

New Demands and Dimensions for Apprenticeship in the New Economy School Work Partnerships

Ross Edmunds MEd., Education Officer, Ontario Ministry of Education¹
Sheryl Freeman PhD. Candidate OISE/UT, Theory and Policy Studies

ABSTRACT

This paper describes a secondary school transition to work apprenticeship program in motive power trades. This shared enterprise is supported by a steering committee comprised of school, community college, employer and government representatives. Now beginning its fourth year, the program has enrolled over 100 students.

The presentation addresses issues of building a “community of practice” (Lave & Wenger, 1991) to recruit students to skilled trades and to locate willing employers. The steering committee has just recently completed a program evaluation in an effort to better describe the program participants. Particular attention is paid to how students found out about the program and to their motivation for enrolling. Fewer than half of the students have any familial connection to skilled trades and almost all attribute their involvement in the program most directly to their automotive teacher. Similarly, employers credit their involvement to personal contacts initiated by teachers or school board representatives.

While employers report high levels of satisfaction with the program, they remain frustrated in trying to recruit the “right” students to skilled trades and largely expect schools to meet this mandate. This report uncovers some of the issues in attempting to create a spirit of shared endeavour between schools and employers.

Aptly named, ‘school-work transition programs’ articulate the great divide between the world of school and the world of work. Secondary school curriculum in Ontario now provides a school-work transition policy framework in which high school students can pursue the goals of graduation and apprenticeship training at the same time. These apprenticeships depend not just on an open door between the secondary school and the outside world but rather on permeable walls that redefine responsibilities, relationships and realities in a “community of practice” (Wenger & Snyder, 2000).

As newspaper headlines announce impending skilled labour shortages (Ghafour, 2001; McCarthy, 2001) and the Summit of the Americas accentuates the pressures of the

¹ The views expressed in this paper are those of the author and are not meant to be representative of the Ontario Ministry of Education.

global marketplace, the relationship between school, work, and the nation's economic health is under careful scrutiny. "One of the primary reasons for this impatience is the largely uncontested link, in the minds of many policy makers, between a globally competitive national economy and the quality of a nation's schools" (Leithwood, Jantzi, & Mascall, 1999). The debate over what role schools should, could or do play in a nation's economy is not new, nor is it confined to the North American context.

Governments everywhere are investigating ways to share the costs of educating a skilled labour force; apprenticeship training, which depends on business and industry expertise and investment, is a subject of international interest (OECD, 1999). In 2001 Canada's then Minister of Human Resources Development (HRDC), Jane Stewart, announced,

...the looming crisis [in skilled trades]...is a top priority ... But both the provinces and the private sectors must also try harder to turn out workers who can adapt to a rapidly changing work world. (McCarthy, 2001)

School-work is one cornerstone of current Ontario Secondary School Reform. Through the *Passport to Prosperity* campaign the government hopes to attract more employers to participate with schools in providing relevant career information and workplace experience that will assist students in making choices. The out-of-classroom career related experiences employers are being asked to sponsor range from career talks and industry tours which last a few hours, through job shadowing and work experience that may take place over several days, to longer-term commitments such as cooperative education and Ontario Youth Apprenticeship Program placements.

All students, no matter what their post-secondary destination, benefit from work experience. Secondary school students constitute a large percentage of the part-time work force that supports, for instance, the fast food and retail industries which specialize in the adolescent market niche. These positions have come to be known as “Mc Jobs”.

What would have happened if you didn't take that Grade 11 Auto course?

I don't know. I don't have a clue I'd probably be flipping burgers at McDonalds. (CITI Graduate) (Freeman, 2002)

Mc Jobs offer quick training, flexible hours, a work environment of adolescent camaraderie and transient employment, but not a commitment to a ‘career’ as a ‘coffee barista’.

By contrast apprenticeship, the most complex of school-work initiatives, demands a significant commitment from both student apprentices and employers. Apprenticeship signals a departure from the adolescent world.

I have seen a difference - there's a little more maturity, and little more understanding of what it is to go out and earn a dollar, a little more responsibility. (Mother of Grade 11 CITI student) (Freeman, 2002)

Apprentices work closely with a limited number of senior trades people, or sometimes just one mentor. Work hours are longer and less flexible; apprentices, for example, cannot trade shifts to accommodate social engagements. Further, the apprentices' commitment to learning means returning to school to meet program requirements and to continually upgrade their skills to comply with changing technology and safety standards. At the outset, apprentices often earn less money than their friends working in ‘Mc Jobs’.

For employers, apprenticeship is a long term investment. In a ‘just-in-time’ economy driven by customer service, apprenticeship training takes time. Gifted trades

people are not necessarily gifted teachers able to train and motivate a new labour force. Employers have to hope that they can recruit and retain the right apprentices, while at the same time maintain senior staff and a substantial volume of business.

Governments have for a long time established legislation and regulations governing apprenticeship training. In some cases safety is an issue and the regulation of trades training is seen to protect the public. Recent reforms to provincial policy have sought to create a more flexible apprenticeship training system to respond to changing labour market conditions. Although the stakeholders may not agree on what role government should play, most believe that more students, parents and teachers need to be made aware of the opportunities and benefits of apprenticeship training. The debate among those involved in apprenticeship training is ongoing:

- Should government take a more active role in promoting apprenticeship or is apprenticeship training industry's responsibility?
- Should the cost of apprenticeship training be borne by employers or should it be funded through the government's education budget?
- Should a tax credit scheme be established to support employers who train apprentices? Or
- Do employers need to recognize that a corporate culture that supports training, is just good business?

Government has shaped the current conditions under which apprenticeship takes place. It is these conditions which, ironically, serve both to make apprenticeship successful, and, at the same time, not successful enough.

Clearly, the government will continue to play a major role in defining the apprenticeship experience. The government in Ontario has recently established a goal of doubling the number of new apprentices in the system by 2004-05. They report that

5,500 students from 67 school boards are involved in the Ontario Youth Apprenticeship Program.²

Recruiting student apprentices with the right attitude and aptitude is made more difficult by the social stigma that surrounds the skilled trades. Classic studies in Britain and in the United States ask, "Why do working class boys get working class jobs?"(MacLeod, 1987; Willis, 1977). In Canada 'streaming' students into vocational schools or programs has arguably achieved the same ends (King & Hughes, 1985; Simon, Dipbo, & Schenke, 1991; Wotherspoon, 1998). Promoting apprenticeship means changing long established attitudes about the purposes of secondary school and the value of the skilled trades. It also means fostering the relationship between the two.

"There are barriers," Shaw [TDSB, OYAP coordinator] admits, "Parents say, 'My kids are going to do better. They are going to go to university.'" (McCarthy, 2001)

Partnerships between education and industry need to be balanced to meet both educational goals and labour market demands. New pressures to diversify secondary school programs have led to an abundance of literature documenting school-work transition. Most studies conclude that the success of such programs depends on quality curriculum and a partnership between the school and the community which acknowledges and articulates expectations for students, teachers and employers (Berryman, 2000; Cantor, 1997; Olson, 1997). In Toronto, CITI Motive Power is one school-work apprenticeship program that affords students the opportunity to pursue motor vehicle repair apprenticeship training while completing secondary school graduation requirements.

² <http://www.edu.gov.on.ca/eng/general/postsec/wrkfrce.pdf>

CITI Motive Power Program Description

A vital school to work system depends on three key social actors - schools, students and employers (Shapiro, p.4)

Fostering Community

In 1998, Ross Edmunds, a teacher specially assigned to the then Scarborough Board of Education Co-operative Education Department, was appointed to explore opportunities available through the School to Work Apprenticeship Program, or SWAP. Historically, SWAP programs have been plagued with problems related to student recruitment and inconsistent partnerships between government, unions, industry and schools (King & Hughes, 1985).

Who are the players?

Edmunds' early conversations with stakeholders in government, education and the motive power industry led to the formation of the current Co-operative Education, Industry and Technological Studies Initiatives (CITI): Motive Power Program¹. CITI was constructed as a model for building apprenticeship programs in the skilled trades. The CITI program has been defined, driven and sustained by the collective efforts of the steering committee comprised of:

- training consultants with the Ministry of Training, Colleges and Universities (MTCU)/ Ontario Youth Apprenticeship Program (OYAP),
- regional representatives from Human Resources Development Canada, (HRDC),
- school administrators from the Toronto District School Board and Toronto Catholic District School Board,
- co-operative education representatives from the Toronto District School Board, Toronto Catholic District School Board, and Dufferin Peel Catholic District School Board

¹. Although this Steering Committee was formed within Scarborough its structure and role have been continued in the amalgamated TDSB.

- administrators and teachers from Centennial College School of Transportation, and
- employers in motive power trades.

Initial meetings with the local training consultants to review previous School Workplace Apprenticeship Programs (SWAP) in Scarborough revealed that basic level programming in traditional vocational schools did not match the academic demands of apprenticeship training. Consequently, a decision was made to investigate the viability of a high school apprenticeship in the automotive service sector that would take a different approach. The new program would recruit students from both academic and vocational schools' automotive programs. These highly popular courses provided a pool of students who were interested in fixing cars, a pool that would eventually be matched with the many local commercial automotive service enterprises such as one-person shops, new car dealers and truck and fleet operations. A local asset, Centennial College, the main centre for automotive and truck coach service training, was already delivering the in-school motive power apprenticeship training for regular apprentices from across the greater Toronto area and would prove to be an important partner in the project.

A previous attempt at a partnership between the college, the Ministry of Training and the secondary school system had failed even before it got off the ground. Students and teachers were surprised by the demands of the skills proficiency entrance test. The college had arbitrarily made the test a requisite for program entry, and, when not enough students passed the test to make the program viable, the program was cancelled. Given this history, the committee stakeholders re-evaluated program outcomes and designed a curriculum to ensure students' success. This minimum skill set was defined in

consultation with employers and became a selling point for recruiting student placements.

Several meetings with potential partners: teachers, employers, college administrators and school board representatives were organized. Over a period of several months, some of those 'at the table' stayed and others left; the college, school board officials and government apprenticeship training consultants were regular attendees. It was clear that a strong employer base was needed at the planning stage. Ryder Transportation Services had expressed an interest in increasing the numbers of apprentices in their organization and agreed to send a representative to work with the group. The local HRDC representative was able to provide some funding for student transportation, for textbooks and for tools. Once the program was established, HRDC also funded a position for a part time 'job coach'. The CITI Steering Committee was fostered and fed through a central facilitator; Ross Edmunds' job was to ensure an increase in co-operative education technological studies placements and to establish apprenticeship programs.

Establishing Practice - The Program

In January 1999, eighteen months after the initial meetings began and only six weeks after the approval of HRDC funding, the project began. Grade 11 'automotive' students were recruited from across the city. Teacher-employer teams interviewed 39 interested applicants and all 39 were accepted into the initial pilot. Students continued morning classes at their home schools and traveled to Centennial College in the afternoon from mid-February to mid-May. At Centennial, students were segregated as a high school class taught jointly by high school and college teachers in college labs. Students entering the program had a wide range of experience - some had strong

backgrounds in automotive, while others had less ‘hands-on’ experience depending upon what ‘shop’ facilities had been available in their home schools. The ‘book work’ demands were rigorous and students faced weekly evaluations. In mid-May afternoons were given over to co-operative education placements in close proximity to students’ homes (where possible).

Apprenticeship is different from co-operative education placements.

[CITI student] is automotively inclined whereas you get a lot of co-op kids... They’re just here to get a credit for school.
(CITI Employer) (Freeman, 2002)

The employer and student commitment is more significant. Both sign a legal training agreement approved by the Apprenticeship Branch of the Ministry of Training, Colleges and Universities. It is the expected and usual practice for students to be offered summer employment and, though government subsidy is available, the funding is so minimal that few employers bother to apply.

In the second year of the program students return to their home school for semester one and to Centennial College and their employers for their final semester. In many cases students continue to work part-time for their employers throughout the school year.

This is a highly specialized apprenticeship; it recruits 40 students annually from across the Greater Toronto Area. For students committed to motive power technology the program affords the first of three levels of apprenticeship schooling, and the opportunity to accumulate ‘hands-on’ experience while they complete high school credits. Since students complete all high school graduation requirements, the apprenticeship program does not prematurely narrow their options.

In the early days, the steering committee creatively addressed a number of challenges. The largest challenge to the project came not from industry, but from schools and the structures governing schools. Initially, some automotive teachers felt threatened by a program they perceived as designed to remove their best senior students. Staffing issues are sensitive for secondary school teachers, especially those in option areas where losing even a few students from a specialty program can jeopardize 'sections'. For this reason some teachers at first balked at assisting the program, and, in boards as large as TDSB and TCDSB it became difficult to recruit students in a hurry, or to get answers to questions about credits, transportation and employment.

CITI Motive Power as it works now ... 2002

The CITI Motive Power Program is advertised to Grade 11 students in the Toronto District School Board, the Toronto Catholic District Board and Dufferin Peel Catholic District School Board through automotive and/or technical teachers, co-operative education teachers and guidance counselors. In addition to presentations at individual schools, each fall a tour and an information open house is held at Centennial College. Centennial teachers, secondary school teachers, ministry representatives, employers, senior students and graduates talk about the program and are available to answer questions. Interested students complete an application through their schools' technical and/or guidance departments. Applications are screened and students are then invited to an evening at Centennial College where they are interviewed by teams comprised of representatives from secondary and college motive power programs and employers. After the interviews, selected students receive letters of acceptance some time

prior to January. This selection process has garnered the program a level of prestige not previously evident in secondary school tech programs.

The program begins in February, in semester two of the school year. Students attend two secondary school courses at their home schools in the morning, and the CITI Program in the afternoon. During the first 3 weeks of the program, students begin courses in transportation technology and co-operative education, then from March until mid-May, they study a pre-apprenticeship program of employer mandated skills designed by employer representatives and vetted by Centennial College.

In order to be able to grant high school credits, two high school teachers (one from TDSB and one from TCDSB) are assigned to the program. These teachers work directly with the program coordinator, college personnel and employers to design the two-year curriculum, and they are also responsible for delivering the pre-employment skills package of health and safety instruction, instruction in worker education agreements, the history of trade unions, and business-writing skills, including interview and resume skills. They coordinate specialized field trips to Ryder, Honda, General Motors and the International Auto Show, find student placements, and, lastly monitor students in the workplace. They work hand in hand with college instructors to deliver trade instruction.

When college classes end, students are placed in co-op apprenticeships for afternoons in May and June. It is understood that wherever possible employers will give CITI students the opportunity for paid employment in July and August. During their work placements students are monitored by TDSB and TCDSB teachers, and, throughout the

semester, students attend “integration days” at Centennial College to discuss and reflect on what they are experiencing in the workplace.

In semester one Grade 12 students return to their home schools to complete their secondary school credits, and in semester two to Centennial to study Common Core Motive Power Apprenticeship Training. Common Core consists of five subject areas: applied work practices and procedures, engines, power trains, steering suspension and brakes, and fuel/electrical. Compared to traditional apprenticeship training, the CITI Motive Power Program affords additional ‘hands-on’ time to learn the Common Core material.

Figure 1 outlines the numbers of students who have applied, have been accepted and have been retained in the CITI Motive Power Apprenticeship Program to date:

Figure 1. CITI Motive Power Recruitment and Retention

Program Intake	Applicants	Accepted	Completed	Percentage
February 1999	39	39	28	72%
February 2000	66	39	33	85%
February 2001	77	40	32	80%

In January 2001 the CITI Steering Committee undertook a program evaluation to better identify the student population and to determine how students and their parents hear about the programs, and who or what influences their decision to enter a trade. Do students come from families where their fathers, brothers or uncles are mechanics? To what extent has their decision to enter the trade been influenced by family, by schooling or by both? Equally important is the identification and examination of the employers who are actively involved in training apprentices. Who are they, and what motivates their involvement? How do these parties define and evaluate the success of the program, and what suggestions can they bring forward for program improvement?

Key Findings

In the spring of 2001 the CITI Steering Committee surveyed all students, their parents and the employers who had been involved in the program at any time since its beginning. As a follow up to the surveys, we conducted interviews with 7 students, 3 parents and 4 employers.

Although the CITI Steering Committee has tried a variety of strategies to promote the program, most frequently students list automotive teachers as their source of information. In many instances students reported that the automotive teacher was key in ushering them through the application process and encouraging their interest in the trade.

This quote is representative:

I heard about it [CITI Motive Power] from my teacher. I was really close with him first in Grade 10. ... He wanted to get me into the trade so he was training me a little bit more. ... I would keep in touch with him every day I had a day off from college. I would tell him what I was doing. I would always go visit him and he would be proud of me... He wants me as a lead hand in his class for this semester coming up. ...I appreciate a lot what that teacher did for me. (Grade 12 CITI Student) (Freeman, 2002)

Almost all students, 95 per cent, had taken auto in school but only 58 per cent indicated they had experience working with cars or trucks outside of school prior to the CITI Program.

Parents, too, reported that they heard about the program from their children and from the automotive teacher. In schools without automotive programs students indicated that they had heard about the program from a cooperative education teacher. All of these findings underscore the critical role teachers and programs played in recruiting students.

It is difficult to discern students' and parents' socio-economic status from available information, but, given responses in both student and parent surveys, it is fair to

say that almost half, 47 per cent, of respondents live in families where skilled trades are prevalent, but no one skilled trade is predominant. Open-ended questions about skilled trades training had varied responses: among them were carpentry, electrical, plumbing and automotive. We were interested in testing social reproduction theory (Bowles & Gintis, 1976), the idea that a students' interest in the trade is fostered in the home; and we found that 55 per cent of respondents listed no familial connection to the trades. The majority of parents, 67 per cent, were high school graduates and of those 21 per cent were community college graduates.

The student profiles are not novel, nor unexpected. These students are “hands-on” learners who usually engage in traditional “tech” programs and who are not necessarily academically motivated. Findings indicate that once students are given the opportunity to extend their technical interests, they become more engaged in schooling beyond their performance in technical areas. If such learners are more receptive to concrete, realistic illustrations and to the use of manipulatives, to what extent have teachers integrated these strategies in curriculum delivery in academic subject areas? Several students report they are “good” in maths and sciences, and that, in fact, they enjoy these subjects when they see an application for the content. Engaging students in hands-on technical programs and integrating this learning with traditional academic subjects is one way to better ensure higher academic standards for students entering trades.

It is alarming to hear in interviews the students' poor self-concept as learners. Prior to their enrolment in this program they describe themselves as, “No, no I was a bad kid”, or:

So your parents are happy now with the program?

Yeah, they are happy now with the program. They are just amazed - how could such a dull kid that we raised, steer in this right direction...

A 'dull kid', what do you mean by that?

Well, in a joking sense.

What?

Oh, I didn't think you were going to go and sign up for a program that you heard about like this?

So they are surprised by your initiative?

Yeah, they are surprised, very astonished as such.

(Freeman, 2002)

Interview data suggests that CITI Motive Power students have not felt confident in their academic abilities. To what extent can this learner identity (Ball, Maguire, & Macrae, 2000) be attributed to how students have learned to perceive themselves at school?

The data confirm the critical role teachers play in recruiting the students, in talking to the parents, and in promoting the program. Of the students who participated in the interviews, almost all talk about the relationship they had with a teacher who shepherded them through the interview process and into the program. More than just giving these students information, teachers gave these students the confidence they needed to believe that they could do it.

Most employer respondents were either owners of smaller shops that employed fewer than 5 people or service managers in mid-sized or large shops. Employers, also, reported that their involvement in the program was a direct result of a telephone call or visit from a teacher. In interviews with three employers in three very different shops, all participants expressed frustration over finding apprentices:

People used to want to be a mechanic now nobody wants to be a mechanic

What changed?

Hours, a lot of work ... The biggest problem in this business is the wages and the hours, the wages are too low and the hours are too

long. And now in the apprenticeship board to get your license you have to get from 60 -70% to pass your tests. There is a lot of schooling involved. You have to decide what you want to do with your life and if you decide you want to work in the automotive trade, you just do it. There's a lot of work on Saturdays and they don't want to work Saturdays because they want to go and party Friday night. You have to be dedicated. Putting them in the workplace while they are still going to school is a really good idea. (Service manager, late 40s, small franchised shop)
(Freeman, 2002)

Employers want to hire apprentices committed to the trade, apprentices who are willing to learn and who are without 'attitude'. In reviewing the employer list for entry level criteria, it seems to be expected that high school apprentices will arrive without much left to learn. It is critical to the program that employers realize that they must engage in teaching and that students must have numerous opportunities to learn. Finding the "right" placement is at least as problematical as finding the "right" student.

So, what have we learned?

We have learned that prestigious apprenticeship programs can happen. Such programs depend upon the power and vision of the people who build them. CITI is a sophisticated and comprehensive secondary school program. It is driven by

- a recognition of the academic demands of the trade,
- pre-employment preparation,
- technical skill development, and
- a supportive school-work transition policy.

Community partnership provides a more resilient model than previous one dimensional traditional approaches.

The students who are attracted to the program often have a poor academic self concept. Their preference is for hands-on learning; they like to fix things. Once they are

able to see a connection between ‘doing’ and learning, they become more actively engaged in schooling:

I started liking going to school was because of this class. I wouldn't want to miss the class. For automotive it's not just transportation you need, you also need English, mathematics.
(Grade 12 CITI Student) (Freeman, 2002)

They can be successful in technical subjects and at the same time increase their academic achievement.

If old world apprenticeships were built on single relationships between a craftsman and his apprentice over time, today's apprenticeship is multi-faceted, ever changing and predicated on lifelong learning for both master and apprentice. The CITI Motive Power model approaches technical education, and, in particular, apprenticeship training for secondary school students, recognizing the need to include all the stakeholders in the design of the program. The CITI Motive power Steering Committee capitalizes on expertise from all sectors to vision and re-vision the program in a sustained way. Technical teachers play a significant role in promoting apprenticeship among students, parents and employers, and can be significantly empowered when they offer a program that is supported in the community and provides variety of supports necessary for a successful school-work transition.

The approach to apprenticeship described in this paper reflects a network made up of interconnected courses and school supports, meaningful opportunities for secondary teachers to work with their college counterparts, a framework for employer consultation and feedback and a tangible pathway to a meaningful destination for students exiting school to a workplace destination. It reflects a programmatic approach to technical education and apprenticeship which relies on the support of a community of practice, a

community manifested in the membership of its steering committee. People, not policy, make this program work.

References

- Ball, S. J., Maguire, M., & Macrae, S. (2000). *Choice, Pathways and Transitions Post-16, New Youth, New Economies in the Global City*. London: Routledge Falmer.
- Berryman, S. E. (2000). *Designing effective learning environments: cognitive apprenticeship models*. Available: <http://www.ilt.columbia.edu/k12/livetext/docs/berry1.html> [2000, 12/28/00].
- Bowles, S., & Gintis, H. (1976). *Schooling in capitalist America: educational reform and the contradictions of economic life*. New York: Basic Books.
- Cantor, J. (1997). *Registered pre-apprenticeship: Successful practices linking school to work*. Available: <http://scholar.lib.vt.edu/ejournals/JITE/v34n3/Cantor.html> [2000, 12/28/00].
- Freeman, S. (2002). *CITI Motive Power: A Pilot Pathway School Work Apprenticeship*. Toronto, ON: Toronto District School Board (TDSB).
- Ghafour, H. (2001, 27/2/2001). Popular mechanics, A university education is not the only path to a successful career. *The Toronto Star*, pp. F1-F2.
- King, A. J. C., & Hughes, J. (1985). *Secondary School to Work: A Difficult Transition*. Toronto, ON: Ontario Secondary School Teachers' Federation.
- Leithwood, K., Jantzi, D., & Mascall, B. (1999). *Large-scale reform: What works?* London, England: Department for Education and Employment.
- McCarthy, S. (2001, 27/02/2001). Skilled-worker shortage could reach one million. *The Globe and Mail*, pp. A1, A7.
- Olson, L. (1997). *The School-to-Work Revolution*. Reading, Massachusetts: Addison-Wesley.
- Shapiro, D. *School-to-work partnerships and employer participation: Evidence on persistence and attrition from the National Employer Survey*. National Center for Postsecondary Improvement, Stanford University, School of Education. Available: <http://www.stanford.edu/group/ricpi/publications/Persistence.pdf> [2001, 22/03/2001].
- Simon, R. I., Dipbo, D., & Schenke, A. (1991). *Learning work, A critical pedagogy of work education*. Toronto, ON: Ontario Institute for Studies in Education, OISE Press.
- Wenger, E. C., & Snyder, W. M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, 78(1), 139-145.
- Wotherspoon, T. (1998). *The Sociology of Education in Canada*. Toronto, ON: Oxford University Press.