High school apprenticeship in Canada: Exploring social mobility

Dr. Alison Taylor, Dr. Milosh Raykov, Zane Hamm, University of Alberta, Canada

Introduction

This article explores the pathways followed by former high school apprentices in Ontario and Alberta, Canada a few years after leaving school. The aim of most provincial high school apprenticeship programs is to provide an alternative pathway for youth who may not otherwise stay in high school to earn a diploma while gaining useful work skills which are in high demand. There is therefore a *social mobility* aim in programs. The main questions addressed in this paper are: To what extent does high school apprenticeship fulfill its goal of targeting youth who are 'at risk' of not completing high school? And under what conditions can such programs support upward social mobility for youth?

Context

Youth transitions from secondary education to working life have become a focus for policy makers in most OECD countries in recent decades. A study of transition systems across 14 countries (OECD, 2000) suggested that effective transition systems are characterized by well organized pathways that connect initial education with work and further study and widespread opportunities to combine workplace experience with education. They provide good information and guidance and tightly knit safety nets for those at risk. In Canada, most provinces support a range of secondary school initiatives intended to facilitate youth transitions particularly for non-college bound youth, the 'forgotten half' according to a 1988 US report by the William T. Grant Foundation. Provincial education departments have encouraged school authorities to more clearly articulate different career pathways for youth, making connections between curriculum and labour market destinations more transparent. One way to do this is though experiential learning opportunities, including cooperative education, work experience programs, internships, and high school apprenticeship programs (Taylor, 2007).

High school apprenticeship programs allow students to work toward their high school diploma and apprenticeship certification at the same time. It is hoped that attracting younger apprentices will improve apprenticeship completion rates, which have been lower than for other post-secondary options (Sharpe, 2003) while also raising high school completion rates. The *Ontario Youth Apprenticeship Program* (OYAP) allows students 16 years of age or older to earn credits toward their high school diploma while

training in an apprenticeable occupation. The *Registered Apprenticeship Program* (RAP) in Alberta is similar except that all students are registered as apprentices with the provincial Apprenticeship Board when they enter the program (unlike most OYAP students).

In both provinces, high school coordinators are charged with the task of helping students find trade employers willing to provide on-the-job apprenticeship training, monitoring youth in the worksite (e.g. ensuring safety standards are met), and ensuring that youth complete both high school and apprenticeship training requirements. In Ontario, the School-College Work Initiative (SCWI) encourages school divisions to partner with colleges to provide the first level of **in-class** apprenticeship training for high school students (referred to as 'dual credit' initiatives) as well as with employers to provide **on-the-job** training, although in practice, most apprentices are involved in only the latter (Taylor, 2009). Ontario students earn cooperative education credits for on-the-job apprenticeship training. In Alberta, most students take up to eight RAP courses in one of 50 apprenticeship trades, and again, there are a few *dual credit* programs (Watt-Malcolm and Taylor, 2007). In both provinces, youth can feasibly complete the hours required for the first year of their apprenticeship by the time they finish high school.

Our study

Data for this study were drawn from a survey and interviews with young people who had previously participated in a high school-based apprenticeship program before 2006. In Ontario, *Apprenticeship and Industry Training,* the government department responsible for monitoring apprenticeship, helped us recruit survey participants by mailing an invitation to former youth apprentices to participate in our survey. In Alberta, a private-public foundation called *CAREERS the Next Generation* helped us compile a database of former high school apprentices. Since a number of these apprentices had received a RAP scholarship in high school, there is a degree of selection bias in the Alberta case. To address this, participants were also recruited through school district coordinators. In both provinces, an invitation to complete an on-line survey was sent to former high school apprentices, with an option to include their contact information to the researchers if they were willing to be contacted for an interview.

The initial online survey was completed by 125 former apprentices (68 OYAP, 57 RAP). Additional surveys were completed during the interview phase in Alberta, increasing the number of completed questionnaires to 168 (68 former OYAP and 100 former RAP). Questionnaires asked respondents about their family background, experiences in high school, and training and employment outcomes. To this point, we have conducted 53 interviews with former apprentices in Alberta and 33 interviews in Ontario. We tried to over-sample 'non-traditional apprentices', for example, females in male-dominated trades (i.e. trades other than hair styling) and ethnic minority youth. Interviews lasting an average of 60 minutes were conducted in person or by telephone and were fully transcribed. Our analysis of interview data is currently in process.

This paper focuses primarily on the survey data and our preliminary analysis of qualitative data from ten apprentices in Alberta. We provide initial responses to the following research questions:

1. To what extent does RAP provide opportunities for youth who might not otherwise complete high school and enter a trade?
2. What are the initial outcomes for youth?
3. How do these outcomes compare with their parents?
4. How can programs foster social mobility?

Findings

We note from the outset that the complex topic of social mobility has been a focus of sociologists for decades (Crompton, 1998). Researchers conducting earlier large-scale quantitative studies of inter-generational mobility include Blau and Duncan (1967) in the US and Goldthorpe (1987) and Saunders (1996) in the UK. Related to methodological issues (e.g. whether to focus more attention on absolute or relative rates of mobility) quantitative researchers tend to disagree over whether *ability and effort* or *class background* are the most important features leading to occupational success (Savage, 2000). UK policies, for example, the 2009 report entitled "New opportunities: Fair chances for the future," tend to be optimistic about the possibility of developing an upwardly mobile society: "With the right policies we can both raise the overall level of skills, incomes and the number of good jobs, while at the same time building a fair society" (p. 4).

Our paper assumes that social mobility is complex and that large-scale quantitative research is partial. We focus on mobility in what are considered to be lower occupational levels—mobility into trades, seen as intermediate-skilled manual occupations. Few Canadian youth pursue this pathway despite reported high levels of occupational demand. Yet trades careers have the potential to provide rewarding opportunities for youth given the increasing "positional competition" that has accompanied increasing educational attainment and the massification of higher education, as more qualified young people chase too few good jobs (Brown, Lauder and Ashton, 2011). Our analysis considers the role of individuals' socio-demographic characteristics, schools, and workplace and labour market factors in promoting or hindering social mobility.

Question 1: To what extent do apprenticeship programs provide opportunities for youth who might not otherwise complete high school and enter a trade?

The high school completion rate for our survey respondents was 95.7%, which is higher than average. In Alberta (Table 1), the percentage of the population age 20 to 24 years that was **not** a high school graduate and **not** attending school was 9.5% in 2009/2010 while the rate of high school non-completion for RAP apprentices was 5.1% (McMullen and Gilmore, 2010). Similarly, in Ontario the population age 20 to 24 years not completing high school was 7.2% while for OYAP apprentices it was only 3%.

Table 1 **High School Dropout Rates** (Canada, 20 to 24 years old)

	Alberta	Ontario	Canada
Provincial / National Rates*	9.5	7.2	**8.5**
RAP/OYAP Rates**	5.1	3	**4.3**

Sources: RAP/OYAP Survey, 2010-2011; McMullen and Gilmore, 2010

* Percentage of the population (20 to 24 years old) that is not a high school graduate and not attending school; ** Not completed high school, Average age = 22.4 years

We interpret these findings in two ways. First, they are partly a reflection of selection criteria for youth apprenticeship programs which often require that students have passing grades, be 'on track' to graduate, and have good attendance records. Further, school coordinators generally encourage motivated students who will be seen as good 'ambassadors' for their school to apply to apprenticeship programs (Taylor, 2010). However, interviews with a minority of youth (all male) suggest that they may not have

completed high school without the apprenticeship program. For example, a young man who began his electrical apprenticeship in RAP comments:

> I was kind of a rebel in those days. At the end of grade 10, I had ten credits. You need 100 credits to graduate, so it wasn't looking very good for me. I got expelled from [high school] and went to [a different high school that had an apprenticeship program]. I buckled down and heard about the RAP program. I started doing the RAP program and at the end of grade 11, I had 55 credits…. I had a lot of support from the teachers saying, "keep up the good work. In two years you got half the amount of credits you need to graduate; you've got to buckle down big time." So at the end of grade 12, I ended up graduating with 144 credits and two scholarships, one for most improved deserving student and one for my RAP scholarship. **That RAP program saved me.** (I-1) (emphasis added)

Although most other youth in our study note that they would have completed high school with or without RAP, many acknowledged that they did not enjoy high school, partly because they did not feel that schools were open to their learning styles. Like the former high school apprentices in carpentry and auto trades interviewed in a related study (Taylor and Freeman, 2011), a high proportion referred to themselves as 'hands on' learners who tolerated schooling but blossomed in a workplace learning environment. A few also acknowledged having learning disabilities, which made high school extremely challenging. Our survey findings, for example, suggest that over half of the youth apprentices who did not complete high school had a learning disability.

This youth who is currently a third year apprentice machinist reflects:

> I went into RAP just because I had a noticeable and visible, very apparent learning disability and I figured that, it was concerned with reading, so I probably should pick a career that involves less reading and less school. School is pretty much focused completely around reading skills. …
> *How was high school for you?*
> High school was difficult because of being in 'learning strategies' [special program]. I was never a popular kid but I always had lots of friends and did the best I could. High school was okay, it was okay.
> *What was your favorite subject?*
> My favorite subject was art class, obviously. I like to create things. That's another reason I wanted to get into the trades, because I knew I was really creative and I liked working hands on and I liked creating things. That's what tradesmen do, really. …
> *How would you describe yourself as a learner?*
> I would say practically, on the field, I have to pick it up as I'm doing it. I'm an awesome learner. I'd say I pick things up quick and I remember things. I'm smart when it comes to learning new tasks and remembering new tasks, then progressively learning about them and improving on them. I would say I'm great in a hands on environment. As far as a non-hands on environment goes, not very good. (I-49)

Our surveys of former youth apprentices also found that almost one-quarter was female, which is higher than the proportion of females in trades in Canada overall. In 2007, women made up 11% of individuals who completed an apprenticeship training program and most of these were in the 'food and services' trade group, which includes the female-dominated trade of hairstylist (McMullen, Gilmore and Le Petit, 2010). In other major trade groups, women made up only 1 or 2% of completions (Skof, 2010). In our survey sample, 7 females (17.5%) were in hairstyling trades and the others were in male-dominated trades. This finding suggests that high school programs are succeeding in attracting some non-traditional trades entrants who might not otherwise consider a trade.

Further, 44% of former youth apprentices surveyed admitted that they had no contacts in the trades prior to entering the program. This lack of social capital is therefore a key area addressed by programs.

Question 2: What are the initial outcomes for youth?

In his longitudinal study of apprenticeship completion in Canada, Prasil (2005: 16) notes that the term 'completion' needs to be clarified since it may be refer to those who complete the "on-the-job" training, the "in-class" training, and both. Further, apprentices may complete both of these and not have written the certification exam, and individuals may write the certification exam without having been registered as apprentices.

According to our survey data, 41.7% of youth respondents had attained a trade certificate or qualification. Further, 45% said they had completed apprenticeship training, and 27% were still apprenticing. While apprenticeship completion rates overall in Canada vary by trade, Sharpe and Gibson (2005) suggest that the overall rate in 2002 was 38.8%,[1] lower than the certification and completion rates for our youth apprentices. Further, we can predict that the youth rate will continue to increase since we are considering completion at a very early stage whereas large-scale studies indicate that few apprentices obtain certification in the expected time.

For example, a longitudinal study following a cohort of registered apprentices from 1992 until 2002 found that eleven years after registering, only about half of the apprentices had completed the trade they had started, almost half dropped out, and between 5 and

12 percent were still continuing (Prasil, 2005). 2007 apprenticeship data suggest that 26% of completers were age 20-24 years and 32% were age 25-29; similarly 17% of those attaining certification were 20-24 years and just under one-quarter were age 25-29 (Skof, 2010). Our interviews suggest that most youth who are still apprenticing are making good progress and are very likely to attain certification. Also, as table 2 shows, a significant number of RAP/OYAP students attained a college certificate or diploma (28.7%) or university degree (2.4%).

Table 2 **Highest Level of Educational Attainment**

Educational Attainment	%
Less than High School	1.2
High School	35.4
Trade certificate of qualification	32.3
College certificate or diploma	28.7
University degree	2.4

Source: RAP/OYAP Survey, 2010-2011

There are factors working for and against high completion rates among young apprentices. Factors encouraging higher completion rates include, first, the fact that younger apprentices tend to find the 'in-class' apprenticeship training easier because their formal schooling is more recent, and second, youth apprentices often complete their training before they have family responsibilities that may make it more difficult for them to register in the 'in-class' training (usually involving a decrease in salary and potential movement for rural youth to a larger centre). Many of the youth surveyed were still living at home with parents. Parental support no doubt facilitates completion. But on the other hand, we might expect lower completion rates from youth apprentices who are less certain about career pathways, have less work experience in trades, and are often in an exploratory phase with respect to career interests.

Analysis of our survey data also reveals workplace and labour market factors that are related to higher levels of training completion. For example, youth who had more stable work (i.e., worked at one or two as opposed to over five companies) were more likely to complete their training. Related to this, youth who had lower earnings and hours of work were less likely to obtain certification. This is particularly important given the influence of

recession on apprenticeship training, and points to the importance of finding the best match for youth apprentices initially and ensuring that employers support training.

Our interviews suggest that a number of youth had experienced poor training practices and some took action to change their situation, as suggested in the following comments:

> *Why did you leave your last job?*
> It's partially because they were expecting more than what I could produce as an apprentice. …everybody's just there to make money. They don't really want to help you. (I-4 mechanic)

This 4th year apprentice adds that his previous employer (a car dealership) paid piece-work rates, did not provide adequate supervision, and did not provide opportunities for him to complete his 'in class' training. When we asked another apprentice what was important in a job, he similarly responded:

> Opportunity to learn, that's big. I quit a couple of places because there just was no opportunity. (I-49 millwright)

Learning opportunities were related to having a willing and knowledgeable mentor on the jobsite, having opportunities to develop new knowledge and skills, and being supported in completing 'in-class' portions of the apprenticeship training.

Unfortunately, some youth left the trade left when they did not experience the learning environment they sought and/or if the culture of the trade and workplace were not as expected. For example:

> [Apprenticing as a chef] is not as glamorous as people think. You make no money… until you've worked in the industry for 10 or 20 years. … There's a lot of drugs in that trade too, ridiculous amount of drugs. …When I was 18 I drank enough and partied enough for the rest of my life… Every night we'd go out and then we'd wake up in two hours and go back to work. That was the lifestyle….
> *Do you think franchise restaurants are good places for students?*
> No, they're not. It's money, just a way to get money. If you want to learn, don't go to a franchise restaurant. (I-31, youth not in trade)

Other youth discontinued their apprenticeship because they could not find stable work:

> I'm in the Bachelor of Commerce program [in college]. I worked several jobs after high school, not actually in the heavy equipment technician trade at all…the kinds of jobs I was getting weren't enough to pay the bills, so I needed to head in a different direction…that's why I'm at college. (I-43)

Question 3: How do these outcomes compare with their parents and siblings?

The rate of high school non-completion (Table 3) for youth apprentices according to our survey data (4.3%) is lower than for their mothers (7.2%) and fathers (15.8%). Therefore, many youth apprentices have already surpassed their parents' educational attainment. We can interpret this as a reflection of an increase in *absolute* mobility—higher levels of education and qualification are generally required for jobs in the 'knowledge economy,' or as an increase in *relative* mobility—high school apprenticeship programs provide an avenue for social mobility for youth at risk of not completing high school because of their class backgrounds.

Table 3 High School Dropout Rate among RAP/OYAP Participants and their Parents

	%
RAP/OYAP Participants	4.3
Participants' Mothers	7.2
Participants' Fathers	15.8

Source: RAP/OYAP Survey, 2010-2011

Data from our interviews suggest that former youth apprentices are aware of the importance of a high school diploma and certification for future employability. For example, when asked how important trade certification was to him, this 4th year welding apprentice replied:

> You can have a nice plaque hanging in your house so you know you're not just a high school dropout. I think you should finish high school – that's my view too. In this day and age you can't just drop out and expect to go anywhere fast. It's common knowledge that employers would rather hire a person with credentials over no credentials. (I-50)

In fact this youth was planning to pursue multiple trade tickets moving from welding to pipefitting and then millwright. He comments, "if an employer sees that [multiple trade tickets] on your resume it'll definitely give you a way better chance at a job, especially in a recession." Some occupations of parents were also seen as unsustainable—for example, a number of youth from farm backgrounds (who made up almost 7% of our RAP survey sample) indicated that although they would like to farm in the future, other wage labour was also necessary.

Our survey data suggest that many former apprentices were planning further education (see Table 4). While just over one-third of former youth apprentices aspired to trade

certification as their highest level of education, one-fifth aspired to obtain college qualification and almost one-quarter (24%) aspired to university certification.

Comparing this to parents' educational attainment (as reported by youth) we see that two-thirds of apprentices were aiming higher than their mothers' and fathers' attainment (Table 5).

Table 4 **Aspirations of former apprentices**

	%
Trade certificate	**34**
College	**20.4**
University degree	**23.5**

Source: RAP/OYAP Survey, 2010-2011

Table 5 **Educational Aspirations Compared With Parents' Educational Attainment**

	Less (%)	Same (%)	More (%)
Educational Aspirations Compared With Father's Educational Attainment	**18**	**16**	**66**
Educational Aspirations Compared With Mother's Educational Attainment	**26**	**9**	**65**

Source: RAP/OYAP Survey, 2010-2011

In particular, young women who were former youth apprentices are likely to aspire to attain other forms of post-secondary education. For example, two of the young women that we interviewed in non-traditional trades saw RAP as a 'back up plan', to provide the financial security to pursue other goals. One comments:

> I wanted to go into nursing but I wanted that as my backup plan, my trade. I know nursing or any course at university is really expensive, so I figured as long as I have a trade I can always work at it and have money.
> *So you would have to pay your own way through university?*
> Yeah, of course. I paid for my own way through trade school as well with the exception of my second year. My employer paid for school the second year. (I-15 certified parts technician)

One reason young women in male-dominated trades do not see them as a long term career is because they do not see the working conditions associated with trades work (e.g., long shifts and travel time to job sites, expected overtime) as conducive to future decisions related to marriage and families. For example, a young woman working in the oil and gas sector muses, "Hopefully by the time I plan on having children …I will already have something else under my belt besides being a journeyman instrument tech" (I-13).

She is already looking at “what else can I do” in her workplace and is heartened by the fact that there are a few females in management positions in her company.

While the aspirations of males are not as consistently high and tend to remain linked to trades, a number of interview participants aimed to move from trades into managerial positions or to own their own businesses—they did not see trades work as an endpoint, probably unlike their parents’ generation. For example:

> *Where do you see yourself in five years?*
> Working as a journeyman. I'll still be working in the trade and maybe starting to go into the management process through [name of company].
> *Could you become a manager of a franchise?*
> Yes. There's something like 300 [franchises] across Canada.
> *Could you own a franchise?*
> It's not so much you own them, you just manage one and then you can work up to being provincial manager and western Canada. I'd probably go to something like an assistant manager. I could oversee the mechanical side of things.
> (4th year apprentice mechanic, I-4)

Because of the high growth economy in the oil and gas sector in Alberta, youth were also entrepreneurial:

> I've got a couple of buddies whose dads started oilfield companies, that kind of stuff, self-made millionaires. …
> *What are your goals for the next five years?*
> I'd like to start a business, for sure. I'm just firing up a little oilfield rental company right now, trying to rent out tanks and rig matting and that kind of stuff.
> (2nd year heavy duty mechanic, I-20)

In sum, while interview data suggest that the high aspirations of former youth apprentices in Alberta are related to individual characteristics such as gender and a strong work ethic, data also suggest that *local opportunity structures*, including strong occupational demand, stability of work, and economic growth were also key (cf. Taylor, Lehmann and Hamm, 2011).

Question 4: How can programs foster social mobility?

The preceding discussion suggests that former youth apprentices are generally doing well—most completed a high school diploma and many are aiming higher than their parents in terms of education and careers. This is consistent with a survey of 15-year olds and their parents in schools across Canada in 2000, which found that 61% of youth and 64% of parents expected the child to get at least one university degree (Krahn and Taylor, 2005). We attribute the increase in education and training aspirations partly to

changes in occupational structures (e.g. demanding higher levels of required certification), less security in work along with demands for flexibility, and increasing geographic mobility.

However, programs like youth apprenticeship can also make a difference to rates of relative mobility. For example, we note that a minority of youth would have had difficulty graduating from high school without this participation. However, if programs actually want to foster social mobility for youth 'at risk' and for non-traditional apprentices (e.g. women in male-dominated trades) they need to encourage these youth and provide additional encouragement and support. The majority of youth interviewed in our study were not at risk of dropping out of high school.

Support for apprentices requires ensuring that youth know as much as possible about their chosen trade and career path, and building effective partnerships between schools, training centres, and workplaces. Career development tends to be a missing piece of most apprenticeship programs—although our survey data suggest that guidance counselors were important influences for youth in deciding to enroll in apprenticeship, most learned about their chosen trade after they began their placement. The former chef cited above is a good example of lack of awareness regarding working conditions, workplace culture, and learning opportunities. Part of ensuring that youth are making informed decisions involves providing labour market information about employment rates, earnings, apprenticeship completion rates, and opportunities for advancement in different trades. It is critical that youth expectations are consistent with workplace realities.

While there tends to be a great deal of policy focus on preparing youth for the workplace, there is also arguably a need to also prepare workplaces for youth. A few youth spoke about poor training practices, including lack of mentorship, few opportunities to develop knowledge and skills, and a lack of opportunities to complete in-class apprenticeship training. Such feedback from youth should inform school coordinators' practices, with the goal of ensuring that participating employers are committed to supporting and training youth and that there is a strong learning culture. Employer engagement in apprenticeship training is admittedly a problem and the challenges of school-business partnership are often underestimated (Taylor, 2006). However, our survey data,

suggesting a strong relationship between the number of companies youth have worked at since high school and their completion of apprenticeship training, implies that the initial matching of youth to training placements is very important to youth outcomes.

Finally, although we have not spoken much in this paper about youth who did not remain in trades, our interview data suggest that some youth left their apprenticeship and pursued other forms of post-secondary education because of they did not see possibilities to keep learning and advancing in trades. For example, a young man who was a RAP electrician in high school but then decided to pursue an engineering degree at university admits that his trades knowledge has helped him in his work and that much of his current engineering knowledge has been learned on the job:

> University is more kind of a hoop I guess, that you jump through. I don't need my current education for this job, but I wouldn't have this job if I didn't have that. Most companies figure if you can get through four years of university you can get through anything. (I-27)

Interestingly, this youth felt he had to choose between an electrical engineering degree or an electrical trade, largely because of the lack of articulation between these post-secondary programs. Thus, if the goal is truly to increase social mobility, greater articulation between trades and 'professional' vocational pathways is also needed.

In sum, our study suggests that if youth apprenticeship aims to improve relative social mobility, more focus on attracting and retaining youth 'at risk' is needed. Supporting all youth apprentices involves ensuring that the workplace is receptive to young learners and that youth are adequately informed about trades careers (including working conditions and workplace culture) so that their expectations are realistic. The initial matching of a youth to an apprenticeship placement requires deliberation and care since it is likely to greatly affect outcomes. Finally, greater articulation between trades and other post-secondary education pathways will attract a wider range of youth to apprenticeship.

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Endnotes

[1] Sharpe and Gibson (2005) note the difficulty in measuring apprenticeship completion, noting that rates are constructed based on the aggregate data available in order to estimate the share of registered apprentices who receive their certification.

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