jobs were nurses' aides, visiting homemakers, and health assistants.



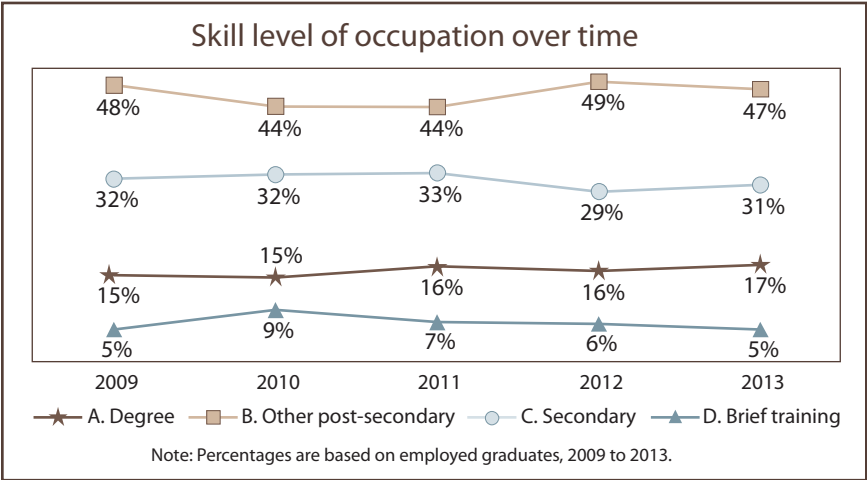
Skill level of occupation by program

Former Education students had the highest rate of employment in degree-level positions.

The findings from 2013 are similar to the findings of other years, since the proportions of skill levels have remained quite consistent at the all-respondent level. However, some of the 2013 differences between groups are evident every year, and a few show change over time.

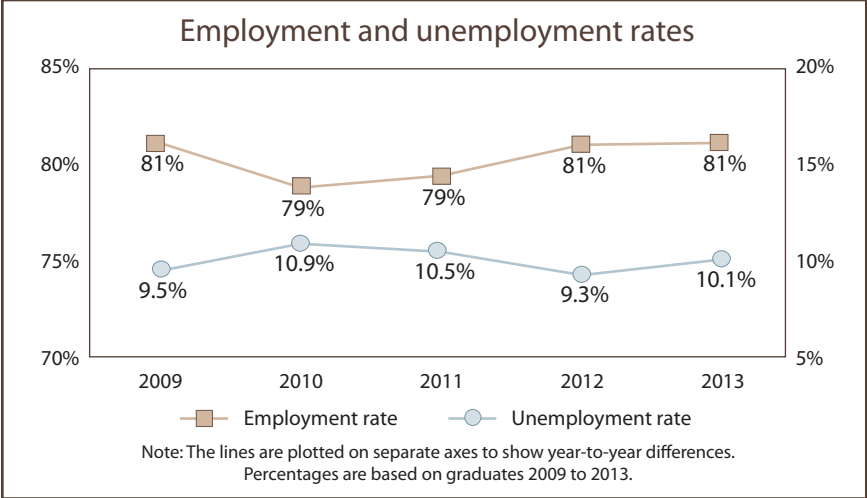
Differences over time

Overall, the occupational skill levels for the graduates who responded to the surveys have been fairly consistent over the past five years, although 2010 displayed a slight shift to lower-skilled jobs. Participation in jobs requiring only brief training (skill level D) increased to 9 percent in 2010 from 5 percent in 2009, while jobs requiring non-degree post-secondary education (skill level B) decreased to 44 percent from 48 percent. In 2012, these numbers reversed, with employment in skill level B positions rising to 49 percent, and the percentage of respondents in the lowest-skilled jobs dropping to 6 percent.



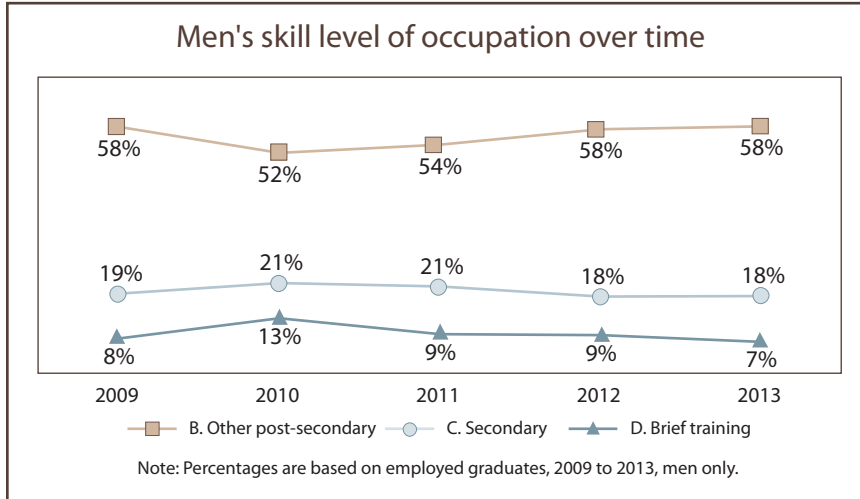
Skill level of occupation over time
The occupation skill levels for the graduates who responded to the surveys have been fairly consistent over the past five years.

The changes in occupational skill levels in 2010 and 2012 reflected changes in the employment and unemployment rates for those years. In particular, 2010 had the lowest employment rate and the highest unemployment rate of the five-year period.²



Employment and unemployment rates
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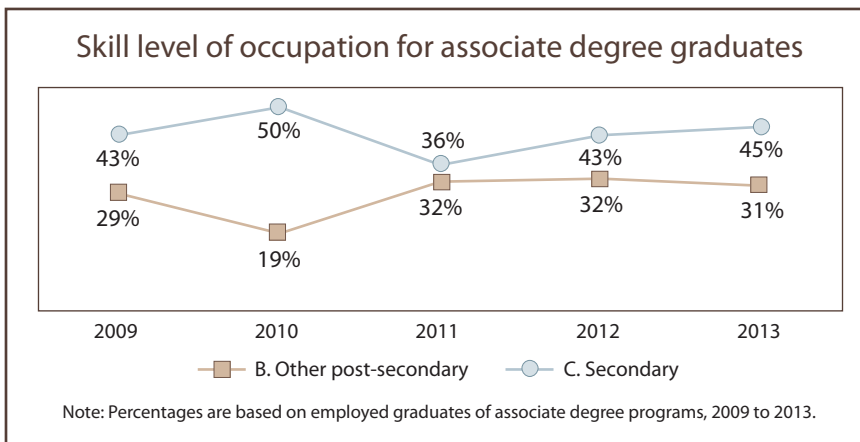
The 2010 labour market had a more noticeable effect on the skill levels of men's jobs than on women's. Men's participation in jobs with a skill level of non-degree post-secondary (skill level B) dipped 6 percentage points to 52 percent in 2010 and the proportion of male respondents in the lowest skilled jobs (skill level D) rose to 13 percent.



Men's skill level of occupation over time

The 2010 labour market had a noticeable effect on the skill levels of men's jobs.

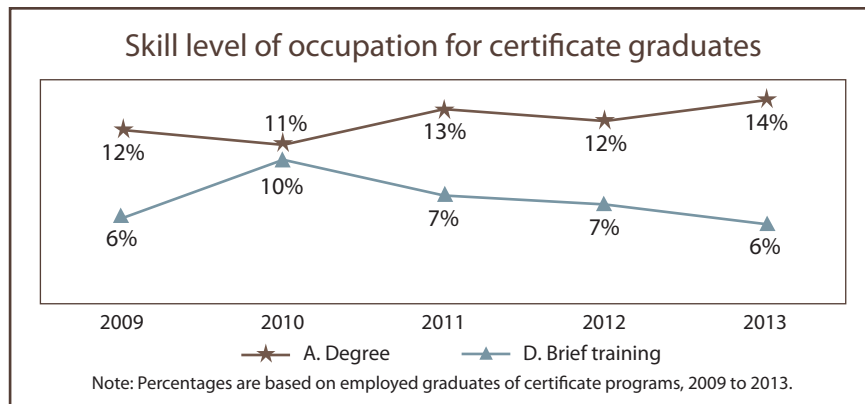
There were also some differences in 2010 by credential. Former students from associate degree programs showed a shift in 2010 from jobs with a skill level of non-degree post-secondary (skill level B) to jobs requiring secondary school-level skills (level C). However, by the next year, the percentage of associate degree graduates in non-degree post-secondary-level jobs was higher than it had been in 2009.



Skill level of occupation for associate degree graduates

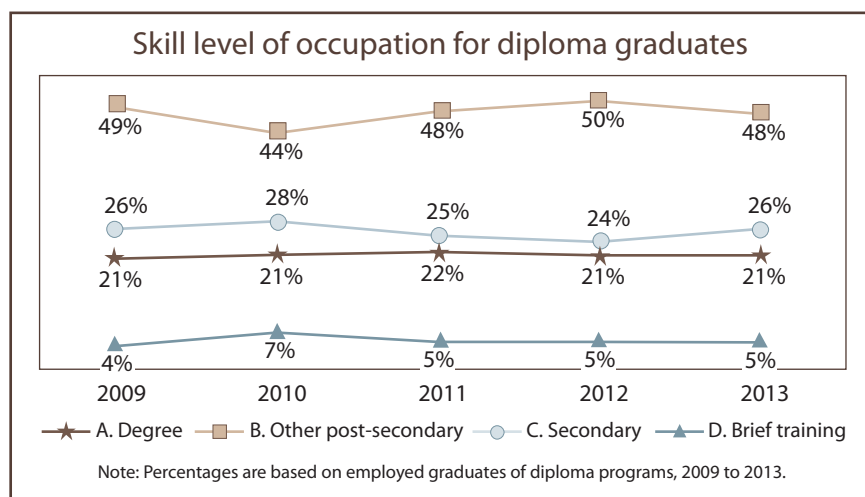
Former students from associate degree programs showed a shift in 2010 from jobs requiring skill level B to jobs requiring skill level C.

In 2010, respondents who had been in certificate programs were less likely to be employed in degree-level jobs and more likely to be in jobs that required only brief training.



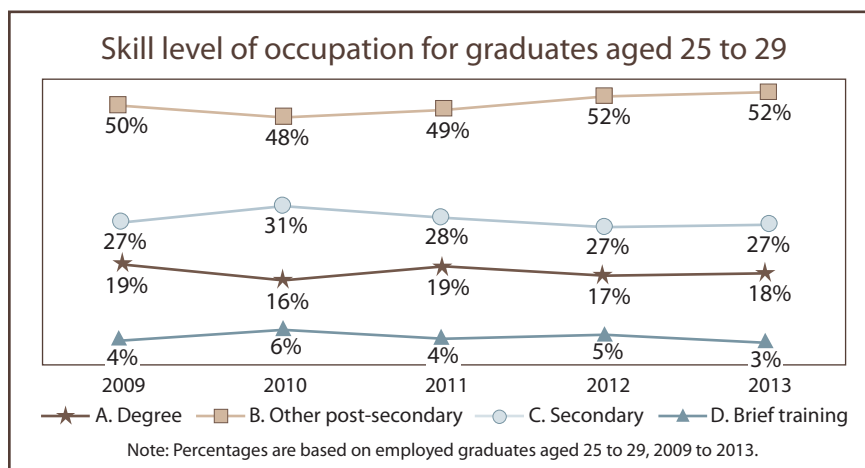
Skill level of occupation for certificate graduates
 Respondents who had been in certificate programs were less likely in 2010 to be employed in degree-level jobs.

Former diploma students also showed a decrease in post-secondary-level employment (skill level B) and an increase in the least skilled jobs in 2010; by 2012, however, there was a significant shift back to non-degree post-secondary-level jobs.



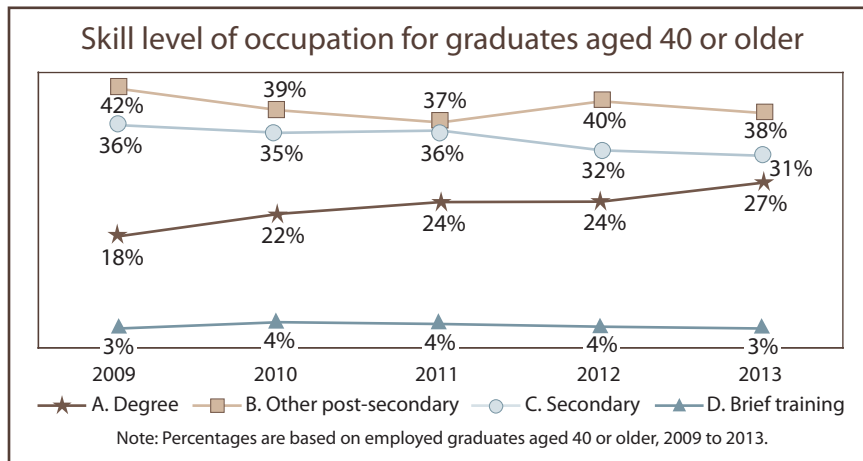
Skill level of occupation for diploma graduates
 Former diploma students showed a decrease in skill level B employment in 2010; by 2012, however, there was a significant shift back.

There were some differences in occupational skill level by age: the 25 to 29 age group showed an appreciable difference in 2010. At that time there was a drop in jobs requiring degree-level skills (to 16 percent) and in jobs requiring other post-secondary and an increase in the percentage of secondary school-level employment (to 31 percent).



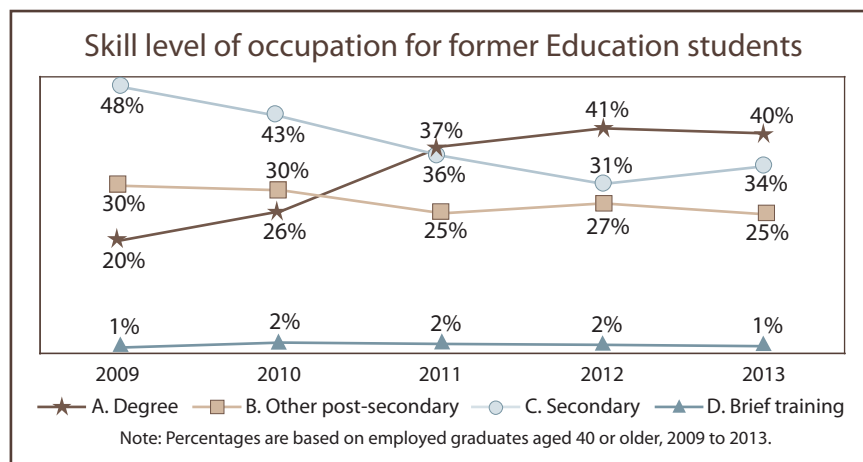
Skill level of occupation for graduates aged 25 to 29
 In 2010, there was a drop in jobs requiring post-secondary-level skills and an increase in the percentage of secondary school-level employment.

There was an interesting trend in the employment of those in the age group of 40 and older. Their participation in degree-level positions increased steadily from 18 to 27 percent in the five-year period ending in 2013.



Skill level of occupation for graduates aged 40 or older
Participation in degree-level positions increased steadily through the five-year period ending in 2013.

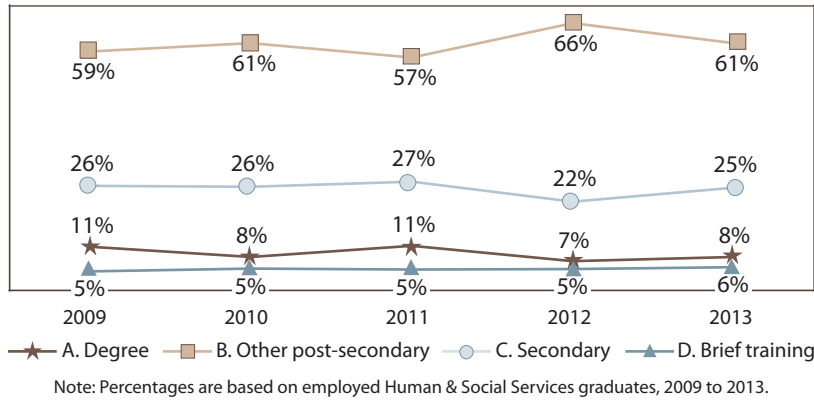
There were also noticeable trends for some program groups. For Education graduates, there was an increase over time in the acquisition of employment requiring degree-level skills (from 20 percent in 2009 to 40 percent in 2013) and a corresponding decrease in employment needing only secondary school level skills (from 48 to 34 percent). There was a relationship between the group of Education graduates and the age group shown above: respondents from Education programs tended to be older than other respondents. At the time of the 2013 survey, for example, 54 percent of former Education students were in the 40 or older age group and their median age was 41. The overall median age of the graduates surveyed was 27.



Skill level of occupation for former Education students
For Education graduates, there was an increase over time in the acquisition of employment requiring degree-level skills.

The majority of former Human & Social Services students were employed in positions with a skill level of non-degree post-secondary, and that majority increased from 59 percent in 2009 to 66 percent in 2012. Over the five years, there was an inverse relationship between the percentages of respondents employed in secondary school level positions (skill level C) and the percentages of respondents with jobs requiring non-degree post-secondary skills (skill level B).

Skill level of occupation for Human & Social Services graduates

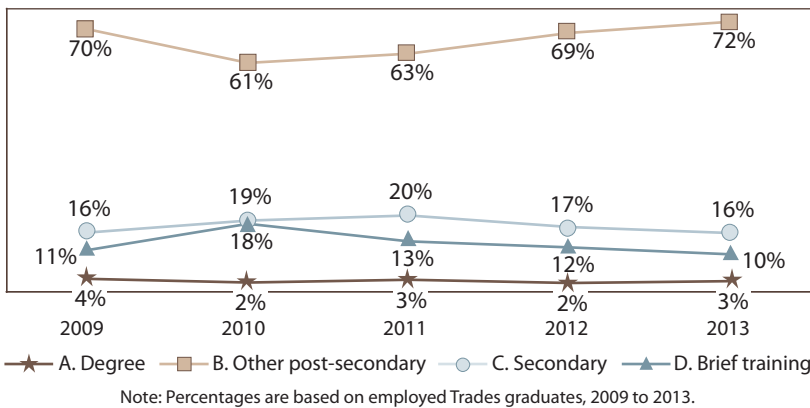


Skill level of occupation for Human & Social Services graduates

The majority of former Human & Social Services students were employed in skill level B positions.

The respondents who took Trades training were most likely to be employed in occupations at the non-degree post-secondary skill level, a level appropriate to their education. Between 2009 and 2010 there was a sizeable drop in the percentage employed at this level (from 70 to 61 percent). This drop coincided with an increase in employment in jobs requiring only brief training, which jumped from 11 percent to 18 percent. For Trades respondents, the 2010 labour market dip had more of an effect than it had on others. Since then, however, the skill level of occupations for the majority of Trades respondents has increased steadily.

Skill level of occupation for former Trades students



Skill level of occupation for former Trades students

The respondents who took Trades training were most likely to be employed in occupations at the non-degree post-secondary skill level.

Conclusion

Over the past five survey years, a majority of the graduates surveyed by the Diploma, Associate Degree, and Certificate Student Outcomes Survey were employed in occupations that required a degree (skill level A) or other post-secondary education or equivalent (skill level B). Year to year, there were few differences evident at the all-respondent level. Within each year, however, there were some significant differences associated with age, gender, credential, and program group.

The differences by age were expected: older respondents were more likely than younger to be in positions requiring degree- or other post-secondary-level skills. Men were more likely than women to be in jobs requiring skill level B, that is, a skill level equivalent to post-secondary education, including certificates, diplomas, and apprenticeship training. Women were more likely than men to be in secondary-school level positions (skill level C), although a majority of women were in skill level B jobs.

There were also differences by credential. Between respondents from certificate programs and those from diploma programs, the former diploma students had a higher participation rate in jobs requiring degree-level skills. As expected, respondents with advanced credentials were the most likely to be in degree-level positions.

By program, there were some significant differences. Former Education students were much more likely than others to be in positions calling for degree-level skills. Not surprisingly, former Trades students were the most likely to be working in positions that needed non-degree post-secondary or apprenticeship-level skills.

For some groups, there were differences that appeared over time. The poor labour market conditions of 2010 were reflected in a shift to less skilled occupations; this was particularly evident for men, respondents aged 25 to 29, and graduates of Trades programs. These groups also showed an increase in higher skilled jobs by 2012—this time a reflection of labour market recovery. There was a strong association between these groups, since graduates from Trades programs were typically young males.

There were a few trends evident over the five years. For respondents aged 40 or older, there was a notable and steady increase in the percentage of jobs with degree-level skills, and there was a similar increase for former Education students. There was an association between these two groups, since the Education graduates were considerably older than others. Education graduates also showed a fairly steady decrease in employment in jobs requiring non-degree post-secondary- and secondary-level skills. Since 2010, former Trades students showed an increase in employment in non-degree post-secondary positions and corresponding decreases in jobs that required only secondary school or brief training.

Graduates were in skilled occupations.

There were differences by age and gender.

There were differences by credential.

Education graduates were in high-skilled positions.

Labour market conditions influenced results.

There were trends for older respondents and Education graduates.

For respondents of the Diploma, Associate Degree, and Certificate Student Outcomes Survey, it seems that differences in occupation skill level, over time and between groups, were those that related to the respondent's former program and to labour market conditions. For example, former Education students were more likely than others to be in highly skilled occupations, and respondents from Trade programs were most likely in occupations requiring other post-secondary (including apprenticeship) skills. With regard to the labour market, there was a noticeable drop in the skill level of occupations in the year of the lowest labour force participation for respondents. Conversely, it appeared that higher skilled jobs were more available when the labour market improved.

Differences in occupation skill level were related to program and labour market.

The Diploma, Associate Degree, and Certificate Student Outcomes Survey is one of the BC Student Outcomes annual surveys that collect information from former post-secondary students, who are asked to evaluate their educational experiences and to talk about their employment and further education. For more information, see the [BC Student Outcomes](#) website.

About BC Student Outcomes

Endnotes

1. Programs are grouped using the BC CIP Cluster, a roll-up based on the Classification of Instructional Programs (CIP). For a list of the 2-digit CIPs that are rolled up into each of the BC CIP Clusters, please see the [Student Outcomes Glossary of Terms](#).
2. The employment rate is the number of employed as a percentage of all respondents, filtered for graduates only. The unemployment rate is the number of unemployed as a percentage of respondents in the labour force, filtered for graduates only.