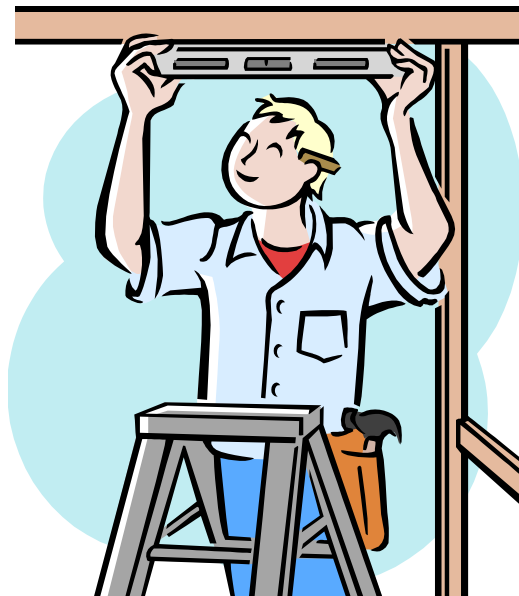


Made In B.C. – Volume V

A History of Postsecondary Education in British Columbia

Apprenticeship

And Pre-Apprenticeship Training



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March 2012**

Preface

While I'm much better informed about the apprenticeship world as a result of preparing this history, I don't yet feel that I really understand it. Yes, I grasp some aspects not too badly, but the metaphor of peeling layers of an onion is hard to shake. I think that if I can just determine what lies beneath a layer, clarity will be attained. Instead, more questions emerge and another layer remains to be peeled.

Am I typical? I don't know, but I suspect far more people have an incomplete and simplistic view of apprenticeship and pre-apprenticeship training than they either recognize or desire. Judging by the difficulty I encountered in finding answers to a number of my questions, this situation may even characterize some individuals who work as educators and administrators in providing trades training.

The trades training environment is challenging, compounded by a generation of marginalization despite society's platitudes about the importance of a skilled workforce. As I've endeavoured to immerse myself in the apprenticeship world, and to view it through the eyes of educators beset by constraints and complexities, I've come to appreciate their dedication and to become even more distrustful of glib recommendations for change.

So take this document simply as a springboard, a starting point towards a better understanding of an important component of both the BC postsecondary education system and the province's labour force. Perhaps more than for any other sector of postsecondary education, an appreciation of past issues and practices is key to ensuring that trades training in the future remains relevant and vital.

History is not the past, but a map of the past drawn from a particular point of view to be useful to the modern traveler.

- Henry Glassie

Other papers in this series on the history of postsecondary education in British Columbia:

- Overview (2007)
- Faith-Based Institutions (2009)
- Continuing Education in Public Institutions (2010)
- Aboriginal Postsecondary Education (2011)

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Contents

Summary

Introduction	1
Glossary	5
Context	11
International	11
Canada	13
Role of Federal Government	15
Developments to 1995	19
Early Days	19
Provincial and Federal Interaction	22
Tensions within BC	23
Occupational Training Council	25
TRAC	26
Provincial Legislation	30
Recent Developments: 1996 to Present	32
BC Labour Force Development Board	32
Industry Training and Apprenticeship Commission	33
Industry Training Authority	35
Providers of In-School Training	41
Public Institutions	41
Vocational Schools	42
Designated Trainers	54
Secondary School Programs	61
Topics and Issues	62
Completion rates	62
Entrance Standards, Exit Examinations and Challenge Processes	64
Funding for Students and Employers	67
Marginalization	68
Modularization and Progressive Credentials	69
Organizations	70
Program Development	71
Registrations	73
Surveys	74
Stakeholders	77
Under-Represented Groups and Target Groups	78
Miscellaneous	80
Concluding Thoughts	82
Bibliography	83
Appendices	86
A. Challenges Enumerated by the Canadian Apprenticeship Forum, 2004	86
B. Registration Statistics, 1935 – 2010	88
C. Fulltime Equivalent Enrolment, Public Institutions, 1990 – 2010	90
D. Trades List 2011	91

Summary

This paper focuses on formal, registered forms of apprenticeship in British Columbia that are at least one year in duration. It also encompasses preparatory programs for apprenticeship that are at least one month in duration.

Apprenticeship in Canada is increasingly distinctive from the rest of the developed world. Within Canada, the situation varies by province and territory, despite considerable influence by the federal government through such means as grants to provinces, the purchase of training, and the establishment of advisory and coordinating bodies.

From 1900 to the start of World War I, school boards in Vancouver and Victoria introduced vocational training at night school for adults, and some unions managed apprenticeships.

BC's *Apprenticeship Act* of 1935, modeled on 1928 Ontario legislation, brought apprenticeship under the purview of government, although government's involvement increased only slowly. The Act was administered by the Department of Labour, a separation from the administration of the rest of postsecondary education that has largely persisted to the present. (Another enduring characteristic has been a high degree of central, but not necessarily coordinated, control of apprenticeship by government or its designate.)

With the passing in 1940 of the federal *Vocational Training Co-Ordination Act* and the 1945 *Vocational Schools Assistance Act*, federal influence grew in vocational training. The *Technical and Vocational Training Act* of 1960 provided extensive capital funding that led to the construction of the nine regional BC Vocational Schools.

The federal government purchased seats in institutions for the technical training of apprentices and subsidized apprentice's living costs during that training. In the 1980s, federal policy shifted, gradually reducing general funding and redirecting money towards targeted populations and towards private sector trainers. By the mid nineties, the federal government ended both direct financial support and policy direction for apprenticeship and related training. Although its interventionist approach in this area of provincial educational jurisdiction had ended, it continued to provide significant funding to BC under labour market and other agreements, some of which still finds its way into the apprenticeship world and has a steering effect on it. It also maintained indirect influence through sector councils, initiatives supported by Human Resources and Skills Development Canada, the Canadian Council of Directors of Apprenticeship, and so on.

BC's first postsecondary vocational training institution was the tiny Dominion-Provincial Youth Training Centre in Nanaimo. Opening in 1936, it eventually became a school in the BC Vocational Schools system, merged into Malaspina College, and is now a component of Vancouver Island University. (BC is in the curious position today of having some colleges that do not provide trades training, but universities which do.)

World War II affected BC's apprenticeship system, a system which was geared until the 1960s to serving youth under the age of 21. As apprentices enlisted in the military, employers were reluctant to take on apprentices because of their obligations to existing apprentices after the war.

The Vancouver School Board has played a significant role in the formation of several of BC's postsecondary institutions. It opened the Vancouver Vocational Institute (VVI) in 1949 in downtown Vancouver. Enrolment grew rapidly and overcrowding, which led to some double and triple shifts and the leasing of temporary space off campus, was an ongoing theme for two decades. In the early 1970s, VVI was gradually merged into Vancouver Community College.

The system of BC Vocational Schools was administered centrally by the Department of Education in Victoria. The flagship school in Burnaby opened in 1960, several schools opened in 1963, and the last schools came on stream in Dawson Creek in 1966, Terrace in 1968, and Kamloops in 1971. As part of their program mix, the schools offered pre-apprenticeship programs and technical training for apprentices.

In 1971, BC announced its intention to meld the Vocational Schools into the emerging community college system. A move unwelcomed by the Schools, their facilities provided permanent space for several fledgling colleges. The first merger occurred in Prince George that year, with other mergers taking place over the next four years.

With pre-apprenticeship training in educational institutions administered by the Apprenticeship Branch of the BC Department of Labour, the Department of Education came in the 1960s to fund a parallel stream of trades training, known as pre-employment training, for students who were not eligible for apprenticeship (e.g. they were too old, or did not want to follow the apprenticeship route.)

Administrative tensions grew in the 1970s and by 1977, the *Commission on Vocational, Technical and Trades Training* had identified an urgent need to reduce red tape and duplication of decision making in managing vocational training. It noted that many employers were not carrying their fair share of the training load, called for more classroom time and bemoaned the multiplicity of agencies involved in the selection of students for apprenticeships. The Occupational Training Council was established in 1978 as a response to the Commission's recommendations, but lasted only until 1983.

Prompted by a cabinet decision in 1982 to simply terminate pre-apprenticeship/pre-employment programs, the Ministries of Labour and of Education were able to convince the politicians to instead embark on a major reform. The resulting Training Access (TRAC) pre-apprenticeship program was hastily implemented in 1983 with little support from either industry or instructors, fading away within a few years.

TRAC was a form of self-paced, competency based, modularized instruction that began with a common core of curriculum that gradually allowed students to specialize. It was replaced by a more traditional form of instruction that became known as Entry Level Trades Training (ELTT).

Uncertainty about apprenticeship policy in BC continued throughout the eighties, e.g. in 1984 the Provincial Apprenticeship Board issued a report on *The Future of Apprenticeship*. Apprenticeship registrations languished for the better part of twenty years and the sector became increasingly marginalized within postsecondary education.

An unsuccessful attempt of the federal government to import a more collaborative, north European model of apprenticeship resulted in the creation of the advisory BC Labour Force Development Board in 1994. It closed in 1996, the same year as the Ministries of Labour and Education jointly struck a Committee on Entry Level Trades Training and Apprenticeship. In 1997, the Ministry of Labour released *Revitalizing Apprenticeship: A Strategic Framework for British Columbia's Apprenticeship Training System*.

Later in 1997, the Industry Training and Apprenticeship Commission (ITAC) was created as an arm's length body from government to oversee both apprenticeship and pre-apprenticeship training in the province. Described as a four-cornered partnership of business, labour, education/training and government, it lasted until 2003.

Union influence lessened in ITAC's successor, the Industry Training Authority (ITA). Introduced in 2004 to controversy as to whether provincial government policy would lead to fragmentation and de-skilling of the trades, the government expected the ITA to bring about a number of reforms. Progress on these initiatives has been variable and the relationship between the funder, ITA, and the deliverers of instruction has been testy at times.

The ITA changed the name of pre-apprenticeship programs from Entry Level Trades Training to Foundation Programs in 2006. At the same time, it began delegating a number of responsibilities to what became seven sectorally-based Industry Training Organizations (ITOs), one of which will end in 2012.

BC today is something of an outlier in terms of its apprenticeship system. The Industry Training Authority has nothing to do with apprenticeship training in the workplace with respect to minimum wages, scope of trade, or ratios of qualified supervisory personnel. Neither is it a signatory to the apprenticeship agreement, serving simply instead to register the agreement and to certify the apprentice as qualified once program outcomes have been achieved.

BC currently does not have any trades where either apprentice or journeyperson status is required to work in the trade, although there is some backdoor regulation by other public licencing bodies such as the BC Safety Authority and the Attorney General.

Apprenticeship registrations remained less than 5,000 annually until 1965 and less than 10,000 until 1973. They peaked at 19,000 in 1981 and then fell back to 10,000 in ensuing economic recession. They did not return to their peak of 19,000 until 2004.

Following the creation of ITA in 2004, registrations doubled within five years but began declining slightly in 2009. Registrations currently stand at about 30,000, including “institutionally-sponsored” apprentices who attend school full-time with their educational institution serving as their sponsor.

Over the past five years, the amount of in-school technical training for apprentices compared to pre-apprenticeship training has fluctuated annually in public postsecondary institutions (and targets set for institutions by the ITA may be modified throughout an instructional year.) Overall, the amount of each type of instruction has been roughly equal in recent years when measured by student contact hours, an indicator of the volume of instruction delivered.

Although the focus of apprenticeship in BC for the past generation has been to provide training for individuals already in the workforce – a skills shortage perspective that addresses the labour needs of employers – rather than on the transition of high school students into the workforce, one secondary school program for beginning an apprenticeship through work experience was started in 1994. A second and complementary program, to provide the first level of technical training in secondary schools, began in 2005.

Apprenticeship completion rates have been problematic in terms of their relevance, the technical challenges of calculating them due to such factors as program switches and stopouts, and their variable levels across the trades.

The amount of curriculum development provided centrally by government has varied over the years. Final examinations were not significant until the 1960s and 1970s. Even recently, exams have tended to use multiple choice formats that focus on technical or theoretical aspects, rather than demonstrations of workplace skills.

For many years, apprentices and sometimes pre-apprentice students received living allowances while attending tuition-free in-school training. Currently, apprentices are eligible for some federal grants and provincial tax credits.

Marginalization of trades and vocational education generally, and the persistent under-representation of certain populations such as women and immigrants, have been themes since the 1970s. Curriculum controversies over modularization and progressive credentials have been evident for an equally long period.

Despite studies over the past generation enumerating challenges facing the apprenticeship system, student feedback over the past fifteen years from surveys of both pre-apprentice students and apprentices has been remarkably positive.

Sub-Baccalaureate Labour Market

Hiring in the sub-baccalaureate labor market is strongly cyclical, and employment is intermittent. Incentives for individuals to invest substantially in skills over long periods of time are weaker...

The employers who dominate hiring in the sub-baccalaureate labor market are relatively uninformed about the supply of educated labor. There is a widespread sense among employers that the job-related education and training system is chaotic and fragmented...

In practice, small size thwarts the development of the information that is necessary for markets to operate efficiently. Each participant is relatively uninformed about the others because the small size of institutions makes it difficult to accumulate information....

Most of the competencies required by employers in the sub-baccalaureate labor market cannot readily be taught in schools and colleges... The need for competencies that are not well taught in educational institutions means that virtually all employers in the sub-baccalaureate labor market look for experience when hiring, particularly experience in virtually the same kind of procedure or production facility. Much more than formal schooling, experience is an indicator of the presence of skills that employers value.

- Norton Grubb, 1996

Working in the Middle: Strengthening Education and Training for the Mid-Skilled Labor Force

Pretest

1. Historically, some public vocational schools offered instruction 24 hours a day.
True or false?
2. Some apprenticeship and pre-apprenticeship training in BC has been restricted to students between the ages of 16 and 21 inclusive.
True or false?
3. “Journeyman” is an informal term in BC and does not represent an official status.
True or false?

Answers

1. *True – In the early 1960s, demand for welding, for example, was so high that BC Vocational School – Burnaby and the Vancouver Vocational Institute offered an 11 p.m. to 7 a.m. shift.*
2. *True – Aspects of this persisted into the 1960s. Ironically, Canada is now distinctive in its weak ability to attract young students into apprenticeship.*
3. *True – BC’s official terminology refers to certification and the name of the credential awarded. The same is true of the older version of the word, Journeyman.*

Introduction

Apprenticeship

Expressed in the simplest terms, modern-day “apprenticeship” refers to a form of vocational training in the skilled trades that is primarily undertaken “on the job” under the supervision of certified journeypersons. During the training period, apprentices are paid employees of the organization providing the training. Alongside workplace instruction, apprentices receive a portion of their training in a classroom environment. On average, 80% of the apprentice’s two- to five-year program is spent in the workplace; the rest is spent at a training institution. At the completion of an apprenticeship program, the apprentice writes a series of exams and is certified as a journeyperson in his or her trade.

*- Steward and Kerr, 2010
A Backgrounder on Apprenticeship Training in Canada*

Apprenticeship refers to intentional learning by doing, alongside and under the guidance of a proficient practitioner over an extended period. It can be quite informal in any number of environments where classroom and textbook learning is minimized, but this paper concerns only those workplace situations where the apprentice signs a formal agreement with an employer or sponsor in order to learn an occupation by which he or she can earn a living. The paper is further restricted to apprenticeship that are (1) in some way regulated, principally by government but with varying degrees of influence or even control by employer groups and unions, and which (2) last for at least one year. Such apprenticeships are more typically three or four years in duration and may additionally involve some optional preparatory study of several months duration in an educational institution (pre-apprenticeship training.)

Roughly 10% of British Columbia’s employment is currently in trade occupations in which apprenticeships are available. According to the Industry Training Authority’s Service Plan, 2011/12 – 13, less than 20% of eligible employers currently participate in BC’s industry training system .

In administering and regulating the apprenticeship system, two distinct perspectives have been evident, with the balance between them fluctuating over time:

Skills Shortages Perspective – Here attention is devoted to the skilled labour requirements of the economy, with an emphasis on the outputs of the apprenticeship system. Sometimes efforts are made, especially by unions, to maintain barriers to entry so as to avoid flooding the market in specific occupations. More typically, though, the discourse is about occupational shortages that are in some way hindering employers and therefore slowing economic development.

School-to-Work Perspective – The focus here is on the inputs to the apprenticeship system, namely on how youth can transition into the labour market having acquired skills through means other than formal schooling. This type of orientation towards the needs of students has generally been a secondary consideration in British Columbia discourse, in contrast to the apprenticeship systems in some north European countries.

In some periods, “pre-apprenticeship” referred to programs funded from a different source than “pre-employment” programs. Unless otherwise stated, though, “pre-apprenticeship training” is used generically

in this paper to mean any trades training prior to entering an apprenticeship, encompassing such terms as Entry Level Trades Training and Foundation Programs.

Other forms of alternation education, such as co-operative education and internships, are beyond the scope of this paper.

Apprenticeship Literature

The primary observation taken from the examined literature is that there has been little research conducted on apprenticeship training. This is particularly true when it comes to scholarly publications. The vast majority of available material is produced by governments, government agencies, and other organizations, such as the Canadian Apprenticeship Forum (CAF) and the Canadian Council on Learning (CCL). Moreover, there is a shortage of province-specific analyses....

There is, however, broad agreement within the literature as to the challenges facing apprenticeship in Canada. In addition, there is consensus on the importance of apprenticeship training to postsecondary education systems. So, while some authors are somewhat apocalyptic in their assessment of the overall health of apprenticeship training, nearly every writer affirms an enduring need to maintain apprenticeship as an educational pathway in Canada.

The literature also demonstrates a lack of analytical quantitative data. Beyond straightforward descriptive information, there is very little in-depth statistical analysis or modeling to explain the variations in apprenticeship enrolment, retention, and completion rates.

*- Steward and Kerr, 2010
A Backgrounder on Apprenticeship Training in Canada*

Although the number of registered apprentices can fluctuate dramatically over a five or seven year period, and less than half complete their apprenticeship, the apprenticeship system touches a large number of individuals in BC. The province had about 32,000 apprentices in 2010:

16%	Carpenter
16%	Electrician
8%	Plumber
7%	Cook
6%	Automotive Service Technician
5%	Welder
42%	Other trades (about 100 trades that were actively accepting registrations)

About half the apprentices in 2010 were age 25 and over:

21%	19 and under
31%	20 – 24
21%	25 – 29
27%	30 and over

The vast majority were male.

The Industry Training Authority (ITA), the government agency that now oversees the apprenticeship system in BC, had an annual budget of over \$110 million in 2010.

It's hard to know for the purposes of this paper how many apprenticeable trades there really are in British Columbia. In the early to mid-eighties, for example, 180 were reported, of which only 50 had a requirement for some in-school, technical training (some in-school training usually being considered to be one of the defining characteristics of the apprenticeship system). In 1988/89, some new trades were introduced, e.g. community antenna TV, hydraulic crane operator, and mobile crane operator. By 1993/94, the number of trades reported as active had decreased to 125, but the number with in-school training had increased to 75.

Apprenticeship Obligations

Apprenticeship is distinguished from other methods of training by the reciprocal rights and obligations it imposes on the provider and the receiver of training. The provider agrees to teach a broad range of skills required practicing an occupation and, in return, the apprentice agrees to work for the provider at a wage lower than that of a skilled worker. The system works on the premise that both sides would fulfill their obligations, which requires a formal or informal agreement.

*- Cihan Bilginsoy, 1998
Apprenticeship Training
in the U.S. Construction Industry*

Currently, a few trades have certification available through challenge processes but are not actively accepting registrations. Some other trades offer certification at various levels. Counting each level as a separate trade, a little over 100 trades provided apprenticeships in 2011.

The boundaries among trades training, apprenticeship and vocational education are blurry. Meredith (2012) characterized the differences between vocational training and apprenticeship as follows:

Vocational Training

Public
Institution-based
Educator-led
Entry-level employment
Flexible destinations

Apprenticeship

Private
Workplace-based
Practitioner-led
Skilled practice
Specific occupations

The apprenticeship world is sometimes described in ways that lead newcomers to think it is a straightforward, standardized system. In reality, it is a varied, complex, fluid and frequently controversial environment. This paper tells its story from a historical and developmental perspective.

Challenges Facing the Canadian Apprenticeship System

Barriers to Entry:

Negative attitude towards apprenticeship by youth, parents and educators that skilled trades represent an inferior career pathway.

Lack of information on apprenticeship for students and employers, limiting both the number of employers interested in pursuing apprenticeship and the number of available apprenticeship opportunities.

Employer costs - perceived cost in wages, journeyperson instructional time, and lost productivity. Employers may have an erroneous understanding of the costs of apprenticeship training.

Aboriginals, individuals with disabilities, recent immigrants, and women face unique barriers

System Performance:

Has not expanded beyond the traditional skilled trades. "Growth" industries such as information and communication technology have not embraced the apprenticeship model and there has not been a concerted effort to extend apprenticeship into new economic areas.

Inflexibility of program delivery – block release often acts as a disincentive for employers. Training is often narrowly focused on specific vocational skills according to a rigid, duration-oriented program. This both restricts the ability to acquire "soft skills" necessary for labour market success and limits available pathways to complete an apprenticeship. The literature emphasizes the need for greater modularity and for competency-based outcomes rather than set durations.

Significant proportion of apprentices lack important literacy, numeracy and workplace skills and are therefore ill-prepared for entry to employment.

Completion rates in Canada have remained stagnant or declined.

External Factors:

Vulnerable to the business cycle.

Poaching of new journeypersons from the employer who invested the effort in training them. (Majority of evidence that poaching occurs is anecdotal.)

Regulatory Issues:

Minimum ratio of journeypersons to apprentices makes it difficult for smaller employers to hire new apprentices.

Lack of national coordination restricts mobility and creates regional training disparities. (It does however, discourage poaching)

*- Steward and Kerr, 2010 (paraphrased)
A Backgrounder on Apprenticeship Training in Canada*

Glossary

Some terminology about apprenticeships is clearly and regularly defined in publications. Other terms, such as “trades” or “skilled trades,” are commonly used but rarely defined. The criteria by which an occupation is deemed suitable for apprenticeship are seldom spelled out.

Occupational Terms

A **Trade** is a clearly bounded occupation requiring specialized skills and which involves working with hand-held tools or other equipment that a single individual controls. It may require extensive factual and practical knowledge, but less theoretical knowledge. Psycho-motor skills are important. While the physical output may be aesthetically pleasing, the primary motivation for completing the task is practical.

Learning a trade requires significant experiential learning, and not simply textbook or classroom learning. Classroom learning is typically no more than a semester in total duration. Practical, on-the-job learning frequently takes four years to complete but may last anywhere from one to five years.

A **Skilled Trade** is one that requires a longer training period. In some skilled trades, such as Electrician, the unions provide considerable training, including upgrading and lifelong learning. The **Operator Trades** are less skilled and require shorter training periods.

Skills Training has a variety of meanings in different environments, but in the context of labour market policy it frequently refers to skill sets required by people in trades and similar vocational occupations that require only a short amount of postsecondary education.

Craft Trades include traditional trades such as Carpentry where journeypersons were employed for limited periods on particular projects, with the union hiring hall determining which individual would be sent to fulfill an employer’s request for a worker. The **Industrial Trades** tend to be newer ones, such as Millwright.

An **Apprenticeable Trade**, also known previously as a **Recognized Trade**, is any occupation with an apprenticeship program. The apprenticeship may or may not be regulated by the province. **Non-apprenticeable Trades**, such as **Electronics**, can be learned in institutional settings with practical experience built into the educational program.

From the 1930s and into the 1970s, a **Designated Trade** referred to an occupation in which only apprentices and holders of certificates of apprenticeship or of proficiency were allowed to work, often for safety reasons. All apprentices in the designated trades had to be registered with the provincial government. The regulations were loosened in 1978 because the law was seen as too restrictive and unenforceable. Nevertheless, the related concept of a **Compulsory Trade (Certification Occupation)**, or a **Compulsory Certification Trade**, endures. Compulsory trades vary from province to province, and over time within a province. (In BC in 2002, about half of all apprenticeship registrations were in the eleven trades that were then compulsory. Today, BC technically does not have any compulsory trades but safety and other occupational regulators in government have the effect of restricting employment in certain occupations to qualified tradespeople.) Some compulsory trades are regulated federally, e.g. aircraft mechanic, and are therefore the same across the country.

More generally, **Designation** of a trade brings a variety of regulations into force about employment restrictions, wage scales, eligibility for technical training from public institutions and so on.

A **Tradesperson** is an informal term for anybody who works in the occupation and has some level of skill beyond novice. If the tradesperson is proficient and holds formal credentials, they are often described as a **Journeyperson** (see below) or a certified tradesperson.

Learning Processes

Alternation Education is the umbrella term for educational programs characterized by alternating periods of classroom and workplace-based learning. It includes internship, apprenticeship and cooperative education.

Industry Training is currently defined by the Industry Training Authority to encompass both apprenticeship and pre-apprenticeship programs for occupation-specific training with defined competencies and standards, leading to a credential. In general usage, it refers to training delivered outside educational institutions for learners who are currently employed. It occurs primarily, but not exclusively, in the workplace, i.e. there is a component of formal instruction and not only on-the-job training.

There is no consensus about the definition of **Training**. Sometimes it implies rote, uncritical learning, or something less intellectually demanding than “education.” Sometimes it connotes short periods of learning, or learning that is utilitarian rather than to broaden the human capacity of the learner.

Whatever the merits of these other perspectives, I find it helpful to distinguish training from education not in terms of subject matter, complexity, rigour or instructional methods. Rather, the key for me lies in whose needs the instructor is attempting to meet when setting the curriculum.

In this curricular-purpose paradigm, if the focus is on the needs of a third party, typically an employer, then the result is usually training. Those needs may be short term or long term, and the timeframe may significantly affect what appears in the curriculum.

If the curricular focus is on what the learner needs in order to thrive in the field over the long-term, regardless of the employer at any given time, then the result is typically education.

In many cases, the curriculum resulting from these two focuses are similar or identical. In other situations, they may lead to considerable differences in emphasis or content, e.g. in the amount of theoretical or contextual content, or in the teaching of less frequently used skills.

Technical Training is the current terminology for in-school (classroom or distance education) training, distinct from on-the-job or work-based training. It may entail a combination of theoretical knowledge and practical skills. The norm in BC is provide technical training in a **Block Release** format, delivered a week or more at a time, in contrast to the less frequent **Day Release Training** delivered one day per week that is common in some other countries.

Modular Training is used in two contexts to describe how components of technical training are provided: (1) flexibility in how the various learning packages are scheduled and (2) allowing employers choose only certain modules on the basis of their needs.

Pre-Apprenticeship Training

Pre-Apprenticeship Training in this paper usually means any preparatory, in-school training prior to the start of an apprenticeship. Sometimes, however, it refers only to those preparatory programs that were funded by the Ministry of Labour until 1983, as distinct from **Pre-Employment Training** that was funded by the Ministry of Education. (The form and content of the programs funded by these two Ministries overlapped; the differences were more administrative than curricular.)

Basic Training for Skill Development (BTSD) was a federally funded program from the 1960s to the mid 1980s for adult educational upgrading, especially in literacy and numeracy.

Training Access (TRAC) was a short-lived, pre-apprenticeship program introduced by the provincial government in 1983 to replace and merge previous pre-employment (funded by Ministry of Education) and pre-apprenticeship (funded by Ministry of Labour) programs. The terminology switched to **Entry Level Trades Training (ELTT)**, marking a different pedagogy than that of TRAC. ELTT did not necessarily lead to an apprenticeship, but when it did, advanced standing for one or two levels of technical training within the apprenticeship was typically awarded.

In 2006, the Industry Training Authority switched the terminology to **Foundation Program** (Foundation Industry Training Program.) With Foundation programs came consistent provincial program standards with pre-defined credits towards apprenticeship technical training. Pre-apprentice students were now registered with ITA and ITA began issuing Certificates of Completion.

Apprenticeship

The Provincial Apprenticeship Board defined **Apprenticeship** in 1984 as “system of supervised employment through which an individual learns a skilled trade or occupation. The apprentice learns practical skills and technical knowledge. The former are acquired through experiences working with journeymen already skilled in the trade; the latter is acquired usually through attendance at technical training classes.” The apprentice is an employee who is expected to be productive as well as to learn.

The **Apprenticeship Agreement**, formerly known as an **Indenture**, was a contract specifying respective responsibilities that was signed by (1) an apprentice, (2) the employer, sponsor, or joint apprenticeship training committee and (3) a government representative. (A **Sponsor** is an individual or other legal entity that is qualified in the trade who will supervise an apprentice’s work-based training. It is typically an employer, but it may also be a training organization.)

In broad terms, the responsibilities of the three parties in an apprenticeship agreement were as follows:

- Employers – to train sufficient numbers of apprentices on the job and to enable them to obtain technical training elsewhere
- Individuals – to be productive on the job and in the classroom
- Government – to ensure good quality technical training is provided and to certify learning.

Today, the agreements in BC are two-party between the sponsor (usually an employer) and the apprentice. The agreement leads to a **Registration** with the Industry Training Authority. The registration does not oblige the employer to provide training, pay a set wage or anything else. Rather, it becomes the means by which the private parties (apprentice and sponsor) may access public services such as technical training and tax breaks. Either party can unilaterally terminate the agreement.

The ITA continues to set standards on behalf of government for programs and for certification. It registers apprentices and maintains records, but it (i.e. government) is no longer a signatory to the apprenticeship agreement.

A recent and seemingly curious development has been the emergence of **Institutionally Sponsored Apprentices**, largely in response to the recession. They are students who are enrolled fulltime in a classroom program at an educational institution, and who are not employed in the workplace, but who are deemed by the Industry Training Authority to be apprentices for reporting and funding purposes. The intent is for the institution to assist apprentices in obtaining an employer sponsor upon completion of the in-school technical training, but this does not always happen.

The **Ellis Chart** is the national listing of trades maintained by the Canadian Council of Directors of Apprenticeship that compares apprenticeship programs across Canada. The mere fact that a routine listing

of programs is viewed as an accomplishment reflects the diversity – and arguably, the fragmentation – of approaches to apprenticeship across jurisdictions.

The **Mandatory Ratio** describes situations in which an employer is required to have Y journeypersons for every X apprentices. These no longer exist in BC, although some collective agreements between employers and unions make provisions for ratios of journeypersons to apprentices.

A **Progressive Trade** is one in which an apprenticeship has been divided into two or more stages, each of which leads to certification that permits certain types of employment with further training optional.

Referenced in the 2003 *Industry Training Authority Act*, an **Accredited Program** is simply one determined by the Canadian Council of Directors of Apprenticeship to lead to an Inter-Provincial Standard, Red Seal endorsed certification. All other apprenticeship programs are **Recognized**, with the BC body responsible for recognizing trades currently being the ITA.

Credentials

Credentialing terminology in the apprenticeship environment is vague and imprecise in general usage. A basic distinction is credentials awarded by educational institutions, described here as “academic” credentials, as opposed to those awarded by government or its delegate, e.g. by the Industry Training Authority. Given changing terminology over time and the difficulty of pinning down the meaning of the credential, informal usage often is about obtaining a **Ticket** to refer to some sort of trade certification (today, it would be the Certificate of Qualification, described below.)

Academic credentials awarded by a postsecondary institution or training organization for completion of a formal training program, especially pre-apprenticeship programs, include a Certificate of Trades Training, Certificate of Technical Studies, Statement of Completion, and Associate Certificate. Some, but not all, postsecondary institutions also award a credential upon completion of the last in-school technical training component in an apprenticeship. (The apprentice may yet have to complete the last period of practical training and earn a trade qualification for journeyperson status.)

Different provinces may issue equivalent or similar certificates under different names. In BC since 2006, a **Certificate of Completion** is an Industry Training Authority-issued credential for graduation from a Foundation pre-apprenticeship program. It is separate from any credential that the educational institution chooses to award for the completion of that program.

A **Certificate of Apprenticeship** is a credential awarded by the Industry Training Authority for successful completion of an apprenticeship in a recognized or accredited trade. It does not necessarily mean that all the required examinations have been passed to achieve full certification. Rather, the **Certificate of Qualification** is the key credential for full certification within BC, earned either through an apprenticeship or through passing a **Challenge** examination following proof of sufficient work experience, e.g. worked in the trade for at least one and a half times the number of required work-based training hours required to complete the relevant apprenticeship, along with evidence of sufficient scope of work experience.

Often recognized only within the jurisdiction where it was awarded unless it has a Red Seal Interprovincial Endorsement¹, the Certificate of Qualification has in previous Acts been known as a **Certificate of**

¹ Until a few years ago, the Industry Training Authority used to allow an individual to exchange another province’s credential for a BC Certificate of Qualification. Now the ITA simply issues a letter saying the individual has the same rights and obligations as though the credential had been issued in BC. Also, under the Agreement on Internal Trade, the public sector in Canada must recognize trades certification from across the country, regardless of whether the trade issues a Red Seal endorsement. (This does not apply to the general public or the private sector.) Red Seal trades, however, account for the majority of BC’s apprentices.

Proficiency, e.g. in the 1963 Act, or as a **Trade Qualification (TQ)**. The 2003 Act also provided for an **Industry Training Recognition Credential** but such credentials have not been issued.

Developed partly to facilitate interprovincial labour mobility, the **Red Seal Interprovincial Endorsement** is a national exam to enable a provincially-certified journeyman to be recognized in other provinces. In some trades in BC, i.e. in accredited programs, a Certificate of Qualification is not awarded unless a Red Seal endorsement is earned simultaneously. (In fact, the Red Seal exam usually serves as the provincial exam.)

A **Journeyman** (formerly Journeyman) is an individual who holds, in today's terminology, a Certificate of Qualification. The origin of the term reflects someone who has sufficient breadth and depth of knowledge, and sufficient skills, to be able to journey from jobsite to jobsite.

An individual who takes a pre-apprenticeship Foundation programs and successfully completes an apprenticeship could earn four credentials during the process: a Certificate of Trades Training from an educational institution and a Certificate of Completion from the ITA at the end of the Foundation Program, then a Certificate of Apprenticeship and a Certificate of Qualification for the apprenticeship. If the trade is a progressive trade, additional certifications may be available along the way.

Journeyman

The word has basis in such phrases a "journey a day's work" and "paid by the day." Traditionally, it relates to society's requirement for skilled people who can move about, from job to job and often from employer to employer, to apply universal skills to a variety of tasks. Today's journeyman, in many cases, may stay a long time with the same employers, but still moves about from task to task applying his or her skills where needed....the apprentice learns transferable skills which can be applied to any number of specific tasks or jobs in any number of different businesses and industries. This is distinct from many other forms of work-related training, where the individual learns to do specific tasks which may have little or no application in another job or another business.

*- Provincial Apprenticeship Board (1984)
The Future of Apprenticeship*

Governance and Advisory Bodies

A number of organizations over the years have administered the day-today operations of the apprenticeship system. These bodies all have delegated authority from the provincial government. What were originally called **Departments** of the BC provincial government became **Ministries** in the late seventies.

The **Apprenticeship Branch** of the Department/Ministry of Labour administered the apprenticeship system until 1996. It drew upon advice from the **Provincial Apprenticeship Board**, a board that consisted of employer and labour union representatives and which was disbanded when the Industry Training and Apprenticeship Commission was established in 1996. The Ministry of Education looked after certain types of pre-apprenticeship programs until 1996.

The **Industry Training and Apprenticeship Commission (ITAC)** was the not-for-profit crown agency that administered the apprenticeship system from 1996 to 2003. It was succeeded in 2004 by the **Industry Training Authority (ITA)**.

In 2005, ITA began working with **Industry Training Organizations (ITO)**. An ITO is an industry-initiated, independent, not-for-profit legal entity that provides standards advice and related services to the

Industry Training Authority. An ITO thus serves as a delegate or contractor of the ITA in a particular industrial sector for a group of related trades and apprentices. (The ITOs do some legwork, but final approval remains with ITA.)

Under the Industry Training Authority, a **Designated Trainer** refers to private trainers and school districts that deliver technical training and which meet quality assurance requirements in conjunction with the Private Career Training Institutions Agency accreditation model. Thus Designated Trainers consist of all providers of in-school technical training other than public postsecondary institutions. They receive their designation for five year periods and use standard ITA exams.

Throughout most of the period described in this paper, **Trade Advisory Committees** provided advice about the content of apprenticeship training to the Provincial Apprenticeship Board and ITAC. Under ITA, the ITOs have taken on the task of convening these advisory groups as part of their liaison role with industry in their sector. The committees are occupation-specific bodies consisting of employers, sometimes union representatives and other interested parties from government and education. They are distinct from **Program Advisory Committees** that educational institutions may convene to provide similar curriculum advice to program personnel in individual institutions.

Context

Apprenticeship has a long history, dating back to the Middle Ages, with significant variation not only over time but also across jurisdictions. How the apprenticeship system operates in BC is not necessarily the same as in other parts of Canada nor, especially, in non-English speaking countries of the industrialized world.

International Context

Although information is limited for assessing Canadian approaches to apprenticeship in an international context, the Canadian system resembles those of the USA and Britain in that market mechanisms determine the supply of apprentices, i.e. when unemployment is high, the number of apprentices falls and during boom times, apprentices may find it difficult to get time off to complete technical training.

In contrast to the more coordinated and planned systems of Northern Europe, the number of apprentices in Canada is constrained by both employer demand and student interest. Enrolment in Canadian college programs has sometimes grown during recessions, suggesting the substitutability of college for apprenticeships.

In 1992, the Economic Council of Canada's *A Lot to Learn*, compared apprenticeship in Canada with Germany. It concluded that shortcomings in the Canadian system included the advanced age of entry into apprenticeship (26 at that time, compared to Germany's 18), longer duration and high costs per apprentice.

The following is taken from the Educational Policy Institute Canada (2009).

Germany

Germany is repeatedly held up in the literature as a model of a high-functioning apprenticeship training system....However, it is generally agreed that Canada lacks the historical structures necessary to support a system similar to the German model. Canada's antagonistic model of labour relations and collective bargaining does not lend itself to German-style cooperative structures. Moreover, the German system relies on early and intensive student streaming in secondary school. In addition, some analysts suggest Germany's apprenticeship system is becoming increasingly unwieldy in the context of a global economy, and may in fact limit innovation and flexibility in vocational training. Germany has recently completed a series of reforms to its vocational training system aimed at improving the efficiency and flexibility of the German system.

*- Steward and Kerr, 2010
A Backgrounder on Apprenticeship
Training in Canada*

Canada's approach to apprenticeship education is distinctive in a number of respects compared to practices in other developed nations.

Internationally, apprenticeship education serves three functions:

- Education, sometimes remedial, for the less academically oriented
- Work experience for the young
- Provision of high-level skills for technical careers

Canada, and the United States to a lesser extent, emphasizes the third goal – skills for technical careers – more than most countries. This reflects apprentices who often have previous labour market experience and who are expected to arrive with prerequisite academic skills (whether they actually possess all those academic skills may be another matter.)

Canada and the United States are increasingly distinctive compared to the rest of the developed world in their emphasis on the older “craft” or construction occupations. Other countries have more rapidly extended apprenticeship into other occupational fields, e.g. clerks.

Many systems of apprenticeship are school-based, whereas the Anglo-Saxon/German systems are mainly workplace-based. In countries where apprenticeship is essentially a form of senior secondary school education, more time is spent on general or “essential skills,” with a correspondingly longer time spent in classrooms rather than on-the-job or in occupation-specific technical training.

In continental Europe, apprenticeship often begins with a lengthy period of formal technical and general education (“front-end loading”). In Canada, in contrast, the usual pattern is for apprentices to first spend some time on the job and then attend technical training. However, Canadians sometimes complete pre-apprenticeship technical training before beginning their formal apprenticeship.

Most countries provide the in-school or technical component of apprenticeship training part-time, a day or two per week, whereas only Denmark shares Canada’s preference for training in blocks of 4 – 8 weeks of full-time attendance each year. It is mainly in Canada and Australia that private providers supplement public institutions in providing technical training.

Co-ordination of technical and workplace training appears less in Canada for two reasons. One reason is the use of block-release technical training rather than day-release. The more important reason is that Canada, along with the USA and the UK, does not have compulsory training taxes for employers to address the “free rider” problem, i.e. employers who poach new journeypersons from other employers who invested resources in training them. Thus employers more frequently view apprentices as low-cost labour rather than a long term source of future profit. On-the-job assignments to apprentices are therefore less likely to be structured as a long term investment to reinforce what is being learned in the classroom.

International Comparisons

The UK and Australia are the apprenticeship schemes that are probably the closest to Canada’s in that they both involve regular alternance, are primarily work-based, and have decentralized education provision combined with standardized competence-based testing. They differ in some respects, including the prevalence of day release, the scope of apprenticeable trades, and the average age of apprentices. The US apprenticeship system is close to the Canadian in terms of scope and profile of the apprentice population, but not in many other ways.

The dual systems of Germany, Austria, Switzerland and, to a lesser extent, Norway, Sweden, and the Netherlands are the next closest kin. These differ from Canada in their scope, the youth of their apprentices’ profile, and the institutional relationships that support their systems, but are broadly similar in terms of the division of apprentices’ time between on-the-job training and theoretical training. Lessons from all of these countries might therefore have some pertinence to the Canadian system.

Farthest from the Canadian system are the predominantly school-based apprenticeship schemes seen in France, Belgium, and Finland.

*- Educational Policy Institute Canada, 2009
Models of Technical Training*

Canada

The post World War II period marked the real beginning of government involvement in apprenticeship in Canada, with enrolment jumping significantly each year that a major federal-provincial agreement was signed: 1945, 1957 and 1963 (Weiermair, 1984). Nevertheless, apprenticeship in Canada remains a relatively small system. While the total number of apprentices rose slightly in the 1990s, the share in relation to the workforce has declined (Schuetze and Sweet, 2003). Apprenticeship registrations ten doubled across the country in the decade from 2000 to 2009. Red Seal trades represent a minority of trades but those trades account for about three quarters of all apprentices in Canada.

Eighty to 90% of Canadian apprentices have been in the traditional areas of construction, manufacturing and resource industries. The majority of the remaining apprentices have been in services, especially retail automotive, personal service (e.g. hair dressing) and hospitality (e.g. cooks).

Provincial apprenticeship systems have varied considerably despite similarities in organizational design, e.g. most provinces in 1980 had equal representation of management and unions on apprenticeship boards. Weiermair (1984) concluded that in the 1980s, BC appeared to have the most heavy-handed and interventionist environment for apprenticeship. Alberta placed the most emphasis on apprenticeship, followed by BC, New Brunswick and Newfoundland.

Sharpe and Gibson (2005) reported that in 2002, BC had 13% of Canada's population age 15 – 49, but 9% of the registered apprentices. Alberta and Newfoundland were the two provinces at that time with the highest rates of apprenticeship. Saskatchewan was right on the national average. During the 1990s, the annual growth rate in registrations was lower in BC than the national average, but the number of registered apprentices in BC doubled from 2004 to 2010.

The past decade has seen provinces struggling at a policy level with the future of the apprenticeship system, although Alberta remains the leader. Ontario, Alberta and Nova Scotia all conducted reviews of their systems. Reforms in a number of provinces in the past decade have made their systems more industry-driven, replacing government control with administration through sectoral committees (often composed of employer and labour associations). Quebec has largely abandoned apprenticeship in favour of technical training in postsecondary institutions.

Ongoing issues across the country include the optimal length of apprenticeship, the amount of in-class schooling, and the amount of credit for relevant prior experience and knowledge.

Overall, the Canadian system tends to retrain workers who already possess labour market experience, rather than facilitating secondary school to work transition. This, in the view of Sharpe and Gibson (2005) is a skills-deficit approach, rather than a worker-welfare approach.

Apprenticeship in the Postsecondary System

...apprenticeship training continues to comprise only a small segment of Canada's postsecondary sector.

Enrolment in apprentice programs stagnated in the 1990s relative to other forms of postsecondary education and experienced an actual decline during the recession experienced in the first half of that decade. While the absolute number of registrations had once again begun to grow prior to the onset of the most recent recession, completion rates and numbers of graduates have not recovered at the same rate.

More troubling, analyses of other data indicate that nearly half of apprentices in Alberta, New Brunswick, and Ontario fail to complete their training programs at all...

There appears to be a great deal of variation between provinces in terms of the proportion of the population with an apprenticeship or trades certificate or diploma in the skilled trades.

*- Stewart and Kerr, 2010
A Backgrounder on Apprenticeship
Training in Canada*

Apprenticeship has been slow in developing programs to address emerging industrial sectors, such as information technology and health care. However, criticisms of the system in Canada have been mainly about inadequate supplies for existing labour markets rather than about failing to adapt to new training demands.

Nationally, apprentices remain overwhelming male and older (the average age of new registrants in BC in 2008 was 26 years.)

Weaknesses of the Canadian System in the 1990s

The apprenticeship system has a number of serious weaknesses, including the following:

- 1. the stagnation in new apprenticeship registrations in the 1990s, in contrast to increased enrollment in other postsecondary programs;*
- 2. the inability of the apprenticeship system to expand beyond traditional fields;*
- 3. the inability of the apprenticeship system to increase the extremely low proportion of women (3 percent) enrolled in apprenticeship programs;*
- 4. the uneven development of apprenticeship programs by province*
- 5. the very low level of completion rates for apprenticeship programs (9.5 percent)[sic];*
- 6. the strong downward trend in apprenticeship completion rates, declining one-third over the past two decades.*

The trends raise serious questions about the ability of the apprenticeship system in Canada to produce an adequate supply of qualified workers for the economy....

The first version of this paper elicited strong reactions from some members of the apprenticeship community. This is understandable. Apprenticeship training has a long and proud tradition in Canada of supplying the country with critical skills the economy needs, and there is a large group of people dedicated to preserving the best of that tradition....There is no question that the statistical trends this paper reveals are a cause for concern and warrant attention.

The perspective one has on the effectiveness of the apprenticeship system depends on a number of factors, including one's province, trade, role in the system, and expectations of what the system can and should deliver....For example, apprenticeship registrations are disproportionately high in Alberta and the completion rate is well above the national average, so the system may be working well in this province.

*- Andrew Sharpe, 1999
Apprenticeship in Canada: A Training System Under Siege?*

Role of the Federal Government

The federal role in apprenticeship education has been large, although indirect, through the provision of funding. Because education falls under provincial jurisdiction, the federal government has sought to influence educational activity through its labour market and economic development mandates. Along with funds to institutions, the federal government has provided training allowances for apprentices not eligible for unemployment insurance while attending school. At various times it has purchased a large number of training seats for pre-apprenticeship programs and has provided some wage subsidies to employers of apprentices.

During the first decades of the 20th century, Canada relied on immigration for skilled trades. Training became important in the 1940s as the nation mobilized for war:

Through the influence of the Vocational Training Coordination Act (1942), which allowed the federal Department of Labour to negotiate individually with the provinces for the development and funding of vocational education, federal-provincial apprenticeship training agreements were set up. The latter were for a ten-year period....All costs associated with the apprenticeship training system were to be shared equally between the federal and provincial governments. The agreements were renewed in 1954 for another ten-year period. Given the lack of appropriate training facilities, the federal government also began to subsidize the expansion of vocational schools, technical institutes and colleges through the Vocational Schools Assistance agreement in 1945 which was renewed in 1950 and revised in 1954.

- Klaus Weiermair, 1984
Apprenticeship Training in Canada

Unemployment insurance in 1941 was another vehicle for federal intervention in the labour market during World War II.

Following the end of World War II, Canada reverted to relying on immigration for skilled labour, with the provinces viewing trades training as a low priority during the 1950s. By the 1960s, however, national manpower policies were being justified on economic grounds. The *Technical and Vocational Training Act* of 1960 was followed in 1967 by the *Adult Occupational Act* and the *National Training Act* of 1982.

It was during the 1960s that the federal government withdrew funding for vocational programs in secondary schools, leaving long term vocational preparation to the provinces and focusing instead on short term adult training and retraining. One such program was Basic Training for Skill Development (BTSD), which provided up to a year's adult basic education. (In 1966, 40% of the Canadian male population had little more than an elementary education.) During the 1970s, federal purchase of seats through BTSD halved, from 56,000 trainees across Canada in 1972/73 to 28,000 in 1982/83.

Only in the late 1970s was apprenticeship and industrial training seen as important to industrial excellence and productivity, as opposed to social policy for the economically disadvantaged. This was prompted, in part, by recognition of an emerging skills gap due to lower immigration from Europe.

...the federal government now undertook to provide a second layer of post-school human investments for those who had been out of school and in the labour force for over three years and needed basic skill development, upgrading of skills and education, apprenticeship training and, in the case of new immigrants, language training. By contracting out to those institutions which provided it and which were under provincial jurisdiction...the federal government hoped to exercise better control over manpower training activities.

- Klaus Weiermair, 1984
Apprenticeship Training in Canada

The BC Department of Labour noted in its 1978 annual report: “For the first time in Canadian history, the provincial and federal Ministers with education, training and employment responsibilities in Canada were brought together.”

By 1975, the federal government was spending over \$50 million annually on seat purchases in BC. Because all apprentices were federally sponsored, the BC government frequently assigned apprentices to technical training in remote locations where colleges served small populations and had excess capacity. The relocation did not cost the province or the apprentice anything, and spare capacity was put to good use.

Federal policy shifted during the 1970s, and into the 80s, away from programs targeting particular occupations. Simultaneously, some BC voices were complaining of a growing rigidity in the older, more traditional federal manpower programs.

In 1984/85, the federal government spent \$85 million in BC through Employment and Immigration Canada, funding about half of BC’s vocational training, including journeyman upgrading. Over next few years, federal funding for training programs gradually diminished in favour of targeted programs, often involving job training.

All was not well, and by 1990, a number of studies of labour market supply, including the 1982 Allmand Task Force *Work for Tomorrow*, had identified the sheer number and variety of labour market programs at all levels of government as a major problem that was leading to program duplication, poor articulation, competing and overlapping programs, chronic funding problems, and inadequate national standards:

Apprenticeship Regulation

Given the federal government’s constitutional role in manpower training and vocational education and the province’s entire control over educational matters, vocational education, including apprenticeship training, very quickly turned into what is otherwise known as a “regulated industry.”

*- Klaus Weiermair, 1984
Economic Council of Canada*

Virtually every major study of labor market policy in Canada over the last three decades...[has] identified the number and variety of different labor market programs at all levels of government as a major issue. Fragmented jurisdictions and competing objectives between the provinces and federal government have led to program duplication, poor articulation, competing and overlapping programs, chronic funding problems and inadequate national standards. There are no fewer than five federal departments involved in labor market policy. The key department is Employment and Immigration but other departments play significant roles....

*- Susan Witter, 1991
Canada’s Occupational Training Programs*

The 1990s were a time of more turmoil and change. The *Joint Canada/British Columbia Study on Apprenticeship* (Employment and Immigration Canada, 1989) was prompted by the federal government’s concern that the apprenticeship systems were not meeting the equity goals of the Canadian Job Strategies (CJS). The federal Labour Force Development Strategy attempted, also in 1989, to engender a “training ethic” in the workplace.

In 1996, the federal government decided to end financial support and policy direction for training. It devolved much of the responsibility and funding for adult training to the provinces with the 1996 *Employment Insurance Act*. (This led to a series of Labour Market Development Agreements with the provinces for adult training.) The Canadian Labour Force Development Board published *Apprenticeship in Transition* in 1996 in reaction to the elimination of federal support for apprenticeship.

The adoption of new Employment Insurance legislation, and the expectation that people on social assistance should pay for their training (with public financial assistance), changed traditional labour market policies and practices in throughout Canada. The Canadian Labour Force Development Board and its

National Apprenticeship Committee were disbanded in the late 1990s. In 2000, the Canadian Apprenticeship Forum was founded to promote and advance apprenticeship at the national level.

Currently, the federal government retains responsibility only for inter-provincial labour mobility, national youth employment programs and other pan-Canadian activity.

In summary, the federal government was interventionist during World War II and throughout the 1960s, funding facilities, making seat purchases and providing financial support to apprentices. It began redirecting its funds in 1980s towards the private sector, and withdrawing from general programs in favour of targeting particular populations. Today, it is less involved in apprenticeship training at the national level, although it participates in administering the Red Seal Interprovincial Program through its membership in the Canadian Council of Directors of Apprenticeship. Significant amounts of funding continue to flow to BC through labour market agreements, some of which the province then uses to support initiatives in the apprenticeship sector.

FEDERAL TIMELINE

- 1910 Federal Royal Commission on Industrial Training and Technical Education launched, partly due to strong pressure from the building trades who argued that more skilled workers were needed.
- 1913 First vocational training act in Canada was the **Agricultural Instruction Act**, fostering such institutions as veterinary schools and agricultural colleges.
- 1919 **Technical Education Act** enabled the federal government to fund provinces to promote technical education in secondary schools.
- 1928 Ontario passed the country's first Apprenticeship Act, providing for regulation and support of apprentices. BC followed in 1935 and Nova Scotia in 1936, using Ontario as their model. Provincial legislation generally provided for the regulation of apprenticeship training and established trade advisory committees.
- 1937 **Unemployment and Agricultural Assistance Act**
- 1939 **Youth Training Act**
- 1940 **War Emergency Training Act**
- 1942 **Vocational Training Co-ordination Act** enabled the federal government to enter into an agreement with any province to provide financial assistance for apprenticeship training.
- 1945 **Vocational Schools Assistance** agreement (renewed in 1950 and revised in 1954)
- 1952 Canadian Council of Directors of Apprenticeship established
- 1960 **Technical and Vocational Training Act**. This was the means by which the federal government assumed a major role in occupational training, in response to unemployment and to stimulate retraining where job obsolescence threatened. At least three quarters of the funding was devoted to capital funding for provincial training facilities.
- 1967 **Adult Occupational Training Act** eliminated support to vocational high schools in favour of short (1 – 12 month) programs in postsecondary institutions. The federal government would reimburse up to 50% of the cost of some programs. While it ended cost sharing with the provinces in favour of buying training services on behalf of federally selected students, the **Federal – Provincial Fiscal Arrangements Act** provided for large transfers of funds to the provinces in recognition of the constitutional imbalance in the limited taxing power of the provinces relative to

- the federal government. Establishment of Canada Manpower and Immigration further increased federal participation in vocational training.
- 1977 **Established Programs Financing** replaced the *Federal – Provincial Fiscal Arrangements Act*. This was a vehicle for transferring large amounts of money to the provinces to help them meet their growing responsibilities in such fields as education and health.
- 1982 **National Training Act** was introduced following the Allmand Task Force that examined why high unemployment and serious shortages in trades co-existed. It focused on targeted populations such as women, Aboriginal people and persons with disabilities. It gave the federal government the authority for the first time to deal directly with private and non-profit training organizations. It also led to a shift from such training as Adult Basic Education to areas of “critical skill shortages,” i.e. a shift from low-skill training to high-skill training, including assistance to industrial training in the trades in the private sector.
- 1985 Canada Jobs Strategy – the focus shifted from skill training to employment training, relying heavily on the private sector to deliver training and focusing on work placement rather than classroom training. It provided short term training for individuals who were marginalized in the labour force.
- 1986 The federal government announced reductions in the purchase of “training seats” in vocational programs in public institutions, halving the funding by 1990. This reflected a shift in the focus of training from colleges to the private and voluntary sector.

Criticism of National Occupational Training Policy

Throughout the last three decades, occupational training has consistently been short-term with virtually no programs providing the opportunity for long-term upgrading or development of more technical skills. Use of this “damage control” orientation in Canadian public training policy has emphasized income maintenance and short-term training for the long-term unemployed....

The most glaring defect is a fragmented jurisdiction and lack of partnership between the federal and provincial governments....Publicly funded post-secondary institutions have disassociated themselves from federal training programs in recent years due to their inability to work within the overly rigid training plan requirements of Employment and Immigration Canada.

*- Susan Witter, 1992
Three Decades of Deficiencies*

Developments to 1995

Early Days

Public education in BC in the nineteenth century was academic in nature. The province's first public vocational training was a manual training program in 1901, located in an elementary school in Victoria. It was followed a few months later by manual training in Vancouver at Dawson School. The Vancouver School Board gradually expanded its programs over the next five or so years as it established special, technical high schools from 1913 to 1921. It started a form of "institutionalized" training in 1915 in the King George high School.

The first evening classes for adults in "mechanics" (drafting and mathematics for construction workers) were introduced by the Vancouver School Board in 1910. The only free-standing vocational school for adults prior to 1940 was the Dominion-Provincial Youth training School in Nanaimo, which opened in 1936.

Before World War I, government regulation increasingly made some sort of training for certain workers necessary, but employers provided training only on rare occasions. Options for training in educational institutions were limited. It was the labour unions that did the most to promote both in-school and out-of-school technical training.

Unions exercised some control over the apprenticeship system in their fields. Several unions offered their own educational programs and cooperated closely as secondary schools began offering night classes for adults in technical and vocational subjects. The sheet metal workers union, for example, organized a class in 1909 for apprentices. It then asked the Vancouver School Board to take over this function, and regular classes through the school board began in 1913. The Vancouver Apprenticeship Council formed in 1925.

Typographical Apprentices

The Vancouver Typographical Union was founded in 1888.... The local typographical union had at its disposal the well-developed apprenticeship system worked out by its parent international union. It established clear guidelines concerning the educational requirements of those entering the field; established policies on the range and duration of the duties to be performed by apprentices; and kept careful records of the progress and experiences of the apprentices.

In 1908, the International Union inaugurated a correspondence course for apprentices, providing a systematic review of the main subject matter to be mastered by apprentices. These were adopted in Vancouver in 1910 and 1911. The Vancouver local purchased technical books to be used by apprentices who were following the correspondence course.

In the following year, the union organized a series of lectures by journeymen union members for the apprentices. This was subsequently expanded in association with the school board night school program.

Also in 1912...the apprentice candidate had to write a union examination in spelling, grammar and English usage. It was also arranged in that year that there were opportunities for an exchange of apprentices between shops so the workman could get a wider range of experience than would be available to him in a single establishment. Finally, in 1914, the union created a club for apprentices, the "Caxton Apprenticeship Club of Vancouver," where certain educational and other activities could be carried out.

- Gordon Selman, 1975
Adult Education in Vancouver before 1914

BC introduced an *Apprenticeship Act* in 1935, modeled on the 1928 Ontario legislation, that was to be administered by an Apprenticeship Branch in the Department of Labour. (This separation of apprenticeship training from the administration of postsecondary education has persisted to the present, with only a short exception in the mid-eighties, despite considerable pre-apprenticeship and technical training being delivered by public postsecondary institutions.) Night school and correspondence courses continued to operate.

The *Apprenticeship Act* was intended not to promote apprenticeship but rather to regulate and curb abuses in the existing apprenticeship system through such means as limiting the duration of an apprenticeship, ensuring wage increments, and specifying ratios of apprentices to journeypersons.

Another enduring characteristic from 1935 was a high degree of central control by government, although with varying degrees of effective coordination across the decades. As an example of central control, the Department of Labour explained in an annual report from the late thirties that it was taking care to ensure that the growing number of apprentices would be regulated so that apprentices would not displace other qualified workers, and so that graduating apprentices would have a high likelihood of continuing their employment (no small consideration during the Great Depression.)

The *Apprenticeship Act* was amended in 1936 to extend its coverage to those over 21 years of age.

A *Trades School Regulation Act* was also enacted in 1936 “to correct abuses and eliminating unfair practices in the operation of trade-schools.” The Department of Labour’s annual report explained that some barbering and hairdressing schools were using students to gain an unfair advantage over their competition. Some correspondence and homestudy schools were problematic and, in the words of the Department, “prostitute the name and objects of the legitimate educational organization.” The *Trades School Regulation Act* was well received and was in fact copied the following year in Ontario and Manitoba. Sixty nine trades schools were reported the following year.

Prior to the creation of the Vancouver Vocational Institute in 1949, the BC Department of Labour administered a number of smaller apprenticeship schools throughout the City of Vancouver. Beginning in 1945, for example, plumbing apprentices were trained at the Slocan Vocational School.

Marine Navigation had started as a private school following WW I. It became a joint offering of the federal Department of Transport and the province of BC, then a division of Vancouver Vocational Institute. (This led to the opening in 1978 of the Pacific Marine Training Institute in a purpose-built facility in North Vancouver, subsequently merged into the BC Institute of Technology in 1994.)

With the onset of World War II, the *Apprenticeship Act* was amended to allow war industries to employ minors without placing them under a contract of apprenticeship. This turned out to have been unnecessary in that boys continued to enter apprenticeships. The bigger shift was in trades and technical schools, where student ages increased as younger men joined the military and boys were apprenticing.

By 1942, the Department of Labour was commenting on labour shortages, noting that wages were higher for school-trained specialists than for apprentices in the early years of their training. It therefore concluded it needed to set minimum wages for apprentices, while “recognizing the need for flexibility.” BC contrasted with Ontario in that BC was extending apprenticeship to a broad range

Military Influence

Canadian Vocational Training was a joint federal and provincial training agency active during World War II and continuing afterwards to serve veterans. A number of these programs, such as Baking and Watchmaking, moved into VVI when it was created in 1949. CVT used a number of dispersed facilities, such as the shops and classrooms of the Vancouver [Secondary] Technical School. Power Sewing had operated since 1935 at the Inverness Street School in east Vancouver.

Vancouver Vocational Institute’s Diesel Mechanics course, and much of its equipment, came from the Jericho army base on the west side of Vancouver.

of occupations.

The war continued to affect the apprenticeship system. As apprentices enlisted in the military, employers were reluctant to take on new apprentices because their obligations to existing apprentices after the war ended. This led to reduced places for new apprentices because older apprentices were not graduating on schedule.

Meanwhile, the federal government sought to encourage more standardization across the country. Its *Vocational Training Co-ordination Act* of 1942 allowed federal funding to flow to apprentices. By 1945, BC was using some of its money from Dominion – Provincial agreements to establish classes that enabled apprentices to obtain coordinated theoretical instruction throughout the whole period of their apprenticeship. The Department of Labour was also thinking that some pre-apprenticeship training could shorten apprenticeships.

The conclusion of World War II saw the Apprenticeship Branch endeavouring to stay sufficiently flexible to meet the needs of discharged service personnel from the armed forces. It expected what it had termed an “experiment” in adult apprenticeship would continue. Peace time also provided the opportunity for the Branch to address issues of quality, both pre-entry academic skills and the competencies of graduates. In 1948, it reported that “the regular attendance of the majority of apprentices at night school was well above expectation and set an all-time record for the province.”

In the early 1950s, males and females still came under different minimum wage acts, twenty trades were designated as falling under the *Apprenticeship Act*, and school boards continued to provide technical training through night school. (The 1954 annual report showed 1,500 apprentices taking evening classes in six locations across the province. The 250 or so for whom no suitable local classroom location was available were brought to Vancouver for day classes. Half of the travel and living allowance was funded under a federal agreement.) During this period, one month of classroom time per year was beginning and was favourably received.

Soldier Apprentices in the Canadian Army After WW II and the Korean War

This was necessary because of the lack of educational training of many of the soldiers who decided to remain in the services after these two conflicts; many of these had joined the military at a young age and in many cases had not finished their education....young men between the ages of 16 and 17 (no younger and no older) were recruited into a seven-year program of which the first two years were a combination of military training, trades training, and additional schooling. A half day of military and a half day of scholastic training were involved during most of this two-year time frame. A graduate after this two-year period usually had increased his educational level by two grades and was also trades trained to the Group 1 level in his chosen trade. Upon graduating after two years of intensive training, the apprentices were assigned to various military units and still had five years to serve with their option of taking their release after three years.

- Wikipedia, 2011

Standards

Now that the training of ex-service men under apprenticeship contract is coming to an end and a new system of vocational schools has been approved under which selected lads will obtain pre-apprenticeship training, it will be possible to pay a great deal more attention to trade standards and tests....to raise the standard of competency....It is also hoped that a more careful selection can be maintained of those entering the trades, as a considerable difficulty has been encountered in the past in trade training owing to a lack of sufficient basic education.

- BC Department of Labour Annual Report, 1947

Provincial and Federal Interaction

The late fifties and early sixties were a period of significant development for vocational education, greatly facilitated by federal funding. Pre-apprenticeship classes were introduced in 1957. One to two month daytime classes for apprentices were now being offered in Vancouver, Victoria and Nanaimo, especially for students from regions where the concentration of apprentices was low or where a trade was not well suited to short evening sessions. (Evening classes for apprentices were offered in Vancouver, Victoria, Kitimat and Trail – the latter two towns being the sites of large smelters.)

Enrolment in classroom-based training was booming, although growth in apprenticeship was not keeping up. Due to space limitations in Vancouver, facilities at the Pacific National Exhibition in Hastings Park were rented. “This accommodation,” the Department of Labour noted dryly in its 1955 annual report, “was only temporary and not altogether satisfactory.” In light of the success of the Vancouver Vocational Institute, the **Federal-Provincial Trades and Technical Institute** was created at Hastings Park in 1957.

About a dozen pre-apprenticeship programs were offered in 1957, lasting five months in Vancouver and ten months in Nanaimo. About 200 students graduated from the two schools in 1958, with almost all proceeding to an apprenticeship. As the BC Vocational Schools system expanded in the 1960s, pre-apprenticeship programs came to be offered across the province.

1955 saw a new *Apprenticeship and Tradesmen's Qualifications* Act in BC that enlarged the scope of apprenticeship. It still required apprentices in designated trades to be registered and that minors, i.e. those under age 21, employed in those trades to be apprentices. Some students in non-designated trades were given the option of arranging apprenticeship contracts.

The new Act provided for the voluntary examination of workers who had not served an apprenticeship but who wanted to be certified. Although a certificate of proficiency was not required, several trades requested that certificates at least be made available in their trade.

With the move towards examination and certification, course outlines began to be set down on paper and by 1958, some common, national exams began appearing. In automotive mechanics, for example, written and practical exams were piloted in 1960. Nevertheless, the introduction of examinations was a slow process.

Prior to 1955, quality assurance consisted mainly of inspections of the worksite by personnel from what was renamed in 1955 as the Apprenticeship and Tradesmen's Qualifications Branch. The new Act came at the first time in many years when it had not been possible for the Branch to visit every apprentice on the job, although many of their employers were interviewed.

By 1960, construction of BC Vocational Schools around the province had begun, prompted by the influx of federal funding for capital construction of training facilities. The BC Vocational Schools are described below, so it will simply be noted here that the Vocational Schools were BC's first initiative to provide a systematic network of public postsecondary education across the province. (Previously, postsecondary education had been concentrated in Vancouver, with only pockets elsewhere in other locations such as Victoria and Nanaimo.) The Vocational Schools set the stage for the emergence of regional community colleges from 1965 to 1975, with which the Schools were merged in the early 1970s.

A provincial conference on apprenticeship was held in Vancouver in 1962, with 300 delegates attending for two days. A one-time event, attendees concluded with the hope that they could have future conferences.

A new agreement, the Apprenticeship Training Agreement, was signed in 1964 with the federal government for the purpose of expanding apprenticeship. BC offered pre-apprenticeship courses in sixteen trades and was gradually moving away from evening classes to daytime, one-month blocks. The BC Act was amended to broaden examinations, although they were not compulsory; eleven trades offered examinations in 1967, compared to just four the previous year.

A 1965 BC government agreement with the pulp and paper industry, the first agreement involving an entire industry, resulted in several hundred new apprentices. Another example of industry training occurred two years later when an on-the-job retraining program at the Cominco plant in Trail provided a means for repairmen to become millwrights.

Apprenticeship was just one aspect of federal industrial training funding. In 1975, BC collaborated in administering the federal industrial training program and, of the 9500 trainees, only 1200 were in apprenticeable areas.

Some inter-provincial agreements in the mid seventies, facilitated by Canada Manpower, allowed apprentices to cross provincial boundaries for technical training in order to maximize the use of educational facilities.

Despite receiving large amounts of federal funding, BC was dissatisfied with some federal developments. It complained that the replacement of the Federal Department of Labour in 1967 with the new Department of Manpower and Immigration interrupted relations with the province. The 1967 federal *Adult Occupational Training Act*, which updated the Apprenticeship Training Agreement, was viewed by BC as neglecting coordination at the national level. (Perhaps as the result of such criticisms, a federal Red Seal coordinating committee formed in 1969.) In 1971, the BC Department of Labour grumbled in its annual report that apprenticeship seemed to be an afterthought in the federal *Adult Occupational Training Act*. It “firmly contended” that the federal government should pay training allowances to all apprentices, not just some. (By 1973, all apprentices in BC received either federal or provincial funding, depending on who was sponsoring them.)

Tensions within BC

When government became involved in apprenticeship training in BC, it implemented a centralized model, e.g. apprentices were told when and where to attend technical training classes, curriculum development occurred centrally, and the BC Vocational Schools across the province were run from Victoria. The 1970s planted the seeds of challenges to centralization, although the command and control ethos persists even today.

The need for technical training due to technological change was explicitly acknowledged by 1970. (In fact, in 1971, the Department of Labour reported that technical training courses were “in a state of flux....this year was one of increased activity, in that many of the course outlines were completely revised.”) Fulltime counselors for apprentices and prospective apprentices were beginning to be deployed beyond Victoria in districts with vocational schools.

Within fifteen years of the establishment of pre-apprenticeship programs in 1957, the federal government was purchasing a portion of the seats in pre-apprenticeship classes. Although the provincial Apprenticeship Branch retained sole authority for scheduling pre-apprenticeship programs and selecting trainees for the 4 to 6 month programs, it did so in cooperation with unions, employers and Canada Manpower. It used a number of public colleges to deliver the courses and piloted a pre-apprenticeship program for secondary school students in Langley in 1974. (In 1974, BC enrolled about 2200 students in pre-apprenticeship programs for 24 trades. Tuition was free and students received subsistence and travel allowances.) By 1976/77, pre-apprenticeship programs were being introduced in secondary schools throughout the province.

Developing tensions led to two major reports on apprenticeship in BC. The 1977 *Commission on Vocational, Technical and Trades Training* recommended an industry-based occupational training council to allocate funds. It envisaged the council operating under the *Colleges and Provincial Institute Act*, i.e. reporting to the Minister of Education, with links to the Ministry of Labour under proposed changes to

apprenticeship legislation. Seven years later, following the closure in 1983 of the resulting Occupational Training Council, the Provincial Apprenticeship Board issued a report on the *Future of Apprenticeship*.

The 1977 *Commission on Vocational, Technical and Trades Training in British Columbia*, chaired by Dean Goard, identified an urgent need to reduce red tape and duplication of decision making in managing vocational training. It recommended that an Occupational Training Council be established to streamline the current processes involving the Apprenticeship Board; Ministries of Education, Labour and Finance; public institutions; Public Service Commission (for hiring instructors); Purchasing Commission; Ministry of Public Works (for managing institutional facilities); and Canada Manpower. A Provincial Apprenticeship Committee, constituted by statute, would be a specialized function of the Occupational Training Council.

The commission noted that until 1975, the Ministry of Education had a vocational curriculum division to develop a standard curriculum. The division also provided a line of communication to the Ministry of Labour. Since then, i.e. as of 1977, there was no longer a central service provider.

The lack of coordination, in the Commission's view, was profound:

In the cold light of reality, the core problem rests in the confusion resulting from the multiplicity of competing agencies in providing vocational training. It appears that no single authority controls the system....it is abundantly clear that the post-secondary educational system does not respond in adequate measure....without a central, single agency, the postsecondary system will remain unresponsive to both industry and the individual. Further, the inadequacy of occupational/counseling systems was underscored in almost every brief. It is evident that available counseling services are not only un-coordinated but also grossly deficient.

In order to mount additional sections of existing programs in response to enrolment demand, institutions had to go through a Request for Additional Courses process with the Ministry that could take several months. A separate process, again a holdover from the centralized administration of the BC Vocational Schools, was used for approving new programs.

Students were selected by a multiplicity of agencies: the Ministries of Education and of Labour, Canada Manpower, joint labour-management program and training committees, trade advisory committees, and advisory committees to colleges. The admission criteria seemed to vary and waitlists were up to two years. Federally-supported clientele were seen as sometimes problematic by the provincial Commission:

Through Canada Manpower training programs, client groups are created or manipulated in ways that are not always in the best interests of the individuals nor consistent with provincial priorities....In addition, federal allowance levels (substantially higher than inadequate provincial allowances) combine with federal selection procedures to attract persons to vocational training courses who may not have the requisite aptitudes and interests.

Selection processes accentuated labour market mismatches wherein shortages of skilled journeypersons in some trades coexisted with long training waitlists. Of course, other factors contributed to labour market problems, for example:

It is obvious that this problem is a result of the failure of large numbers of employers to carry their fair share of the training load, and of some unions' reluctance to accept entrants during down-swings in the economy. Some employers are content to recruit tradesmen from other firms that are training, or to recruit overseas.

The Commission's report called for more classroom time, for example: "It is generally conceded in the construction industry that the contractor in his specialization does not provide well-rounded training in the work of a trade. This pinpoints the need for more simulated training in the educational institution."

Regional access to technical training was also seen as needing improvement:

Approximately 64 percent of all apprenticeship training in the province is concentrated in Burnaby....and given the fact that most apprentices are in institutional training for only four to eight weeks, it is extremely difficult to find suitable accommodation.

At the time Dean Goard was preparing the Commission's report, the seventy private schools falling under the Trades School Regulation Act in 1936 had grown to 102 in 1976, and then to 137 schools serving 23,000 students in 1979. The 1985/86 Ministry of Labour annual report showed 35,000 students served by 308 schools in programs of varying, often short, duration.

Private Trade Schools

Under the Apprenticeship Act, all schools providing job-oriented training must be registered and bonded....the National Training Act endorses the purchase of seats in private training facilities if standards and costs are competitive with those in public institutions. Further expansion in the number of private training institutions is expected as more and more students are attracted to individualized instruction in private training institutions.

- BC Ministry of Labour Annual Report, 1985/86

Occupational Training Council

Following the 1977 Commission, an Occupational Training Council (OTC) was indeed established in 1978 under the *College and Institutes Act*, i.e. reporting to the Minister of Education, not of Labour. The Department of Labour described the primary function of the Council as "to resolve inter-institutional conflict in apprenticeship and vocational training."

Conflict Across Sectors

Noting that few Ministry of Education officials or college principals had a vocational background:

The Occupational Training Council is convinced that much of the conflict between the industrial community, the Ministry of Education, and Colleges and Institutes, would disappear if vocational people were in influential positions.

- Occupational Training Council, 1982/83

Mandated to allocate funding among institutions, the chairs of the Provincial Apprenticeship Board and the OTC attend each other's board meetings to facilitate communication and avoid course duplication. This was less than successful, with "pre-apprenticeship" training delivered by the Ministry of Labour and "pre-employment" programs falling under control of the Ministry of Education. In 1980, the Minister of Labour appointed a task force "to develop a policy of job entry training to replace the present problems and confusion created by having pre-apprentice and pre-employment programs, many offering similar programs."

The OTC emphasized the need for provincial standards and established nine Industry (not occupational) Advisory Committees within two years of its formation. It developed a perception, which it acknowledged was based on only sketchy data about the job placement of Entry Level Trades Training graduates, that only a small percentage of ELTT graduates were finding employment in their area of training. (See the section on survey findings in the Topics and Issues section for data about actual employment outcomes.)

The OTC was abolished in 1983, along with two parallel councils concerning other program areas in the college and institute sector, the Academic Council and the Management Advisory Council. The OTC's functions were absorbed by the Ministry of Education.

Training Access (TRAC)

In 1982, a cabinet committee decided to replace pre-apprenticeship and pre-employment training with a single Job Entry Skills program and to have the new program in place for January 1983. It resulted in a pre-apprenticeship program, Training Access (TRAC), introduced in what the Occupational Training Council's annual report described as "a potentially hostile environment," i.e. on short notice and with opposition from some faculty members and many trade unionists. TRAC was to be operated by the Ministry of Education and the colleges, while the Ministry of Labour's pre-apprenticeship program was to be phased out.

Introduced on schedule in January 1983, although incomplete, TRAC was described as a "continuous intake/exit individualized competency-based vocational training plan."

The following description of the origin of TRAC is summarized from Lorne Thompson (1983).

In 1981, the BC government announced a plan to increase apprenticeships. However, a recession had begun and the number of apprentices fell significantly, reflecting that apprenticeship is essentially a function of employment, not education. The government therefore did not change the apprenticeship system but rather focused on programs that had been designed to help students find initial employment that could also lead to apprenticeship. Such programs were offered through two Ministries:

Ministry of Labour: Pre-Apprenticeship Programs

Sixteen of these programs operated in public institutions in 1982, funded by the Ministry of Labour. The Ministry of Education had little input to either student selection or curriculum. Rather, students were selected mainly through the province's 59 Trades Advisory Committees and curriculum was designed by the Program Development unit of the Ministry of Labour. Students paid no tuition and were granted a living allowance by the Ministry of Labour. Despite the implication of the program name, Pre-Apprenticeship, there was no guarantee that program graduates would secure an apprenticeship, and many did not. The government viewed the program as expensive.

Ministry of Education: Pre-Employment Programs

Offerings were based on programs originally developed at the Vancouver Vocational Institute, and many strongly resembled the Ministry of Labour's Pre-Apprenticeship programs:

There have been suggestions that these may have been developed by Colleges as a reaction to what they felt was trades-access limitations. In other words, there were suggestions that the College had in some cases implicitly alleged union control of access and Pre-Employment was their solution. The unions countered with accusations of academic tinkering and a cold war erupted and has existed more or less ever since. This parallelism of programs has been a source of constant confusion to students, parents, and employers, and was clearly one more reason for the government decision to abandon Pre-Apprentice.

In April 1982, Treasury Board announced an immediate termination of Pre-Apprenticeship programs. A joint plea from the Ministries of Labour and of Education granted a reprieve to allow scheduled courses to proceed to the end of the 1982/83 fiscal year, provided a replacement program was ready by January 1983. On this short notice, officials in the two Ministries began developing what became TRAC.

Early in the development process, it was decided that any Pre-Employment programs that resembled the cancelled Pre-Apprenticeship programs would be folded into a new format. Other developmental criteria included:

- option for students to change employment goals part way through the program
- student were able to study at their own pace (this was primarily in response to a demand for some students to proceed at a faster pace)

- continuous rather than fixed intake
- common standards and uniform measurement devices
- allow for students to transfer between institutions
- articulation with high school career-preparation programs
- a single program, not two
- decreased program costs
- higher graduation rates.

The resulting TRAC program had three sequential components:

1. Common core
2. Six occupational cores
3. Specialties

Students could “stop out” after each step, and the first two steps were intended to facilitate a student’s exploration or changing of occupational goals.

Although all colleges contributed to the development of TRAC, the Pacific Vocational Institute in Burnaby and Cariboo College (now Thompson Rivers University) in Kamloops were significant developers of learning packages. The Ministry of Education’s Curriculum Development Branch hastily provided in-service training to teach instructors the basics of competency-based instruction.

Introduction of TRAC

Enormous amounts of work remains to be done....Indeed, many of us are just now seeing the two thousand learning packages and many of those units will have to be redone before they are used....In many cases, one can read instructor enthusiasm in the work. Some packages meant to be one or two day assignments read more like a semester course in the subject matter....Another immediate need is to convert much of the learning materials from print to video – a move made necessary to address the reading levels of the majority of students....a concerted effort at educating not just employers, but federal and provincial bureaucrats and politicians. With the apparent problems [the federal agency] C.E.I.C. is having adjusting to TRAC, this looks to be a difficult chore indeed.

*- Lorne Thompson, 1983
Ministry of Education official*

TRAC was a radical innovation which neither industry nor instructors supported. It was viewed by instructors and their associations as a complicated administratively. Whereas before they could focus more on prescribed final course competencies to accomplish however they chose to teach them, TRAC involved a variety of small modules that had to be tracked for individual students, all of whom were at different stages in their training.

Although several million dollars had been spent on curriculum, the program’s implementation was rushed. Student attendance was weak, orientation for instructors poor, and policy guidelines inadequate. It was clear after a year or two that TRAC was not succeeding. Institutions did, however, welcome the current and relevant curriculum and related support material. They embraced the curriculum as the new model of Entry Level Trades Training emerged, and eventually the Apprenticeship Branch also moved in that direction.

TRAC’s legacy was ongoing expenditures in the order of \$1 to \$2 million annually in the Education ministry and the Apprenticeship Branch for development of curriculum modules, a task subsequently performed by the Centre for Curriculum, Transfer and Technology. This curriculum development continued until the creation of the Industry Training and Apprenticeship Commission in 1997.

Early 1980s - uncertainty about direction

Apprenticeship registrations peaked in 1982, when they represented 1.8% of the work force. Apprentices then declined to about 1% of the work force over the next couple of years. Against this background and the demise of the Occupational Training Council, the Provincial Apprenticeship Board issued a report in 1984 **The Future of Apprenticeship: A Report to the Minister of Labour, Province of British Columbia.**

The report said that the key finding was:

The Board found that changes and improvements are needed to keep the system current, but that there is widespread agreement on the following: Apprenticeship remains a valid skills training system....The present Apprenticeship System is fundamentally sound....Clearly, the system trains well and it can train enough. The question is: will it?

The Board concluded that future growth in apprenticeship training was most likely to occur among smaller employers. However, many employers were concerned that training costs to meet such social goals as training the unemployed should not be imposed on employers alone. The Board therefore recommended that government should facilitate the continued training of laid-off, final-year apprentices in critical industrial trades through a program of simulated on-the-job training.

Smaller employers often did not have the financial means to do a great deal of training, and may not have offered the full range of employment tasks, so the Board recommended developing a mechanism for co-operative apprenticeship among compatible groups of smaller employers.

On the subject of technical training, the Board reported a strong desire to have more training that was locally-based. Rather than using the Ministry of Education as a middleman, it recommended that the Ministry of Labour be empowered to contract directly with the institutions for the delivery of instruction. Other points about technical training included the following:

Private trainers

The Ministry of Labour...is empowered now to deal directly with private education institutions for technical training. Public education institutions are, and should continue to be, the principal source of technical training...

Tuition free

The Board believes that, as taxpaying employees, apprentices are making a financial contribution toward education costs...

Length of technical training

The Board is of the view, however, that the time allocated to technical education should not be increased, but that it should be managed more effectively to ensure that desirable new material is added and that obsolete materials are dropped.

Regarding mandatory training and certification, the Board noted that the requirement that anyone employed in specified trades (“designated trades”) be either a journeyman or an indentured apprentice had been removed in 1978 because the law was seen as too restrictive and unenforceable. Nevertheless, mandatory certification continued to exist in six trades (Plumbing, Refrigeration, Sheet Metal, Roofing, Sprinkler Fitting and Steamfitting Pipefitting) and the Board was not prepared to take a position about these trades:

Argument continues as to whether compulsory certification is to protect the public interest or is a valid means to force more training opportunities or is a means to limit competition in certain industries. The Board is not yet prepared to make a recommendation on this matter, but will discuss it further....

Noting that there were calls both to add new trades and to remove other trades from the lists of apprenticeable trades, the Board focussed on the 22 trades then included in the Red Seal interprovincial program, calling for greater standardization to accommodate further transferability.

Regarding the delivery of training, the Board explained that modular training was used in two contexts: (1) flexibility in how the various learning packages are sequenced and (2) allowing employers choose only certain modules according to their needs. The Board supported the former, but not the latter. It posed the questions of whether a “super” tradesman qualification should be established for additional specialization, and whether there should be recertification in light of current standards.

Other topics raised about the delivery of training included:

Part-time apprenticeship

The apprenticeship system now is sufficiently flexible to accommodate the apprentice and employer in circumstances where only part-time work can be provided. However, the Board does not encourage part-time apprenticeship as a general rule.

Curriculum

...the Branch, which has developed and continues to develop formal “training guides” which assist the apprentice and the employer in assuring that course content is being covered adequately. The Branch will continue to encourage individual apprentices and employers to make greater use of the training guides.

Flexible length

In consultation with the Branch, employers now are able to graduate an apprentice in less than the normal prescribed time and also are able to extend an apprenticeship beyond the normal prescribed time.

Competency-based training

The Board believes competency-based criteria should not be imposed upon the training system but that the system should take steps to ensure sufficient flexibility in both hands-on and classroom training to accommodate those who want to take that route.

From the mid-eighties and throughout the nineties, apprenticeship registrations languished, rising initially from 10,000 to 15,000 and then remaining at that level. The Occupational Training Council and TRAC came and went. Federal funding was moving from general support towards more targeted populations and short term programs, and was increasingly directed to the private sector. Questions and issues raised by the Provincial Apprenticeship Board continued to be discussed, but little resolution was achieved.

Provincial Legislation

1935 *An Act Respecting the Training of Apprentices (Apprenticeship Act)*

Established an Apprenticeship Branch in the Department of Labour and provided for the designation of certain trades as subject to the provisions of the act. Six trades were immediately brought under its provision: Carpentry, Painting, Plastering, Sheetmetal, Plumbing and Electrical. Automobile maintenance was subsequently designated in response to requests from industry. An advisory Provincial Apprenticeship Committee was also formed.

1936 *Apprenticeship Act* amended “to extend the benefits of apprenticeship” to those over 21 years of age. (Previously, apprentices had to be minors age 16 to 21 inclusive. They could be employed in a designated trade for up to three months before having to sign a contract of apprenticeship.)

1936 *Trades School Regulation Act*

1940 *Apprenticeship Act* amended to allow war industries to employ minors without placing them under a contract of apprenticeship

1955 *Apprenticeship and Tradesmen’s Qualification Act*

Some students in non-designated trades were given the option of arranging contracts. Challenge exams were introduced as a means to certification. The branch was renamed the Apprenticeship and Tradesmen’s Qualifications Branch.

1963 Amendment to the *Apprenticeship and Tradesmen’s Qualification Act* to remove the minimum age and two-year minimum for a contract. Employment in a designated trade was restricted to those:

- Currently an apprentice
- Holding a Certificate of Apprenticeship
- Holding a Certificate of Proficiency

1965 Amendment to the *Apprenticeship and Tradesmen’s Qualification Act* broadened examinations, although they remained voluntary

1977 *Apprenticeship and Training Development Act* replaced both the *Trade Schools Regulation Act* and the *Apprenticeship and Tradesmen’s Qualifications Act*.

Provincial Apprenticeship Board replaced the Provincial Apprenticeship Committee. The Board had authority to list trades as designated or apprenticeable, to provide for terms of apprenticeship with an employer, and to set policy related to qualifications/standards and conditions for the delivery of training. Members appointed in January 1980. Ongoing administration remained with the Department of Labour.

1977 *Colleges and Provincial Institutes Act* created the Occupational Training Council.

1978 Removed requirement that anyone employed in specified trades (“designated trades”) be either a journeyman or an indentured apprentice. Law changed because it was seen as too restrictive and unenforceable.

1979 *Apprenticeship Act*

1983 *College and Institute Amendment Act* dissolved the Occupational Training Council, along with parallel Academic Council and the Management Advisory Council.

- 1985 Amendment to the *Apprenticeship Act* replaces “trade school” with “private training institution.”
- 1997 *Industry Training and Apprenticeship Act*
- Moved administration of apprenticeship system out of the provincial Ministry of Labour and into an agency, the Industry Training and Apprenticeship Commission
- 2003 *Industry Training Authority Act* – replaced Industry Training and Apprenticeship Commission with the Industry Training Authority

Recent Developments: 1996 to Present

BC Labour Force Development Board

The federal government's 1989 Labour Force Development Strategy was designed, in part, to create private-sector boards in Ottawa and in provincial subregions to oversee training programs. The strategy attempted to import the European associative model into Canada.

The BC Labour Force Development Board opened in 1994 and closed in 1996. Both it and the Industry Training and Apprenticeship Commission were intended to foster more cooperation between business and organized labour, on the basis that it was in everyone's best interest to ensure the province's workers had the necessary skills. The backdrop was a perception that colleges had been unresponsive to changing skill needs because of little oversight or involvement by the private sector, and a bias towards academic education.

The BC Board was launched in 1994 as an advisory body, but with the expectation it would gain decision-making powers once it had proven effective at giving advice. Haddow (2000) concluded that the BCLFDB's failure to acquire decision-making powers "largely reflected the reluctance of provincial bureaucrats and their ministerial masters to move very far away from the existing decision-making model in the labour-market field....they were not inclined to sponsor a private-sector board that would have direct authority over the [public training] institutions."

A 1995 board report, *Training for What?*, recommended a reallocation of resources from academic programming to applied, helping to balance the significant increase in enrolments in the former in the preceding years. This advocacy had relatively little impact.

Once it was clear that the Board would remain advisory, business and labour sometimes appointed representatives who were not prominent in their constituencies. The province announcement in October 1996 that it would close the board for budgetary reasons was accepted with little reaction in the broader community.

BC Labour Force Development Board and the Industry Training and Apprenticeship Commission

...sought to foster cooperation among public- and private-sector actors in the labour market field in 'associational' arrangements. In so doing, the reforms ran counter to institutionally entrenched patterns of behaviour in BC's political economy, which favour conflict between business and labour and limited involvement of private-sector actors in public-sector labour-market institutions. This article assesses the extent to which these institutional constraints precluded the success of these reforms. The evidence suggests they did....

- Rodney Haddow, 2000
How Malleable are Political-Economic Institutions?

Industry Training and Apprenticeship Commission (ITAC)

During 1995/96, the Ministry of Labour, Citizens' Services and Open Government held a series of fourteen forums across BC under the auspices of the Apprenticeship Revitalization Initiative. The intent was to create a strategic framework as a basis for developing a long term plan for apprenticeship in BC.

The Ministry elaborated the challenges it saw facing apprenticeship in its November 1996 statement, *Revitalizing Apprenticeship*:

- Declining number of apprentices in the previous fifteen years
- Apprenticeship was largely confined to the traditional trades, whereas the economy was increasingly service-based and high tech
- With the federal government withdrawing funding, there would be no new public sector money
- Entry Level Trades Training in educational institutions was not always providing marketable skills, nor was it integrated with apprenticeship
- Disadvantaged groups were not gaining sufficient access

The provincial government then sought to increase the effectiveness of spending on Entry Level Trades Training and apprenticeship training by establishing the Committee on Entry Level Trades Training and Apprenticeship late in 1996. The committee was jointly established by the Education and Labour ministries, but it was the Ministry of Labour that released **Revitalizing Apprenticeship: A Strategic Framework for British Columbia's Apprenticeship Training System** in February 1997.

The Ministers' committee unanimously recommended creation of a new governance model, the Industry Training and Apprenticeship Commission (ITAC) to succeed the Provincial Apprenticeship Board. ITAC was to be a decision making body, not an advisory one, that, among other things, would strengthen the linkage between apprenticeship and Entry Level Trades Training (ELTT). The committee envisioned a representative board with about one third from business, one third from labour, and one third from government and education.

The committee noted that 90% or more of all net new employment between 1981 and 1994 had been in the service sector, but 95% of apprenticeship activity was geared to construction, metal fabrication and motor vehicle trades. It also noted the marked decrease in the number of apprentices registered by large employers (about 25% of apprentices at that time.)

With respect to the delivery of learning, the committee recommended broadening access to technical training so that it would also be available to those not formally indentured to an employer. It recommended providing opportunities to progress beyond journey person certification, saying that the system needed to evolve in order to promote lifelong applied learning and to facilitate laddering between apprenticeship training and other learning systems.

The committee commented on the under-representation of equity groups, particularly women and Aboriginal persons. It felt that the elimination of some federal training allowances that had begun in 1995 would increase the demand for "closer to home, innovative delivery models." It also recommended consolidating the 65 Trades Advisory Committees.

The government accepted the committee's recommendation for an Industry Training and Apprenticeship Commission, establishing one in 1997. Government had learned from the BC Labour Force Development Board, which had immediately preceded ITAC, that a purely advisory board was ineffective at changing a system that had been relatively immune to private sector influence. ITAC was therefore given decision-making powers, but within a narrow scope, namely the apprenticeship system and the college system's Entry Level Trades Training.

By the mid 1990s, members of the advisory Provincial Apprenticeship Board had been complaining that their advice was not acted upon by the apprenticeship branch of the Ministry of Labour. Government had previously been leery of that advice because it noted that the PAB membership came largely from

traditional construction trades whose interest seemed mainly to be in sustaining the apprenticeship model in traditional areas rather than to expand it into emerging sectors. (Haddow, 2000)

According to Haddow, at least three topics of disagreement that emerged among Provincial Apprenticeship Board members carried into ITAC deliberations:

- Increased use of user-fees, with business tending to support this and labour contending that business should absorb more of the training costs
- Shorter forms of apprenticeship, focussing on skills that employers needed
- Greater use of private trainers (hampered by a BC government labour accord in 1998 that gave public-sector unions and colleges the right of first refusal to public training contracts.)

When ITAC was established in 1997, it was described as a four cornered partnership of business, labour, education/training and government. By 2001, it had a staff of 105 FTE and a \$73 million budget, of which \$64 million went to training programs for those seeking to start in a trade. (Despite the size of its budget, ITAC had little money for the curriculum development necessary for expansion of apprenticeship into new sectors.)

A number of ITAC's board members, especially from the unions, felt too much of ITAC's budget was going to Entry Level Trades Training (\$42 million in 1997/98) compared to apprenticeship (\$18 million). Proponents of ELTT argued that graduates of those programs usually found jobs related to their training.

Entry Level Trades Training

The degree to which ELTT graduates move into apprenticeships varies by trade and industry. While approximately 40 per cent of ELTT graduates end up in apprenticeship, the overall ELTT placement rate in related and unrelated employment is relatively high...Some colleges and institutes offer a number of initiatives to make ELTT more accessible and welcoming to under-represented groups....Measuring ELTT by a broader set of outcome criteria than simply "entry to apprenticeship" reflects the strengths of ELTT. Nevertheless, the Minister's Committee members, some Commission members and other industry and training partners have identified challenges regarding ELTT. These relate to better linkages with apprenticeship programs, curricula and credentials; and interfacing ELTT and apprenticeship industry advisory committees.... This will include addressing the resistance of some to modularization of curriculum and moving to a more flexible training program.

- ITAC Strategic Plan, 1998 – 2000

ITAC faced a number of challenges, including those described in its 2000/01 annual report, "ITAC needs to develop more flexible, responsive training through new delivery methods and curriculum revision. Internally, the Commission needs to speed up decision cycles, update business practices and respond quickly to trends and opportunities."

Haddow summarized other challenges as follows:

Business has argued for more 'flexible' forms of apprenticeship that require less time to complete, include only those skills needed by employers, and, where possible, assemble components from different traditional apprenticeships to meet employer needs. Labour has resisted such 'multi-skilling,' claiming that it will undermine the quality of apprenticeships and the mobility and earnings of their recipients....

Traditionalists are particularly numerous in ITAC's labour caucus; unionization rates are low in most of the new sectors that were defined by the government in 1996 as having the potential to adopt apprenticeship or related models. But interviewed business

representatives from the new sectors also did not embrace the model enthusiastically. One of these was 'extremely doubtful' that apprenticeship, with its implied long-term commitment to a trainee, could ever be embraced in the member's industry, where employment patterns are highly flexible.

A new liberal government was elected in 2001, replacing a more labour-oriented one. It immediately conducted a government-wide Core Services Review that resulted in the decision to phase out ITAC by Spring 2003.

Industry Training Authority (ITA)

In a 2002 discussion paper, the Ministry of Advanced Education said:

...this is not the first time industry training has undergone major change in the province. When the Industry Training and Apprenticeship Commission (ITAC) was created in 1997, similar needs were identified, among them the need for an industry-driven training system. Despite its best efforts, ITAC was not able to implement the sweeping changes needed...

The Industry Training Authority was established in 2004 to replace ITAC. It is governed by a nine-person board of directors and has staff working from offices in Richmond to carry out day-to-day operations. The Board membership is drawn from employers and professional associations, unlike the ITAC board which also included union and government/education officials.

The government expected the ITA to bring about a number of reforms, but progress has been variable. Implementation of an entirely competency-based form of assessment and progressive credentialization through modularization is far from accomplished. Such significant change has perhaps been hampered by the variety of Ministers to which the ITA has reported in its brief history:

2003/04 and 2004/05	Shirley Bond	Advanced Education
2005/06 – 2007/08	Colin Hansen	Economic Development
2008/09	Murray Coell	Advanced Education and Labour Market Development
2009/10	Moirra Stillwell	Advanced Education and Labour Market Development
2010/11	Ida Chong	Regional Economic and Skills Development
2011/12	Pat Bell	Jobs, Tourism and Innovation

The Federation of Post-Secondary Educators of BC commented on the reporting relationships on March 14, 2011:

When the ITA was previously reporting to a non-post-secondary education Minister – that was the case from 2003 to 2008 – there were disconnects between the ITA and our public institutions. A report by the Auditor General's Office had been critical of the ITA and had recommended it report to the Minister of Advanced Education. That change was made in June 2008. Today's announcement reverses that....

Intended Reforms in 2003

Recent reform of the apprenticeship system in British Columbia has focused on competency-based qualifications and devolving much of the administration from government to industry....The new system, initiated with the establishment of the Industry Training Authority (ITA) in August 2003, proposed four major reforms.

First, the assessment of certification will be purely competency-based, replacing the former system that required a minimum training period.

Second, certification will be broken down into component modules that stand independently and can be achieved through not only the traditional apprenticeship system but also other post-secondary education programs. This approach is sometimes called progressive credentialization.

Third, the provincial government has devolved much of the responsibility for the apprenticeship system to industry, including the design of academic curriculum, responsibility for promotion and some responsibility for funding.

Fourth, the old Industry Training and Apprenticeship Commission (ITAC) has been replaced by ITA, which is composed of nine board members drawn from employers rather than a larger, more representative ITAC board that included four stakeholder vetoes."

*- Sharpe and Gibson, 2005
The Apprenticeship System in Canada*

As of 2011, the ITA funded technical training programs through:

- 16 Public postsecondary institutions
- 43 Private training institutions and school districts

It also funded seven Industry Training Organizations to develop programs and liaise with industry:

- Automotive Training Standards Organization
- Construction Industry Training Organization
- Residential Construction Industry Training Organization (not funded in 2012)
- HortEducationBC (Horticulture)
- PROPEL-go2 (Tourism)
- Resource Training Organization
- Transportation Career Development Association

Foundation Programs, 2006

As early as 2002 in the Ministry of Advanced Education's discussion paper, *A New Model for Industry Training in British Columbia*, government was calling for fundamental changes to Entry Level Trades Training (programs that accounted for two-thirds of the ITAC budget.) Greater flexibility was desired, e.g. the opportunity for apprentices to have access through modularization to training deemed part of another trade, competency-based credentials rather than time-based ones, and to divide some trades into stages known as progressive credentials.

In 2006, the ITA began implementing a new program for pre-apprenticeship training, known as Foundation programs, to replace Entry Level Trades Training. It resulted in a new category of programs participants,

“trainees,” who, like apprentices, were to be registered and tracked by the ITA. (Prior to 2006, ITA used the terms “apprentices” and “trainees” interchangeably. Now they would have distinct meanings.)

An ITA-issued Certificate of Completion was introduced, to complement any certification that the educational institution might offer. Credit towards apprenticeship was to be pre-defined and automatic, rather than variable and not automatic.

Standardized, centralized curriculum and the registration of Foundation program trainees would permit key program success measures, such as completion rates and continuation to apprenticeship, to be tracked on a province-wide basis. Previously, under Entry Level Trades Training, institutions developed similar, but not identical, curriculum with local employer input.

E-PPRENTICE

E-PPRENTICE was announced by the ITA in 2009 as a \$6 million project for more flexible options in delivering technical training, using some of BC’s federal labour market funding. Influenced in part by developments in Australia, it was envisaged as combining traditional classroom and shop experience with online or distributed learning (the combination of face-to-face and online learning is sometimes known as hybrid or blended learning.) The intent was to provide apprentices with more flexibility as to when and where they could pursue technical training, representing an alternative to time-based models used by institutions.

The ITA suspended E-PPRENTICE program development in April 2010 as it was determined that it was not a good match for funding under the Canada-BC Labour Market Agreement. Nevertheless, the ITA said it is committed to refining the business plan and moving this initiative forward when new funding is identified.

Industry Training Organizations

Under its legislation, the ITA is authorized to delegate a range of functions relating to industry liaison and program development to Industry Training Organizations (ITOs). These are not-for-profit legal entities, incorporated under the *Society Act*, established by industry and accountable to the ITA through partnership agreements. By 2011, 95% of all registered apprentices were in ITO-managed programs.

The first three ITOs (horticulture, residential construction, and automotive) were launched in 2005/06. Agreement was then reached on the board composition and governance for an ITO in the institutional, commercial and industrial construction sector which accounted for over half of the apprentices at that time. This agreement, in the words of the ITA annual report, “represented a major step forward within a diverse sector in which consensus has traditionally been difficult to achieve.”

Three years later, the first of six ITOs was designated as “full service.” Full service is the final stage, allowing the ITO to implement its own training priorities within a flexible framework. With this status came greater responsibilities, accountabilities and access to funding from ITA. The ITA’s role with respect to ITOs is to approve program standards and evaluative tools, and to register, track and certify apprentices. It is ITA, and not the ITOs, that funds the delivery of technical training.

Controversy about the formation of ITA

Gord Stewart, training co-ordinator, Independent Contractors and Business Association
Quoted in the Journal of Commerce, 6 May 2002

The old ITAC system was considered by the business community in general to be an absolute failure....Employers want to be more directly connected with the training that their apprentices are getting. Right now they're sending them off and not knowing what they're learning....

The government has in the past block funded apprenticeship training. Under the old system, the government bureaucrats assigned apprentices to schools, paid for those seats and quite often they didn't show up. Tuition fees are an attempt, number one, to deal with cost issues the government has and secondly, to make sure the seats they're paying for get utilized.

Article by Uyen Vu, Canadian HR Reporter, 27 January 2003

In response to the criticism [of the Ministry's discussion paper], Minister of Advanced Education Shirley Bond said change is needed in a system where half of apprentices fail to complete the four-year training....

But one ITAC employee, who didn't want to reveal his name for fear of reprisal, said the apprenticeship system is much more complex than other training models. For each apprenticeship agreement, ITAC staff would have to evaluate the employer, find out if it can provide the training and handle the problems that come up.

"Remember that we're talking about apprentices, who are not the cream of the academic crop. They might lack the required education and need some help overcoming the hurdles like passing exams and even doing placement exams," said the ITAC employee.

And with a scaled-down operation, ITAC staff just haven't had time to take care of the basics, he added.

"In one recent case, we found that the employer where one apprentice was registered was actually a shell company. It was just a phone number that the apprentice had given us because he wanted the qualification ticket. This went on for six months but it was just a fluke that we discovered it."

Bulletin, Canadian Association of University Teachers, February 2003

Cindy Oliver, president of the College and Institute Educators' Association of BC said her association has concerns about the compressed time lines and lack of openness and transparency in the consultation process, adding that the proposed training model "represents a radical reduction in the quality of apprenticeship....Oliver said that narrow business interests will drive the new model....

According to CAUT executive director James Turk, the elimination of labour's key role is contrary to accepted practice elsewhere and destroys a vital element in all successful apprenticeship and industry training programs....

...the government proposes that skills be recognized by 'incremental' or 'specialized credentials,' that demonstrate a partial completion of the skills needed for a trade. "The move to a de-skilling of workers and the devaluing of trade credentials is a particular concern given the proposed partial credentials will fall short of the inter-provincial standard that allows trades' credentials to be recognized in other provinces," Turk said.

Controversy about the formation of ITA (continued)

Richard Campbell, chair of the fledgling Coalition of Construction Industry Associations and executive director of the Electrical Contractors Association of BC, reported in the Journal of Commerce, 24 February 2003

[In urging the government to postpone implementation of the new model]

Apprentices won't be needed anymore," charges coalition chair, Richard Campbell... "Ultimately a concept that is touted as being a means of preventing skills shortage will actually create a skills shortage."

Under the terms of the new model, semi-skilled specialists could perform work now done by apprentices and journeymen. "There's already a lot of abuse as far as unqualified people doing regulated work....Contractors will have no reason to indenture apprentices anymore and to remain competitive, they will have to hire these helpers or semiskilled specialists," Campbell said. "The government has been speaking with an interest group that claims to be the voice of the industry when in fact they are not. They in fact represent less than 10 per cent of the industry."

Shirley Bond, Minister of Advanced Education

Letter to the Alberni Valley Times newspaper, 12 February 2003 regarding a new structure that would include modular training and competency-based credentials:

A lot of misinformation has been spread....I want to make it clear that whatever system we develop, quality of training will not be compromised. Enforcement of safety standards and consumer protection in compulsory certification trades will be maintained. We are not going to dilute the trades...We also want to assure apprentices who are currently in the system that their training will not be interrupted.

Commentary by Bob Blakely, Journal of Commerce, 16 June 2003

Some employer groups and government agencies, driven by short-term contractor-specific economic expediency, are advocating for so-called "modular training" or "skill sets." In plain language, this policy will result in a plethora of low-skilled workers with low wages, low benefits and low competency levels. This de-skilling of the trades will further inhibit the mobility of workers so essential in the construction industry.

Article by John Clarke, Journal of Commerce, 15 March 2004

There was an abundance of skills in the late Eighties and early Nineties while the market share in total numbers went down for unionized contractors. Those contractors held onto most of the heavier industrial work. But the growth moved over into residential construction where the open shop was strong and expanding...

Builders, especially those in residential, found the skills provided by the traditional Industrial Training and Apprenticeship Commission did not fit their needs well enough. They pressed for a modular model producing niche skills faster than the ITAC programs could and the Gordon Campbell government cancelled ITAC....

The conflict was clear enough. Was apprenticeship training to be modeled in way that fitted the needs of a particular sector? Or should it fit more general objectives?

....As long as the new system remains an issue between the two hemispheres of construction in BC, it will likely fit nobody's interest and do nothing to help recruitment.

The Industry Training Organizations in 2011 consisted of:

- Automotive Training Standards Organization (Burnaby)
- Construction Industry Training Organization – Industrial, Commercial and Institutional Construction (Burnaby)

CITO is responsible for three of the five largest apprenticeship programs: Construction Electrician, Carpenter and Plumber. These three trades alone accounted for one third of all apprentices in BC in 2011/12.
- Go2 – Tourism, Hospitality and Food Services (Vancouver)

The go2 tourism Human Resources Society was unique among ITOs in that it was an existing entity, formed in 2003, that has taken on ITO functions as part of a broader human resources mandate. It became an ITO in 2006/07.

go2(Propel) oversees apprenticeships in three food industry occupations: Professional Cook, Baker and Meatcutter.
- HortEducationBC – Ornamental Horticulture (Surrey)
- Residential Construction Industry Training Organization (Sidney)

RCITO's contract with ITA expired in March 2012 and was not renewed.

RCITO's trades were smaller, newer trades, none of which were accredited Red Seal programs. The ITA Newsletter of Winter 2012 reported insufficient sponsorship participation by employers, weak demand for RCITO programs (358 apprentices in March 2012), and low completion rates.
- Resource Training Organization (Langley)

This ITO, formed in 2007, serves large enterprises in mining and smelting, oil and gas, pulp and paper, shipbuilding and repair, solid wood and utilities. It is responsible for a number of high enrolling trades such as Welder, Machinists, Oil and Gas Rig Technician, Steam Fitter/Pipe Fitter – about 18 trades in total.
- Transportation Career Development Association of BC (Vancouver)

Approved by the ITA in 2008, the sponsoring organizations were the BC Road Builders and Heavy Construction Association, BC Trucking Association, Coast Mountain Bus Company, Council of Marine Carriers, and TransLink – South Coast BC Transportation Authority.

It is a fact that the New Model [2003 ITA Act] was substantially designed by the Coalition of BC Businesses, and clearly serves the interests of open-shop employers in the construction industry...If anything, I might say that the New Model still makes too much reference to apprenticeship; that by retaining some of the terminology and institutional trappings associated with apprenticeship – but not the essential components for a well-functioning system – the New Model beguiles us into believing that its employer-dominated governance structure is somehow necessary and justified.

- John Meredith, 2012

Providers of In-School Training

Public Institutions

The majority of BC's public postsecondary institutions provide pre-apprenticeship as well as in-school technical training. See Volume I of this history series for a description of the institutions that have provided apprenticeship training:

- British Columbia Institute of Technology (Burnaby)
- Camosun College (Victoria)
- College of New Caledonia (Prince George)
- College of the Rockies (Cranbrook) – formerly East Kootenay Community College
- Kwantlen Polytechnic University (Surrey) – formerly Kwantlen University College and Kwantlen College
- Nicola Valley Institute of Technology (Merritt)
- North Island College (Comox)
- Northern Lights College (Dawson Creek)
- Northwest Community College (Terrace)
- Okanagan College (Kelowna)
- Selkirk College (Castlegar)
- Thompson Rivers University (Kamloops) – formerly University College of the Cariboo and Cariboo College
- University of the Fraser Valley (Abbotsford) – formerly University College of the Fraser Valley and Fraser Valley College
- Vancouver Community College
- Vancouver Island University (Nanaimo) – formerly Malaspina University-College and Malaspina College

British Columbia is in the curious position of having some colleges that do not provide trades training but some universities that do – a reflection of the college roots of the province's teaching intensive universities.

Douglas College (New Westminster) and Langara College (Vancouver) no longer offer trades programming, primarily because of administrative splits that saw shop facilities remain with what are now Kwantlen Polytechnic University and Vancouver Community College.

What was formerly Capilano College, now Capilano University (North Vancouver), is the public institution established as a community college between 1965 and 1975 that had the least involvement in the apprenticeship world. Its original facilities included some shop space, but that space was put to other use, e.g. the welding shop became an art studio. The college was not interested in trades training and felt that students interested in those fields could easily commute to Burnaby. The university did, however, offer horticulture for a number of years and has run some temporary programs in the outlying Sunshine Coast and Pemberton/Mount Currie areas.

Excluding research universities, apprenticeship technical training has accounted for 5 – 10% of BC public institutions' Full-Time Equivalent (FTE) enrolment since 1990. Foundation programs have appeared smaller, comprising another 3 – 5% of total FTEs. Note, however, that the amount of training to generate an FTE in apprenticeship is considerably smaller than for Foundation programs. When measured by Student Contact Hours, rather than FTEs, the amount of instruction over the past four years for Foundation programs has been similar to technical training. (See Appendix B.)

Vocational Schools

Three public institutions offered technical training before they were merged with community colleges in the 1970s: the BC Vocational Schools system, the Dominion-Provincial Youth Training Centre in Nanaimo (the province's first postsecondary vocational school and which later became a campus of the BC Vocational Schools), and Vancouver Vocational Institute.

Vocational Schools Enrolment, 1970/71 Full and Part-Time in BC Vocational Schools and Vancouver Vocational Institute

Burnaby	8,700
Dawson Creek	827
Kelowna	2,047
Nanaimo	2,397
Nelson	1,178
Prince George	1,557
Terrace	956
Victoria	2,226
<u>Vancouver and Art School</u>	<u>6,341</u>
Total	26,229

Source: Department of Education Annual Report, 1970-71

Vancouver Vocational Institute

This section is drawn from Hans Rerup (1993).

Opening in 1949, the Vancouver Vocational Institute preceded the BC Vocational Schools. It quickly became the centre of vocational training in the province for over a decade.

VVI's site had for a couple of decades been a source of friction between the City of Vancouver and the Vancouver School Board. The City wanted the downtown site for a proposed civic centre, including a new city hall. (The city hall was eventually built elsewhere during the Great Depression on its present site on 12th Avenue.) In 1946, Vancouver ratepayers approved planning a different type of civic centre on the downtown site of the old Central School. They reversed themselves in a 1947 plebiscite, voting overwhelmingly against the needed \$3.5 million. Thus the site remained available for VVI.

Vancouver Vocational Institute

By 1989 the role of the Vancouver Vocational Institute as an elite training institution was perceived to have been bypassed by the demand for a workforce trained to greater levels at two year technical institutes or four year university degree granting institutions. In the new order of things in 1989, a certain stigma appeared to become attached to the role of vocational careers and training in society. This perception accelerated the change and removal of the name of Vancouver Vocational Institute....

The long history of overcrowding of the training facility with students and the continued readjustment to different instructional uses as training demands changed and as the City changed, were reflections of the innovative people, rather than buildings and equipment, who were the Vancouver Vocational Institute.

*- Hans Rerup, 1993
Former principal of VVI*

Following the end of World War II, the Vancouver School Board was a leader in responding to peacetime employment needs. With a scarcity of traditional apprenticeship training places, it decided to create new types of adult training called pre-employment training. Former teachers at the Vancouver Technical High School became the administrators of the new Vancouver Vocational Institute.

The first principal, Dean Goard, toured 29 institutions in the USA while planning VVI. Because of the high cost of buildings and equipment, the plan was to use the facility intensively from the first day, including part-time apprenticeship and vocational upgrading courses in the evening, in addition to full-time day programs.

Funding to construct the facility came from all three levels of government. The federal interest was in assisting war veterans, who were to receive special consideration. Similarly, Aboriginal (then called Native Indian) and RCMP personnel were priority clientele. The provincial interest was to consolidate a number of existing training efforts from dispersed locations, e.g. the Power Sewing program that had operated since 1936 and the Practical Nursing program at Vancouver General Hospital. The interest of local government was to provide a faster employment alternative to the customary apprenticeship pathway.

The \$2.0 million facility was planned to hold a maximum of 600 students in two dozen programs. Class size was to be 12 students, although this would later be increased due to enrolment demand. The building opened to students in September 1949, although at least one program had operated offsite the previous year.

VVI's building was intentionally designed to have a raw, industrial look, an aesthetic that was maintained until the formation (described below) of Vancouver City College in 1970. The intent was to convey the message that VVI was creating pre-employment training programs in a real workplace atmosphere to replace on-the-job apprenticeship training. Several programs sought to serve walk-in customers, e.g. by selling baked products, much as a real business would.

In 1957, the Vancouver Board of School Trustees complained to the Minister of Education that while the province was funding adult vocational schools elsewhere in the province, e.g. in Nanaimo, VVI served the whole province at the expense of the ratepayers of the City of Vancouver.

Formation of a Labour Union at the Vancouver Vocational Institute

The original intent and philosophy....was an institution where instructors would be seconded from business or industry for a maximum of two years and then return to their old jobs. However, in 1949 the instructors formed a labour union, the Vocational Instructors Association of BC. The original intent of return to industry was abandoned and job security became a part of the first collective agreement. Through evolution it became clear that all members of the union considered themselves instructors first and tradesmen or specialists second....

The first collective agreement of 1949 showed instructors divided initially by gender and then into three groups depending on the level of complexity of their program.

*- Hans Rerup, 1993
Former principal of VVI*

In 1965, VVI was brought together with the School Board's adult education division, art school (now Emily Carr University of Art + Design), and King Edward Senior Matriculation and Adult Education Centre to form Vancouver City College (now Vancouver Community College.) VVI's full integration into this forced merger did not occur until the end of 1970, and even then, VVI maintained its own name for several years.

With the creation of VCC, the admission philosophy changed from the best qualified to a "first come first served" basis for all who met minimum entrance requirements. VVI staff sometimes perceived the new philosophy as reducing program completion rates and subsequent success on the job, and as increasing instructional costs. They saw this as ultimately diminishing the institution's reputation.

After a few years as a satellite campus of VVI at the Dundas Centre, the *College and Institute Act* of 1977 established a separate Pacific Marine Training Institute in North Vancouver (absorbed into BCIT in 1994.)

In 1980, heavy trades such as Diesel Mechanics were moved south from downtown Vancouver to the China Creek site of what was to become the new King Edward Campus of VCC. This started VVI's transformation from heavy trades and construction towards "soft" vocational programs and more of a community college orientation. The 1985 merger of the Pacific Vocational Institute into the BC Institute of Technology led to some of the heavy programs being moved by the Ministry from VVI to BCIT in the years from 1985 to 1988. By 1988, the province envisaged all hospitality and tourism programs in the Lower Mainland being consolidated at VVI.

Overcrowding at the Vancouver Vocational Institute

The training programs quickly faced growing waitlists of applicants. Two to three classes were squeezed into instructional spaces designed for only one class. This squeezing of more students into more space than it was designed for became the continuing saga and theme over the next forty years of operation for the Vancouver Vocational Institute....

By 1958, overflow classes had to be mounted in many off-campus locations. In that year, for example, twenty-six classes were offered in the Poultry and Livestock Building at the Pacific National Exhibition Park. In the same year, these classes became the core program of the British Columbia Vocational School in Burnaby directly under the Department of Education of the Provincial Government....

All available space on campus was used or converted to instructional use. The gymnasium was sub-divided into two levels with cafeteria space on the upper level and instructional space on the lower level. The wooden gymnasium floor was finally removed in 1981 during another renovation....

By 1967, fifteen classes were again operating at the Pacific National Exhibition Park. The impact of the new federal legislation in support of manpower training and the training of the unemployed and under-educated had filled the campus to the roof once again....

In 1968, many classes of the Vancouver Vocational Institute were conducted in temporary and substandard accommodation outside the campus at Point Grey School, Tupper Secondary School, the Vancouver Technical School, and the King Edward Centre....

The very substantial increase in enrolment was mainly due to the 42% of the students who now were sponsored by the Canada Employment and Immigration Commission (CEIC) or "Manpower." All full-time second shifts in all programs on campus were mainly classes of federally sponsored students. This original separation of "Manpower" students from regular fee-paying students was quickly abandoned...

By 1974...all instructional departments operated on double shifts from eight in the morning to ten at night, and in some programs midnights shifts had been introduced....Under these circumstances the Machinist, Welding and Baking programs were all operating around the clock with three to four shifts of classes including midnight classes.

*- Hans Rerup, 1993
40 Years History: Vancouver Vocational Institute*

BC Vocational Schools

Because of the urgent need for vocational training, the BC Vocational School – Burnaby was launched in 1958, temporarily located on the grounds of the Pacific National Exhibition. Some of the first classes were held in barns, which had to be vacated during the exhibition.

Beginning in 1960 as a result of the Federal-Provincial Technical and Vocational Training Agreement, the federal government offered to provide 50% of the cost of expanding or constructing new technical training facilities in the provinces. BC started planning a network of adult vocational schools in every region of the province, to be administered by the Technical Branch of the Department of Education.

The schools in the BC Vocational Schools system were administered centrally by the Department of Education in Victoria, e.g. all purchasing had to be done through the Purchasing Commission in Victoria and the schools' principals took direction from the Director of Technical and Vocational Education. The centralization made for a cohesive system but created challenges at the local level.

Each location did, however, develop some distinctive program offerings or emphases that reflected the characteristics of the local region, e.g. logging at Nanaimo, aircraft maintenance and ironwork in Burnaby, agriculture in Dawson Creek, marine training in Terrace and Victoria, and fruit production/horticulture in Kelowna.

Students often received training allowances, but the details varied according to whether they were provincially or federally sponsored.

In 1971, the province decided to meld vocational schools with new regional colleges. The plan was to proceed in phases, beginning where the two institutions were reasonably close together. Terrace, Dawson Creek, Burnaby and Victoria were to be melded at a later date.

Burnaby

The Burnaby school was the largest of the BC Vocational Schools' sites and was in some ways its flagship.

In 1958, the Technical Branch of the Department of Education assumed responsibility for the Vancouver School Board's pre-apprenticeship programs in the temporary space at the Pacific National Exhibition in Hastings Park. The intent was to relocate those programs in the near future.

In the spring of 1959, the province announced a 40 acre permanent site in Burnaby for the **Federal-Provincial Trades and Technical Institute - Burnaby**, on what is now the campus of the BC Institute of Technology. Eight prefabricated buildings, including four workshops and four classroom blocks, allowed the vocational component to open officially in June 1960. It had been built rapidly, in less than a year, because the temporary Pacific National Exhibition location had to be vacated. (The school operated there only during the winter, leaving in the summer so that the fair and other events could use the buildings.)

A variety of programs were offered to around 2,000 day students and 2,000 evening students. The school reached capacity within five years. With construction of the Peace River oil pipeline, the most popular course became welding and the demand was so high that a graveyard shift from 11 p.m. to 7 a.m. was offered in the early 1960s. By the end of the sixties, demand for trades training was outstripping supply. Year-round operation began and permanent facilities were expanded.

Some pre-apprenticeship classes remained at the temporary Pacific National Exhibition/Hastings Park location for at least another couple of years. The BC Institute of Technology also operated on the permanent site in Burnaby, but as a separate institution.

In 1978, after the province had devolved control of the other BC Vocational Schools to local postsecondary institutions, the Haney Educational Centre (a former minimum security jail with training facilities) was

amalgamated with the BC Vocational School – Burnaby to form the autonomous **Pacific Vocational Institute**. This arrangement lasted until 1986, when PVI was merged by the government into adjacent BCIT.

Dawson Creek

When the Royal Canadian Air Force base in Dawson Creek closed in March 1964, the BC government acquired the 60 acre air force site and its facilities for \$250,000 to turn it into a vocational school. Another 50 acre potential site was therefore not needed. The former barracks were used as dormitories, existing buildings renovated, and new buildings constructed – a total of \$2.4 million was spent in equipping and renovating the new school.

When the school opened in September 1966, the eighth regional school of the BC Vocational Schools, it offered five pre-apprenticeship programs in mechanics, construction, farm equipment repair and cooking. Several other pre-employment programs, such as secretarial, agriculture and welding, were also available.

In 1976, five years after the policy announcement to meld vocational schools with regional colleges, BC Vocational School – Dawson Creek provided the foundation for the new Northern Lights College. Reaching that point, however, was circuitous.

A joint study in 1973 by the BC and Alberta governments examined whether the five existing institutions in the Peace River region of BC and Alberta could be coordinated as a single network. The subsequent “Downey” report, *Toward a System of Post-secondary and Adult Education for Northwestern Alberta and Northeastern British Columbia*, recommended a similar “Federated Colleges of the Peace.” This approach, however, was rejected by the BC Task Force on the Community College, in part because it would not service other parts of northern BC such as Fort Nelson.

The decision where to locate the proposed Northern Lights College was contentious, with vigorous debate about the merits of Dawson Creek and Fort St. John. The vocational buildings in Dawson Creek were described as being outdated and unattractive. Nevertheless, Dawson Creek was eventually chosen.

The vocational school, and subsequent college, facilities were maintained by the BC Department of Public Works (later BC Buildings Corporation.) This was a source of local irritation and it was only in 1978 when the college became a crown corporation that the college was able to take control of its own facilities.

Kamloops

A former military munitions site with World War II era bunkers, the federal land was turned over to the province in the mid sixties. An educational needs assessment in 1964/65 by BC led to the decision to construct a vocational school there. Planning for the new school continued for the next couple of years.

The facility had to be built as a vocational school in order to access federal funding, and yet the province hoped it could become part of the emerging system of community colleges. Construction of the vocational

Dawson Creek

Upon the opening of the College, the Dawson Creek Centre, with its developed facility for vocational education, immediately assumed the status as the main College centre. Indeed this was the only College facility at the time...this was resisted by Fort St. John in particular....

...the Dawson Creek facility was not particularly well suited for a college. Many of the buildings and the utility services were now twenty years old. Maintenance was an ongoing problem, and the instructional space available was, in many cases, quite wanting.

*- Paul Dampier, 1992
Highways of Learning*

school finished in 1971 for occupancy in the fall as an integrated community college/vocational school project. The provincial government viewed the Kamloops vocational facilities as among the best.

The announced, but not actual, melding of the school with Cariboo College (now Thompson Rivers University) came in July 1971. A year later, in September 1972, the college consolidated its various locations in Kamloops at the new vocational complex. The vocational division of Cariboo College started in Winter 1972 with Cook and Welder training.

The last of the various official dates was May 31, 1972. The vocational school formally opened in the morning and then was renamed as part of Cariboo College in the afternoon by the premier, W.A.C. Bennett. Some trades training continued under the auspices of the vocational school until it was fully merged into the college in spring 1974.

Kelowna

The BC Premier announced in September 1961 that a \$1.7 million vocational school would open in Kelowna, with the buildings to be ready by March 1963. The buildings turned out to be almost half a year late, opening in September 1963 with about 100 students in eight programs. Class size was restricted to 16 students, all of whom needed at least Grade 10 for admission.

During the first three years, Ministry of Education inspectors came twice a year, as was the norm for the Vocational Schools. Each of the seven new instructors presented their lesson plans and had their teaching observed. The school began melding with Okanagan College after eight years of operation, becoming fully integrated in 1974.

Kelowna

All the inexperienced instructors at BC vocational school had to attend summer school [at UBC] for three years. "The staff really worked together," said heavy-duty mechanics instructor Bob Koehle. "I think going to school together brought us closer together. We stayed in the same dorm."

Koehle went home to Nelson when summer school finished, thinking he had until September before work started, but a phone call from Principal Roy Brown convinced him otherwise. Since the Koehle family couldn't take over their new home in Kelowna until September, they set up a tent in a Lakeshore Road campground near Gyro Park for three weeks. The Kelowna school was still under construction, so staff worked at the school-board office and organized their year: worked out course outlines, helped select the students and vetted the rooming houses for students....

Koehle, who would become Okanagan College's first 25-year employee, thought just as highly of Brown. "Roy Brown was a no-nonsense guy, a taskmaster, but he was fair. He set down the dress code: jackets, ties and shirts."

....then, the first day of class for students and teachers arrived. "It was quite nerve-wracking. I think I threw up in the morning before I got there," Koehle said. "The first year was tough. I used to work every evening and finally worked it out. I was learning the first year as they were. I didn't have to worry about the theory part when I was working. But, then, I had to learn the theory to pass it on to them. I was reading service manuals and textbooks, sometimes just prior to teaching so I knew what I was talking about. I had 16 students. I had some real good ones. They were fantastic."

*- Ross Freake, 2005
OUC Memoirs*

Nanaimo

The province's first postsecondary vocational school opened in Nanaimo. In 1936, a local garage owner taught an automotive mechanics course to eight boys in a converted shed under a provincial and Chamber of Commerce partnership for unemployed and unskilled youth in the Great Depression. Two years later, federal and provincial government providing funding for The Dominion-Provincial Youth Training Centre, which had then moved to better facilities on the grounds of a high school and expanded its curriculum to include building construction. Enrolment was around fifty students.

The local community supported the school when resources were scarce, donating wood for heating and used machinery as equipment for students. Students eventually reciprocated, clearing land for roads and sport fields.

More federal funding arrived in 1939 with the passage of the *Youth Training Act*, and a dressmaking course was added for 30 women. At the end of World War II, the province purchased fourteen acres of a former army trades school, including the original heavy-duty diesel and automotive workshop, a dormitory and dining room, and four classrooms. The school, now known as the Vocational Training School, then moved to those grounds.

Huts were converted into dormitories and students began enrolling from across BC to study logging, heavy duty mechanics, heavy equipment operation and automotive mechanics. The facility was expanded between 1955 and 1957, with a further expansion in 1963/64. When federal funding ended in 1959, the school was renamed the BC Vocational Training School, Nanaimo.

With provincial funding, the school flourished in the 1960s, expanding its range of programs and enrolment. When Malaspina College, now Vancouver Island University, opened in 1969, the two institutions coordinated their offerings to avoid duplication. When the vocational school was melded with the college in 1971, the campus was named the Malaspina College Vocational and Technical Institute.

Nelson

Announced in 1961 to be completed in 1963, construction of the Nelson school was slow and the facility did not open until 1964. It incorporated the Kootenay School of Art that had been established in 1960. It officially merged with Selkirk College in 1975 and became known as the Silver King campus in the residential neighbourhood of Rosemont.

One of the smaller schools of the BC Vocational Schools system, Department of Education annual reports mentioned only a few trades programs as being offered at this location, namely Automotive and Heavy Duty Mechanics, Millwright and Welding. It had been established with a view to serving trades needs in the smelter in Trail, but the population base of the region was relatively small. When apprentices were assigned to schools for technical training, with travel and living costs supported federally, importing students from other regions helped to maintain the viability of Nelson.

Prince George

Courses were first offered in Prince George in September, 1962, although the official opening did not occur until June 1964. The school's 1962/63 *Prospectus* described itself as administered by the Technical and Vocational Education Branch of the BC Department of Education in cooperation with the Apprenticeship Branch of the BC Department of Labour, with financial assistance from Canadian Vocational Training of the federal Department of Labour.

The *Prospectus* described two types of programs, distinguished not by curriculum but by funding source. Pre-indentured apprenticeship training was restricted to students between the ages of 16 and 20. Sponsored by the Apprenticeship Branch, students received free tuition as well as living and other allowances.

Regarding the other type of program, namely pre-employment programs, the *Prospectus* explained:

The same training is followed as for pre-indentured apprentices. This programme, however, is intended to meet the needs of suitable applicants beyond the age acceptable to the Apprenticeship Department. All students completing training are advised to enter an apprenticeship.

Some pre-employment students were eligible for financial assistance under Schedules “M” (for the unemployed) or “R” (for, in the language of the day, the physically or mentally handicapped) of federal-provincial agreements.

Classes were held five days a week, twelve months of the year, with daytime schedules initially. Evening classes were introduced in 1964. Programs ranged in duration from 5.5 to 11 months.

Initial programming included two designated trades, Automotive Mechanical Repair and Heavy Duty Mechanics, plus Heavy Equipment Operator and Welding. The curriculum by 1972 also included Basic Training for Skill Development, Commercial, Dental Assistant, Drafting, Heavy Equipment Operator, Practical Nursing, Small Engine Repair and Welding.

In Fall 1971, the vocational school was merged with the newer community college, the College of New Caledonia. As part of the merger, the college moved across the street from temporary space in the Prince George Secondary School, where it had shared facilities within the school and also had some portable space elsewhere on the grounds, to the vocational school site. The newly amalgamated college had 810 vocational students compared to 448 in rest of college.

Prince George was the first of the BC vocational schools to merge into the community college system. Following the merger, the newly expanded college’s vocational programs were 100% funded by the province while other programs were funded 60% provincially and 40% from local taxation.

Memories of a Vocational School Principal

I entered the Vocational Schools program in 1963 as the second principal of the BCVS – Prince George. In retrospect, we were not very well briefed for the job we were expected to do and this led to some vigorous relationships with Department of Labour officials.

I really did not fully understand what we were expected to do for the Apprenticeship Branch who frequently led people to think that they operated the Vocational Schools. As a result, we got into some serious jurisdictional problems that our leaders in Victoria did little to resolve. However, with experience, we (i.e. the new principals who were appointed in 1963) eventually got a good system of training programs operating.

The “melding” of the schools with the Community Colleges came as something of a surprise to nearly all of the personnel in the schools. We were told about the plan at a meeting in Victoria in, I think, May or June of 1971 and it was to be effective, I think, on July 1. We had lots of problems in the ensuing weeks!

- George Cook, 2012

Terrace

The Terrace school opened in September 1968 with 45 students in classroom-based facilities. Total enrolment in 1968/69 reached 295 students, rising to 690 the following academic year as more facilities were completed. The official opening came in August 1970.

The physical plant consisted of two instructional buildings and, by 1971, six 40-student dormitories. Dormitory rooms were double occupancy, with four buildings for males and two for females. The subsistence allowance for sponsored students covered room and board fees.

At the official opening, the school was running at half capacity and had sufficient land to double the number of buildings. The teaching staff of about twenty came mainly from industry, with only four having had previous teaching experience. Over half the students were funded by Canada Manpower, and over 40 percent were of Aboriginal origin.

At the official opening, the school was viewed as expensive to operate – a reflection, in part, of the school's philosophy of using leading edge equipment that it expected to be widely adopted by industry in the coming years, e.g. electronic calculators and sophisticated welding equipment.

The school operated until 1975, at which time it was absorbed by the newly created Northwest Community College.

Educational Philosophy of BCVS – Terrace

To prepare students for employment as quickly as possible, the staff of the school develop their programs round the two concepts of "availability" and "versatility."

Availability of courses is arranged through a series of multiple intakes for each course during the year. Navigation, Basic Training for Skill Development (BTSD), Marine and Stationary Engineering, and Upgrading Welding have intakes monthly; Commercial and Carpentry every three months; Marine Engine Repair, General Welding and Electronics every six months.

Some of the above programs are further divided into self-contained blocks of subject matter which can be taken separately or in groups at various times during the year. This process of division of courses constitutes the principle of "banking" learning, an experiment at the Terrace school only.

Banking learning is being developed to fit into this area of high seasonal employment, such as fishing, where students are free for studying only during parts of the year....

Mr. Redmond [principal] praised his staff highly for their ability to adapt to the atmosphere of experimentation that exists at the Terrace Vocational School and emphasized their willingness to accept the challenges of that atmosphere.

The school teaching staff keeps careful surveillance over the progress of each student, and, Mr. Redmond says, "if progress starts to slip we make a check to see why." Students who are not achieving according to basic standards are put on probation for a period of two weeks, and if, after that time, their progress does not improve, alternative training is sought or termination of studies is brought about.

- Terrace Daily Herald, July 1970

Victoria

A training unit started in Victoria in 1960/61, but it is of limited relevance to this paper in that it offered academic upgrading, commercial and practical nursing programs rather than trades training. It was not until 1968 that tenders were called for a new and larger school with trades facilities.

The new trades complex opened officially in June 1970 at a rural location on Interurban Road with ten workshops and thirteen classrooms. Programming included Automotive Mechanics, Auto Body Repair, Carpentry, Electrical, General Welding, Welding Upgrading, Small Engine Repair, Diesel Mechanic, and Navigation.

The school began melding with Camosun College in 1971/72.

Victoria's Two Campuses

The rapid expansion of this school and the fact that the buildings used are several miles apart have created many problems for the administration. The Principal, however, has done an exceptionally fine piece of work in creating a unified, high-calibre training institution.

- Department of Education Annual Report, 1969-70

Never Built

Two planned schools of the BCVS were never built, cancelled by a new provincial government in 1972 in favour of community colleges in those communities.

A committee in Cranbrook had prepared a report supporting the establishment of a vocational school, but the government created East Kootenay Community College (now College of the Rockies) instead in 1975.

The Chilliwack community had proposed a junior college to the government in the early 1960s. The government denied the proposal in 1966 and suggested a vocational school instead. Land had been acquired and site preparation begun when the new government cancelled the project in 1972. The government struck a task force in 1973 to examine the feasibility of a college for the Fraser Valley. The result was Fraser Valley College (now the University of the Fraser Valley) with two campuses, one in Chilliwack and one in the nearby rival of Abbotsford.

Other Institutions

British Columbia Mining School

The Mining School in Rossland taught a total of 1,400 students from 1971 to 1981.

As the 1960s ended, British Columbia had about fifteen underground and over a dozen open pit mines, employing in the order of 7,000 workers. In 1970, the BC Mining Association proposed a training school. Rossland's local MLA, Donald Brothers, was the Minister of Education. He arranged with the International Nickel Company (INCO) to locate a mining school at their open pit mine just outside Rossland. Just six months after the school's opening in 1971, INCO announced that it would be closing the mine due to falling prices. The school relocated in September 1973 to Cominco Ltd.'s long abandoned Columbia – Kootenay underground mine in Rossland, beating out proposals to host the school from half a dozen other communities in the southern BC interior.

The province had hoped that the federal government would purchase expensive training seats, but students were difficult to attract. Those that did enrol sometimes had no more than a Grade 8 education, while others were viewed by local residents as sometimes less than an asset for their community. When the government closed the school in 1981, a distinct shock to the school, its equipment was distributed to other institutions.

Discipline in the BC Mining School

Another salient reason for the success of the BC Mining School was its strictly imposed discipline...The students had lived altered lives with varied experiences. More than a few had bad histories which caused them to conclude that they were not wanted by society. Many had come from broken homes, and some had never been subjected to discipline or parental guidance.

As it turned out, with each incoming class of 64 (40 in open pit and 24 in underground), three to eight students would not be able to adjust to a disciplined environment. That few would be terminated within the first ten days, and smooth operations generally followed.

*- Harry Lefevre, 1993
Former Mining School official*

Haney Educational Centre

Upon closure of the minimum security Haney Correctional Centre in Maple Ridge in the late sixties, the province renovated the facility to turn it into a vocational training school. A new government rolled it into what eventually became the Pacific Vocational Institute (successor to BCVS – Burnaby in 1978.)

The campus did not thrive and eventually closed, but the adjacent land in this rural location was used as a marine fire fighting training facility by the Pacific Marine Training Institute (now part of BCIT.) The Justice Institute of BC also continues to train fire fighters there today.

Melding of BC Vocational Schools into Community Colleges

A system of comprehensive community colleges was established across the province in the decade from 1965 to 1975. In 1971, the provincial government began extending the experience in Vancouver of VVI merging with Vancouver Community College by melding the province's remaining public vocational schools into the emerging community college system. The intent had been expressed in the Legislature about a year before the first school, in Prince George, was merged on short notice in 1971 into the College of New Caledonia.

Officially motivated by a comprehensive educational philosophy that sought to equalize the status of vocational and academic education, and to provide a better opportunity for more general education in job training, the mergers also had the practical benefit of providing the colleges with access to permanent educational facilities. The amalgamations were completed in 1976 when new colleges were established in Terrace and Dawson Creek.

The only school not so melded was BC Vocational School – Burnaby. It became the Pacific Vocational Institute in 1978 and was subsequently absorbed by its neighbour, the BC Institute of Technology, in 1986.

Some faculty resisted the mergers. Vocational instructors feared their programs would get short shrift in comprehensive colleges. Some academic instructors resented being in the same category as vocational educators. As occurred years later in some university colleges where tensions emerged between upper and lower division instructors, the new institutions were an uneasy alliance of employees with differing values and aspirations.

Melding of the Vocational Schools

Another notable event of the early seventies was a decision taken by the government in Victoria to meld several colleges with the most proximate provincial (although constructed with federal funds) vocational schools. This policy decision was partly initiated by the unwillingness of voters in almost all college regions to pass referenda to elicit local tax support for capital construction. The alternative was to continue operation of the colleges in temporary leased facilities, a situation which was most unsatisfactory. The government recognized that a potential solution lay in the amalgamation of the college with each respective regional vocational school, an action which would result in joint sharing of the building in which the latter was located.

A second explanation for the meld, as articulated by the deputy minister of the day, was to help overcome the traditional status gap between vocational and academic studies by placing them together in one institution and at the same time providing a better opportunity for introducing general education into essentially job training programs.

*- John Dennison, 1997
Higher Education in British Columbia, 1945 - 1995*

The Goard report of 1977 said that vocational school instructors felt they had not received equal status with other college faculty, e.g. they remained in separate bargaining units. They were concerned that introducing general education courses into their programs would result in a loss of the reality of the simulated workplace. Goard said that vocational instructors tended to view “education” as preparation for life and “training” as preparation for employment.

Designated Trainers

In addition to public postsecondary institutions, a number of private institutions and organizations, as well as some public school districts, also provide ITA-approved technical (classroom) training for apprentices. Some of the private providers are for-profit, but many are not-for-profit. This section describes a few of the Industry Training Authority's designated private trainers that operated in 2011 to illustrate the diversity of the sector.

Only a small minority – less than ten percent – of BC's private career institutions offer training for apprentices. Today, the ITA funds technical training in about three dozen private institutions, and ten or so school districts. Most provide only one trade or a group of related trades, e.g. Bricklayer, Concrete Finisher and Tilesetter.

A limited number of private trainers already have contracts with the ITA and play important roles in delivery of specific training programs. But previously, there was no comprehensive system in place to ensure quality control and standardize outcomes....The ITA worked closely with the Private Career Training Institutions Agency to develop and pilot a designation process during 2005/06, which is integrated with PCTIA's own registration and accreditation model.....Designated trainers will report training outcomes annually to the ITA, and will be re-evaluated every five years. This process will be a basis for capitalizing on private institution's growing interest in delivering industry training, and will further expand training system capacity.

*- Industry Training Authority
Annual Report 2005/06*

Union and industry sponsored schools are often affiliated with larger organizations outside BC.

Private Colleges

Discovery Community College

Headquarters in Nanaimo

Along with a variety of other programs, Discovery provides ITA-approved apprenticeship technical training in residential construction (framing, foundation forming, and interior finishing) in Campbell River and Nanaimo. The programs are 10 to 48 weeks in duration, with four intakes annually. Two dozen or so apprentices complete their apprenticeship annually.

Pacific Vocational College

Burnaby (1991) and Surrey (2008)

Pacific Vocational College provides ITA-approved technical training for the piping trades (plumbing, sprinkler fitting, gas fitting, and steam fitting.) Students must be a registered apprentice to enroll, i.e. no pre-employment training is provided. It offers BC's only sprinkler fitting apprenticeship program. Currently, over 300 Pacific students complete their apprenticeship each year.

The college was established after a falling out between the Apprenticeship Branch of the provincial government and the Plumbers and Pipe Fitters Union. Its students work for both union and non-union companies.

Establishment of Pacific Vocational College

In 1981, Rob [Bradbury] extended his career in piping trades as an instructor for the Plumbers and Pipefitters Union Local 170. Rob continued to upgrade himself and received a teaching diploma from Purdue University in 1986. Rob taught Instructor Training Programs at Purdue University and later for Michigan State University every August since 1987. In the spring of 1991, the Local union made a political decision and refused to teach non-union apprentices. This is what ended the relationship between the Union trade school and the Apprenticeship Branch of the Provincial Government.

In 1991, during the last training session at the Local 170 Rumble Street school, Rob approached the Director of the Provincial Apprenticeship Board and said "I should open my own school and train the Piping Trade apprentices." Without hesitation, the Director of Apprenticeship said, "You have three weeks to submit a business plan, find an appropriate location for the technical and practical training delivery, and be ready to deliver both Sprinkler fitting and Plumbing apprenticeship training." And so was the birth of Pacific Vocational College Ltd.

In PVC's first year of operation they provided 8 Sprinkler fitting classes and 7 Plumbing classes. For the 2008/2009 training year, PVC hopes to offer 18 Sprinkler fitting classes, 55 Plumbing classes, 3 intakes of level 1 Gas fitting apprentices, 3 intakes for level 2 Gas fitting apprentices and the very popular level 1 Continuous Intake Program.

- Pacific Vocational College website, 2011

Pacific launched its continuous intake model in 2003, currently admitting about 150 ITA-registered apprentices annually. The continuous intake model is complemented with a self-paced approach at the learning centre. (Students can choose between classroom and independent learning.) Lectures and demonstrations are videotaped, allowing students to proceed at their own pace. This also allows apprentices to take technical training on an ad hoc basis when they are not working or when the employer is short on work for apprentices, rather than according to a pre-determined schedule. All training materials are produced in-house, and customized videos can be produced as needed by a video production team.

Pacific's website claims to provide the best training with North America's finest instructors and "unlike other trades training schools in BC, has revolutionized the training of apprentices. PVC has developed their own curriculum and course materials which have been applauded in Canada and the United States. They have tailored their programs to meet the needs of virtually any person who wishes to become a trades person."

Quadrant Marine Institute

Sidney, with a branch in Vancouver

Quadrant Marine provides training for boat and yacht building, repair and maintenance. It delivers ITA-approved apprenticeship and pre-employment training in the recreational marine industry, with between five and twenty apprentices completing their apprenticeship each year.

Their programs are competency-based, with academic competencies acquired in the classroom and practical competencies acquired through two to six years of job experience. Each competency has its own exam and all exams must be passed. There is no final, cumulative exam.

Theoretical learning is divided into over 100 units. These are delivered in evening classes, generally four hours once a week, at Quadrant or through correspondence. Three variations of the program, one of which is a general interest version for anyone wanting to know more about pleasure craft repair, refit and

maintenance, are available through distance learning. The scheduling of technical classes depends on demand.

The Foundation program is a four-week, full-time program that is offered once a year. Apprentices join the Marine Services Technician Association, formed in 2003 as the Marine Repair Technicians Association.

Industry Sponsored Institutions

Enform BC

Fort St. John

Enform Canada is the safety association for the upstream oil and gas industry (i.e. all aspects of exploration and petroleum extraction from the ground) in BC, Alberta and Saskatchewan. The BC branch, with over 100 safety-related courses and five decades of training experience, offers a Rig Technician Level 3 (Driller) program that is recognized in both BC and Alberta. The four-week program requires BC students to register with BC's Industry Training Authority.

Prerequisites include experience at the floorhand position. Level 1 of the Rig Technician program concerns the motorman position and Level 2, the motorman position. Alberta law requires that motorhands, derrickhands and drillers be training as an apprentice or hold a journeyperson certificate. After receiving a Journeyman Certificate, students are required to write the interprovincial exam and obtain the Red Seal certificate.

Funeral Service Association of BC

Victoria

The Funeral Service Association was established in 1912. Apprenticeship has been the standard form of training and development in funeral services for many years in BC, and the association is currently the province's only recognized provider of ITA-registered funeral services apprenticeships. It prepares students for employment as an Embalmer, a Funeral Director, or both.

In the past four years, a new Foundation program allows students to complete Level One theory before finding employment. It is delivered as a mix of in-school and online training over ten months.

Apprenticeships generally take two years to complete. Students may work part-time for more than one employer simultaneously.

Academic study and practical (work place) experiences occur concurrently. Academic study is delivered in-person in the Lower Mainland and online. In addition, three-day seminars are held in September and January, and a two-week seminar in June. (Classroom space is usually rented from a postsecondary institution.) Between September and June, students have access to online lectures, quizzes, communication and guided readings.

Roofing Contractors Association of BC Langley

The Association, established in 1958, sponsors the RCABC Educational Foundation. Its Roofing Institute was the first educational facility in North America specifically and exclusively designed for the roofing industry.

The institute currently offers programs in:

- Roof, damp and waterproofing
- Residential steep roofer
- Architectural sheet metal worker

Anybody who is employed in a firm that employs a Journeyperson in the same trade can register with the ITA as an apprentice. The institute provides technical training at no cost to the employer or the apprentice (the ITA and RCABC over the costs.) Classes run from late September to April, reflecting the seasonal nature of roofing work. RCABC assigns each student their training dates, giving advance notice to both the apprentice and the employer.

Wall and Ceiling Association of BC Surrey

The BC Wall and Ceiling Association is a non-profit provincial trade association for the drywall and stucco industry. Its primary mandate is to provide training for ITA-registered apprentices seeking to become a Wall and Ceiling Installer, Drywall Finisher or Plasterer.

Technical training is delivered in a flexible format in Kelowna, the Lower Mainland, and Greater Victoria. Classes are held part-time, Thursday evening and all day Friday and Saturday.

The Northwest Wall and Ceiling Bureau, serving western regions of Canada and the USA, is the international affiliate that provides technical information.

Union-Sponsored Institutions

Construction Industry Training Institute Burnaby

Formed in 2005, the institute is sponsored by the BC & Yukon Building and Trades Council, representing fifteen construction trade unions. Several industry spokespersons expressed support for the union's formation of this institute.

The Trades Council affiliates trained 1,900 ITA-registered apprentices in 2009 with 40 full-time and 25 part-time employees. Their facility and equipment assets totalled \$9 million and the annual operating budget was \$5 million.

The CITI website also references Local 115 of the Operating Engineers' Maple Ridge training facility, located on the site of a former minimum security jail. Operating Engineers operate and maintain the power equipment used in road building and related construction. The Maple Ridge facility also serves as the mobile crane apprenticeship training institute for all of BC.

Construction Industry Training Institute

There are indeed significant pressures on the limited pool of skilled trades people. Unfortunately, that pool has not been expanding due to short-sighted policies of the provincial government, which virtually abandoned our once-vigorous apprenticeship system several years ago. This leaves us with a significant shortage of people with the necessary skills....

Indeed, the building trades unions and their signatory contractors have always provided the bulk of the training in BC's construction industry. In response to the vacuum in the construction trades apprenticeship area, the building trades recently announced the formation of the BC Construction Industry Training Institute....

*- President of the Bargaining Council of the BC Building Trades Unions
Letter to the Vancouver Sun newspaper, 6 January 2006*

Electrical Industry Training Institute

Surrey

The Electrical Industry Training Institute was established in 1991 as a private company with one shareholder, Local 258 of the International Brotherhood of Electrical Workers. It offers a variety of courses, of which the Powerline Worker apprenticeship is just one type. It also has customized courses for BC Hydro employees.

Finishing Trades Institute

Surrey

DC 38 is a union representing painting, glazing, drywall finishing, lathing and allied trades in BC. It provides ITA-approved apprenticeship training in its Finishing Trades Institute, a state-of-the-art, 26,000 sq. ft. facility in Surrey. It has operated technical training since 1992, becoming accredited by BC's Private Career Training Institutions Agency in 2008.

Finishing Trades Institute

Between 2006 and 2007, the school received Training Provider status for the glazing trade. The DC38 Joint Trade Society, which operates the school, invested more than \$2 million in infrastructure to accommodate the growing glazier program.

At this time, the FTI also created comprehensive drywall finishing and interior systems installer apprenticeship and journeyperson upgrade programs.

The investment included building customized shops, larger classroom space, a 34-space parking lot, and purchasing specialized glazing equipment, such as a swing stage, a scissor lift, and an articulated boom lift. Shortly after, BCIT dropped its glazing program and FTI became the only comprehensive glazing training facility in BC.

- FTI website, 2011

Floorlayers Training Centre

Delta

The BC Floor Covering Joint Conferences Society is the non-profit training body of the Floorlayers union. It is the ITA designated trainer for floorcovering installers and hardwood floor apprentices (the latter developed by the Society in 2004 with federal funding.) All ITA-registered apprentices may enroll, regardless of their union affiliation. The apprenticeship is three years in duration, with five weeks of classroom time annually.

The International Labour – Management Committee for the floorcovering industry was formed in 1990 to bring hard-tile installation training into the existing United Brotherhood of Carpenters and Joiners of America training centres throughout North America. This committee quickly became aware of a more critical, general shortage of qualified floorcovering personnel. It created a universal training program for all categories of floorcovering to increase the proficiency of all apprentices and journeypersons in Canada and the USA. Training would be provided under an umbrella name, the International Standards and Training Alliance (INSTALL), steered by the International Labour – Management Committee.

INSTALL standards are becoming the industry standard, offered through a 3-year apprenticeship in Canada and 4 years in the USA. The curriculum encompasses carpet, vinyl and other resilients, hardwoods, laminate, artificial turf and sport surfaces, i.e. graduates can efficiently install any kind of floor. There are 25 training sites across North America, including a 178,000 square foot International Training Centre in Las Vegas.

Piping Industry Apprenticeship Board Training Centres

Delta, with a branch campus in Fort St. John

The two BC centres are affiliated with the United Association of Plumbers and Pipefitters. The international union has a century's experience in providing training in North America through its UA Trades Training Centres. BC therefore draws upon many decades of experience in the piping trades, but it has realigned over the past decade to cover all aspects of the sector: plumbing, sprinkler fitting, steam fitting, and welding.

The Delta centre was established in 1981, but moved to its present 16,000 sq. ft. building on Annacis Island within the past decade. Built with union funds, it has five classrooms, office space and 9,000 sq. ft. of shop space. The Fort St. John centre opened in 2004 to address acute skill shortages in a region with limited access to the Lower Mainland training centre.

The Joint Apprenticeship Training Board itself sponsors 50 ITA-registered apprentices per year within the three piping trades.

Joint Industry-Labour Institutions

Sheet Metal Workers Training Centre Society

Burnaby

Opened in 1992, this private institution's board consists of the BC Sheet Metal Association and the Sheet Metal Workers International Union Local 280. Funded through collective bargaining agreements and from the ITA, it indentures 150 to 200 apprentices at any given time. Apprentices have \$1 per hour held back from their wages until they attend their technical training.

The International Training Institute provides curriculum and equipment. The ITI, a joint industry – union organization, was founded in 1971 and is based in Virginia. It has 160 dedicated training facilities in the

USA and 21 in Canada. Instructors come from the industry and the international average class size is around 25 participants. Delivery formats include face to face, correspondence/distance, and online.

Trowel Trades Training Association Training Centre

Surrey

The Masonry Industry Training Association (MITA), formed in 2006 to oversee apprenticeship training in BC, has three governing bodies: the Canadian Masonry Contractors Association – BC Chapter, the International Union of Bricklayers and Allied Craftworkers – Local #2 BC, and the Masonry Contractors Association of BC. MITA partners with the Trowel Trades Training Association to deliver apprenticeship training for both open shop and union workers. Programs are available for Bricklayer, Concrete Finisher, and Tilesetter.

2006 was also the year that technical training was reorganized from four levels to three levels, although with the same total hours.

Institutions Operated by Community Organizations

Cascade Culinary Arts School

Abbotsford

Operated by the Salvation Army as part of a larger church complex, the ITA-approved Culinary Arts program began in 1993 with four students for four months. Its purpose was to help unemployed adults gain skills for employment. In 2003, the school received accreditation from the Private Career Training Institutions Agency.

Most of the school day is spent preparing meals booked through the convention centre function of the 25 year old Cascade Community Church (seats up to 250 at meals) and residents of the adjacent Cascade Court care facility. Cascade Court is a non-profit, affordable retirement facility with 85 private suites for the 55 and older age group. Several times a week, Court residents have the option of signing up for a lunch served in the church by the school's students.

Students spend 40 hours per week on site, including the industry norm of some evenings and weekends. Level 1 Professional Cook training is a twelve month program. If only some upgrading is needed, three and six month modules are also available.

Technical training for Professional Cook Levels 1 and 2 is also available for those employed elsewhere. Classes are held mainly on Tuesdays, from 1:00 to 9:30 p.m. Each level consists of 23 sessions over 20 weeks.

VanASEP Training Society

West Vancouver

VanASEP is a non-profit partnership project dedicated to increasing Aboriginal employment in strategic markets. Started in 2005 as a training authority to support Aboriginal employment in the north – south corridor from Richmond to Whistler prior to the 2010 Winter Olympics, it expanded its training model in 2009. It has had over 1,000 Aboriginal people registered with the ITA at a given time as trades apprentices.

The Aboriginal Skills and Employment Program (ASEP) was officially launched in 2003 as an \$85 million, federally funded, five-year labour market initiative for all of Canada. It was intended to perform partnership and brokering roles, linking Aboriginal communities with key industry and training associations. In 2007,

the federal government added \$105 million to ASEP, and then another \$100 million over the three years beginning in 2009. VanASEP has been the recipient of approximately \$10 million of these funds.

Secondary School Programs

School boards have a history of vocational training dating back to before WWI, but originally designed mainly for adults and youth who were no longer in secondary school. Programs in secondary schools that were the equivalent of pre-apprenticeship programs for their own teenage students came a generation later, launched as experimental programs.

In the past two decades, two programs have enabled young people to begin an apprenticeship while still in high school. One program provides practical work experience while the other provides some technical training:

Secondary School Apprenticeship (SSA) – Since 1994, when the program started in 24 school districts, high school students can concurrently work and attend high school. They formally register with the ITA as Youth Apprentices and participate in around 500 hours of paid, work-based training. Successful completion of the SSA courses provides 16 credits towards graduation and eligibility for a \$1000 scholarship.

Accelerated Credit Enrolment in Industry Training (ACE IT) – Introduced in 2005, ACE IT provides the Level 1 technical (in class) component of a high school apprenticeship. Programs are usually delivered as partnerships between school districts and postsecondary institutions. ACE IT credits count towards both high school graduation and a postsecondary credential (“dual credit”). ACE IT complements SSA and students are encouraged to enroll in both. 2,300 students enrolled in 2009/10.

One secondary school program, lasting from 2006 to 2010, was promotional:

Youth Exploring Skills to Industry Training (YES 2 IT) – A joint initiative of the ITA and the Ministry of Education, YES 2 IT was designed to increase awareness of trades in Grade 6 – 9 students. Youth engaged in hands-on experiences in a variety of trade occupations while making connections with tradespeople in the community.

Some students in high school programs enrol in apprenticeship programs simply as a palatable way of completing high school, with little intention of completing their apprenticeship after graduation. Others do indeed continue with their apprenticeship as envisaged in the program design.

The ACE IT program is too new to assess its long-term impact on the career paths of participants, e.g. the extent to which participants work in a trade at some point in the career despite not having continued with their apprenticeship immediately after secondary school.

Because the Canadian approach has been to view apprenticeship as career development for working persons, rather than as a transition from high school into the working world, secondary school apprenticeship programs have been relatively minor.

Topics and Issues

Completion Rates

The tendency in Canada has been to focus on a single measure, the completion rate, as an indicator of the health of the apprenticeship system. Whether this is an adequate measure is open to debate. Furthermore, technical differences² in how jurisdictions define completion make comparisons difficult.

Data from 1999 to 2003 suggested that Germany, Denmark, the Netherlands and France all had apprenticeship completion rates in the 65 – 75% range. England's, in contrast, was around 30%. Canada's and BC's rate fall somewhere in between, but closer to England than to continental Europe. The ITA reports that the average completion rate of industry training in BC is less than 50%, but that variation across the Red Seal trades is considerable, ranging from less than 30% to over 70%.

The number of registered apprentices in Canada more than doubled from 1995 to 2007, but the number of successful completions increased by only about one third (Laporte and Mueller, 2011). Completion rates vary across provinces and trades, suggesting that the design of apprenticeship programs (e.g. type of technical training and having a journeyperson present) matters. Being married but having fewer children, as well as having completed at least a high school education, are other correlates with higher completion rates.

Is Completion Important?

The 2006 census data show that apprenticeship is clearly not the primary source of labour for trades occupations in Canada. In aggregate, 37% of workers in the group of occupations officially defined as trades hold apprenticeship certification, and barely one-quarter of the trades labour force has served a full apprenticeship when 'trade qualifiers' are taken into account.

In a labour market where skill requirements are modest...the lamented registration and drop-out figures do not necessarily point to critical failures in the training system, but could just as well be read as signs of its responsiveness to a market with a greater appetite for semi-skilled than for certified labour.

*- John Meredith, 2011
Apprenticeship in Canada: Where's the Crisis?*

Nationally, 40% of completers who started their apprenticeship in 1994 or 1995 took more than 150% of the nominal duration of the program to complete it. The study's authors, Desjardins and Paquin (2010), found no link between the completion rate in a trade and exceeding the minimum time required to complete the apprenticeship. This is a finding that is at odds with the conventional wisdom in BC:

...the general perception was that low completion rates have a lot to do with the amount of time that it takes to complete an apprenticeship. Currently, with a successful provincial economy, apprentices are not completing their technical training because of the abundance of work available, and time away from the work site is money lost. Most registered apprentices compile the necessary hours on the job, but are not registering for

² For example, jurisdictions vary in their treatment of stopouts and recommencements, program switches, whether completion requires achieving certification in addition to finishing workplace and technical training, and whether discontinuers before the first level of technical training are excluded. Jurisdictions also vary in the extent to which certification is a requirement to work in particular trades and in the availability and convenience of challenge processes for achieving certification.

the in-course component. With the labour market as it currently is, and the state of certification requirements being what they are, journeyperson status does not offer sufficient advantage to offset these drawbacks.

*- Educational Policy Institute, 2009
Investigation of Apprenticeship Support Mechanisms*

In the fifty years prior to the ITA, the BC completion rate averaged about 75% or higher (Meredith, 2012). Registrations grew rapidly under the ITA and in 2009, the ITA reported that about 40% of apprentices in BC completed their training within six years of initial registration. If a trade is seasonal, it can take six to eight years to become a journeyperson.

Under the ITA, BC's industry training system has achieved historically high participation rates – particularly in short, introductory programs, and historically low rates of completion. Given that the ITA's efforts continue to focus far more on heavily on raising participation than completion, it is difficult not to conclude that its controlling interests are quite content to have it function as a high-volume generator of entry-level labour to business specifications.

- John Meredith, 2012

Discontinuation is inherently more likely in tough economic times. If an employer chooses not to continue to employ the apprentice, then discontinuation is inevitable, at least temporarily. (This can be mitigated somewhat if the apprentice's union holds the indenture.) The limited empirical evidence on discontinuation, e.g. from the National Apprenticeship Survey, has tended to confirm that the most important reason is lack of work.

In boom economies, discontinuation can arise because employers are reluctant to release apprentices to attend technical training.

Other hypotheses about non-completion include the rigidity of the training cycle, the travel costs associated with the technical training, and the degree of technical skill required in a trade (trades requiring more schooling may be a deterrent to those individuals who chose the trades to avoid schooling.)

Especially in light of certification through challenge exams, it is less clear whether non-completion is perceived to be a problem by apprentices and employers; it seems to be problematic for educators and bureaucrats. Furthermore, there has been some evidence that something like half of discontinuers eventually return to the apprenticeship.

West (2005) makes three observations about completion patterns in the British context:

- Sometimes apprentices choose their trade poorly, based on incomplete or inaccurate information. Well-managed trial periods, or pre-apprenticeship programs, can help the apprentice determine their affinity for the trade.
- Employers will sometimes hire the apprentice as a regular employee, discontinuing the apprenticeship. (In Germany, this is prohibited.)
- Significant numbers of “early leavers” who found alternative employment still hold a positive attitude toward the trade. Follow-up with these individuals could help revive their apprenticeship.

Entrance Standards, Exit Examinations and Challenge Processes

Admission to BC Vocational Schools, 1966

Adult Vocational Schools provide training for all persons capable of achieving success. A number of factors are used to evaluate probably success of an adult in a training programme. These include: Motivational factor; Physical attributes; Personality attributes; Mental ability; Educational background; Any financial resources which may be necessary to complete the programme; Occupational experiences.

Adults are encouraged to apply for training even if they are unable to meet educational requirements established for a programme and outlined in the calendar. The other factors such as work experience may render their previously achieved grade level invalid.

It is the responsibility of the Adult Vocational School administration to judge the potential of an adult's ability to profit from the situation.

- Vocational Schools of British Columbia (Department of Education publication)

Pre-apprenticeship programs have always been optional: desirable and providing advanced standing in the technical aspects of the apprenticeship, but not necessary to start apprenticing.

Throughout the sixties and seventies, and into the eighties, a Grade 10 education was seen as sufficient academic preparation to begin an apprenticeship. The Ministry of Labour said in 1984, "Under present regulations, anyone of school leaving age is eligible for an apprenticeship. Most employers today prefer that applicants hold at least a Grade 12 graduation certificate and Grade 10 is a minimum." In 1980/81, entrance standards in forestry and mining were simply being considered.

Many seeking to enter an apprenticeship were less well educated than this, and the federal government had funded upgrading and remedial programs under the Basic Training for Skill Development (BTSD) program. By the eighties, Adult Basic Education (ABE) and English as a Second Language (ESL) programs were emerging from the previous BTSD courses.

Basic Training for Skill Development

Entrance Requirements

18 years of age or over. Away from school for at least one year. An earnest desire to achieve and willingness to put forth great effort to acquire suitable standing in Mathematics, Science and English to enable one to enter vocational training.

Length of Course

4 to 8 months (approximately)

Vocational Preparatory Grade 10 to 12 Level

A programme extending the above course to the Grade 12 equivalency level in Mathematics, Science and English is available at the Vancouver Vocational Institute.

Further information on these courses may be obtained from the Principals.

- Vocational Schools of British Columbia (Department of Education publication), 1966

The issue of sufficient academic preparation still has not been resolved today, and BC remains a jurisdiction that does not require high school graduation to become an apprentice. Nevertheless, in 2009, the Industry Training Authority began an Essential Skills initiative, drawing upon resources at the national level from Human Resources and Skills Development Canada. In addition to literacy (reading, writing, document use and numeracy), essential skills include computer use, thinking, oral communications, working with others and continuous learning. National occupational profiles describe the extent to which each skill is required in each trade.

The ITA is currently promoting the use of its trade-specific Essential Skills assessments. The online tool provides customized guidance to users for developing competencies to maximize their chance of success in their intended training. Uptake of this service has been encouraging.

Logbooks or Progress Record books have been fundamental to assessing an apprentice's learning in some trades. They show when and how much time was spent on tasks that develop required knowledge and skills. Certification was essentially time-based: if the apprentice remained employed in a suitable environment, survived the classroom component, and passed the certification exam, then he or she was deemed to be competent.

The *Apprenticeship and Tradesmen's Qualification Act* of 1955 introduced challenge exams as a means to certification, an alternative to the apprenticeship route. Amendments in 1965 expanded examinations, although they remained voluntary. Challenge processes for Red Seal examinations were introduced nationally in 1966.

Beginning in the 1960s, examinations and challenge processes were receiving explicit attention from government. The 1973 annual report of the Department of Labour noted that 24 of the 39 trades then designated under the Act had exams. Furthermore, certification was attainable at that time "in most trades through either apprenticeship or examination following prescribed experience... The examination of indentured apprentices has been done, mainly, upon completion of their final in-school training period... There has been no opportunity to develop much-needed examinations for evaluating the progress of apprentice and pre-apprentice students."

In 1974/75, the number of hours required to write tradesmen qualification examinations was reduced from 6,000 to 3,300 in a number of trades. At that time, the Ministry of Labour concluded that technical training accounted for BC having a much higher exam pass rate than the national average. Currently, the number of hours prescribed in program profiles varies by trade.

The trades examinations, including Red Seal exams, have historically been on the in-class portion of the apprenticeship program. Thus the examinations have been of subject knowledge rather than of skill competency on the job. Although apprentices' logbooks demonstrate exposure to the various aspects of a trade, the employer does not attest to the apprentice's mastery of those competencies.

Despite Canadian Interprovincial Standards (Red Seal) examinations, provinces still varied in the training they required. The four western provinces banded together in 1975/76 to establish greater uniformity in program outlines to facilitate movement among provincial training programs. National trade or occupational analyses were being prepared and published by the federal government with participation of the provinces as a basis for developing programs. By 1977, the Program Development Branch of the BC Department of Labour was actively preparing examinations in addition to course outlines, student study guides, manuals and trades analyses.

In 1982/83, BC introduced Tradesmen Qualification examinations in drywall finishing, electrical work, floor covering and steel fabrication trades. Today few, if any, apprenticeship programs in BC exist without certification examinations.

In 1977, the Department of Labour noted that as many qualifications were being achieved in BC through certification challenges as through apprenticeship. Twenty years later, the Industry Training and Apprenticeship Commission also noted in its *Strategic Plan, 1998 – 2000*, that while the number of registered apprentices was remaining stagnant, the number of challenges for a Certification of Qualification examination was rising. Once again, for every person achieving qualification through an apprenticeship, another achieved certification through challenge. (The ratios had shifted over the years as apprenticeship registrations fluctuated.) In 2010/11, 1100 credentials were awarded through challenge, compared to 6200 to apprenticeship completers.

Since 2008, the Industry Training Authority has been implementing a new model of assessment for some trades, building on the past components of proof of time worked and a multiple choice exam. The new approach includes:

- Portfolio of skills and experiences, e.g. resume, letter from employers, evidence of formal training
- Technical interview (competency conversation) – guided conversation using structured questions asked by a qualified assessor
- Written assessment
- Practical assessment

Unsuccessful candidates need only be reassessed on the identified shortcomings, not on the entire set of standards.

The ITA's rationale for this expansion of assessment methods in its 2008/09 annual report was:

It's widely recognized that multiple-choice exams aren't always effective in determining whether someone has the competencies required for a trades-related certification – particularly when someone is challenging for a certification based on existing skills. In 2008/09 the ITA took definitive steps to expand the range of available assessment tools....Assessments will be based on a combination of documentation reviews, a competency interview, a short written exam, and a practical assessment....Significantly, this Multiple Assessment Pathways (MAP) initiative earned the endorsement of the Canadian Council of Directors of Apprenticeship....MAP is the first initiative of its type in Canada.

One year later, the ITA said:

ITA has committed additional resources in recent years to facilitating challenges. It is being careful that the greater availability of progressive credentials, i.e. multiple credentials associated with different levels of competency within a single frame, does not overstate the labour supply in a particular trade

- Annual Report, 2009/10

As of 2010, this enhanced assessment model was being piloted in selected trades in transportation and hospitality sectors. In conjunction with the Canadian Council of Directors of Apprenticeship, six trades

Literacy in Occupational Programs

*The gulf between conceptions of literacy in academic versus occupational courses is not always recognized...These differences are **not** those of sophistication or level of difficulty: The texts in occupational classes are often written at a higher level of difficulty, with more complex and specialized vocabulary, than many academic texts. Writing is in many ways more demanding, since the work of others, the satisfaction of customers, and the health and safety of the workplace may depend on the precision of writing on the job...*

Although student may need sophisticated communication skills to talk with and write to a variety of customers, suppliers, fellow workers, and government regulators, occupational instructors often think that literacy is to be gained through lessons in grammar and spelling...

*- Norton Grubb and Associates, 1999
Honored but Invisible: An Inside Look at
Teaching in Community Colleges*

were in various stages of the BC and national pilot tests. Originally called Multiple Path Assessment (MAP), it is now simply described as enhanced assessment options for challengers.

Challenge has been helpful for workers whose employers are unwilling or unable to release them for several weeks at a time to take technical training. Refresher and upgrading courses have been available to assist challengers in preparing for their examinations.

Funding for Students and Employers

As a rule of thumb, beginning apprentices earn half a journey person's wage and receive an increment after each level of technical training is completed.

In addition to funding technical training, provincial and federal governments have provided some money directly to apprentices and their employers to encourage more registrations and better completion rates. A 2004 study by Van Walraven (cited in Sharpe and Gibson, 2005) estimates public subsidies in Canada (including federal transfers to provinces and Employment Insurance during technical training) annually averaged \$1300 per apprentice, over ten times the amount in the USA.

Eligibility requirements have changed over time. The Canada Manpower Training Program of the late 1960s and early 70s, for example, stipulated that individual had to be in the labour market for three years. This was eliminated in 1972 so that all apprentices were eligible, but it reappeared in the 1985 Canada Jobs Strategy.

Apprentices, and sometimes challengers, are currently eligible for a variety of federal grants as well as provincial tax credits. The amounts vary (e.g. up to a \$500 annual deduction for tools that exceed a total cost of \$1000, a \$1000 incentive grant each for completion of Levels 1 and 2 of a Red Seal trade, and \$2000 for a provincial Certificate of Qualification), but the cumulative amounts are significant. Larger grants are available for those with special needs or are of Aboriginal heritage. Those eligible for Employment Insurance during technical training may sometimes receive money to offset living expenses, travel and child care costs.

Public Subsidies

The Achilles heel of modern-era apprenticeship is the 'poaching' problem: the risk that the employer's front-end investment will be lost – or worse, accrue to a competing firm – if the trainee discontinues.... So crucial is this mechanism thought to be that the erosion of the legal and cultural guarantees for the master-apprentice contract has been blamed for the near disappearance of apprenticeship in the United States....

The policy options for mitigating these deterrent risks must turn instead to reducing the costs to employers. These assumptions are central to Canadian apprenticeship policy, and particularly reforms of the last decade, where provincial authorities have sought to reduce employer burdens by erasing or eliminating regulatory requirements, re-defining trade boundaries to shorten programs, and reorganizing the delivery of technical training to minimize apprentices' time away from the workplace. In tandem with the grants to apprentices mentioned above, federal and provincial governments have also introduced incentive tax credits for their employers.

- John Meredith, 2011

Students in pre-apprenticeship programs at public institutions and in private institutions accredited by the Private Career Training Institutions Agency of BC may receive government student loans and other forms of student financial assistance.

Employers of apprentices are also eligible for some tax breaks, e.g. twenty percent of eligible wages in certain levels of Red Seal trades, to a maximum of \$4000. The BC Training Tax Credit varies by apprenticeship level and whether the trade awards a Red Seal endorsement.

A rationale for subsidizing employers to encourage training was articulated by the Provincial Apprenticeship Board (1984) in its **The Future of Apprenticeship** report:

In many instances, wage levels for apprentices are covered by the terms of the collective agreements between employers and trade unions. Where collective agreements are not in force, employers have been required by regulation to pay an apprentice a starting wage which is 50% of the journeyman's rate. Some employers find this level imposes a cost greater than they can afford and, as a result, they do not train.

Today, however, ITA regulates neither the wages nor such working conditions of apprentices as journeyman ratios (although some unionized worksites may have provisions in the collective agreement.) The only provincial government rules affecting employers' costs of having apprentices are labour standards that apply to all employees.

Marginalization

In the 1950s and 1960s, some employees of the Vancouver Vocational Institute viewed themselves as associated with an "elite" training institution. By the 1970s, the notion that vocational education could be considered elite was becoming incongruous.

Nationally, vocational education in secondary schools has been marginalized ever since education was de-streamed in the 1960s. (However, the 1990s did see provinces introducing apprenticeship into secondary schools.) In BC, vocational instructors tended to view the melding of the vocational schools with community colleges as detrimental to their status.

Weiermair (1984) described society's devaluation of apprenticeship in the 1970s by saying that it had become a last resort for students:

The availability and subsidization of institutionalized forms of schooling and training, combined with euphoric expectations of high and rising rates of return from schooling, would have made decisions to enter an apprenticeship training programme almost irrational. Apprenticeship training once more was restricted to those who used it as a last resort after having failed in the school system and/or in the labour market.

A decade later, Sharpe and Gibson (2005) said that little had changed since Weiermair's assessment:

A number of reports have stressed that both parents and students viewed apprenticeship as inferior to university, because they believed the trades to be second-class careers with poor wages, unstable employment and little possibility for career advancement. The secondary education system also has an academic bias, such that students are both prepared and encouraged to enter university rather than apprenticeships.

Since 2005, national and provincial publicity initiatives have had some success in enhancing the status of apprenticeship training as a viable and desirable career path for young people. Employment declines due to the economic downturn since 2008, however, threaten the sustainability of these advances.

Marginalization

...the decline in apprenticeship training and the low incidence of employer-provided training can only be understood against the background of the highly decentralized and adversarial system of industrial relations in Canada....The abolition of the Canadian Labour Force Development Board [has resulted in] a further marginalization of apprenticeship training, which the recent reform initiatives by individual provinces cannot really overcome.

*- Schuetze and Sweet, 2003
Integrating School and Workplace Learning in Canada*

Modularization and Progressive Credentials

Modularization, the division of curricular content into self-contained components, has been discussed in a variety of contexts with a variety of political overtones. The most benign context is to allow learners more flexibility in scheduling technical training, e.g. to proceed at their own pace or to do more training when temporarily laid off due to lack of work. Proposals to allow more flexibility in the sequencing of modules have been more problematic. Most controversial have been proposals – or what were perceived as proposals – to allow employers to choose only certain modules on the basis of their needs.

Progressive credentials represent a larger “chunking” of curriculum into discrete categories. What might have once been a single four year apprenticeship could be divided into two or three sequential credentials, each of which leads to a specific occupational outcome. Completion of subsequent levels become optional, although the intent is that the apprentice progresses through all levels.

Modularization has come about as a response to rigid program structures. The fear has been that it could limit exposure to more broad-based skills, thereby reducing journeyperson mobility between organizations. In other words, the fear has been that it would lead to fragmentation of the trades into narrow specialties.

The controversy about modularization is long standing. The 1935 annual report of the Department of Labour, for example, commented that:

...as the skilled worker with a technical knowledge of a whole trade is a known asset and will always be in demand, while a specialist, who confines his training to the standard demanded at the moment, is in danger of finding himself in a dead-end occupation owing to constantly changing conditions.

More recently, the 1981 Welding Task Force led to registration at three levels of experience (Welding A, B and C.) At much the same time, the short-lived provincial pre-apprenticeship curriculum, TRAC, adopted a self-paced, competency based, modularized curriculum.

Modularized curriculum has been widely used across Canada by the mining industry. Variations were used by the BC Vocational School – Terrace in the late 1960s. The approach is used to varying extents in some schools and trades today. (Automotive Service Technician, for example, now has four distinct credentials, with the Red Seal awarded only after completion of the fourth level. Technical training can be completed at the institution of the student's choice.)

Modularization

Put differently, industry may desire narrow skill specialization and be willing to accept the higher costs of coordination and managerial controls as well as poor quality and craftsmanship when faced with the alternatives of heightened bargaining strength and increased wages for workers through the creation of more general skills.

Another argument against the specialization of skills and training...is given by employers' observed lack of commitment to retrain manpower...since it is often cheaper to recruit workers who possess specific skills...than to train existing employees....

Modularization provides some short term efficiencies but may lead to long term inefficiencies in the current labour relations environment, e.g. simultaneous skilled labour shortages and unemployment.

*- Klaus Weiermair, 1984
Economic Council of Canada*

Organizations

Canadian Apprenticeship Forum

Based in Ottawa, this federally chartered, not-for-profit organization was established in 2000 to promote and influence apprenticeship strategies across Canada through research, discussion and collaboration. A staff of half a dozen supports a board of directors with over forty representatives from business, labour, apprenticeship boards, education and government. It sponsors the *Canadian Apprenticeship Journal*.

Canadian Council of Directors of Apprenticeship

The Canadian Council of Directors of Apprentices formed in 1952 in conjunction with the first National Conference on Apprenticeship in the Trades. It has a representative from each province and territory, as well as from the federal government (Human Resources and Skills Development Canada.) The Council oversees the Interprovincial Standards Red Seal program that was introduced in 1959.

Canadian Vocational Association

The Canadian Vocational Association formed in 1960 as an advocacy and professional development organization. It actively promotes competency-based learning using the DACUM (Developing a Curriculum) approach.

With support from the federal government, it published the bilingual *Canadian Vocational Association Journal* until 2008. This was also the year in which the last national conference was held. Other activities, such as workshops providing DACUM facilitator training, are ongoing.

Skills Canada BC

Skills Canada, a member of World Skills International, is a national organization that promotes careers in trades and technology on behalf of business, government and labour. The BC office has a staff of two.

Their key promotional activity to increase the visibility of trades among youth is skills competitions at provincial, national and international levels.

Society of Vocational Instructors of BC

Formed in 1961/62, the organization has been known as the Society of Vocational Instructors of British Columbia since 1969. One of the few non-political, non-union instructors' organizations in Canada, its focus is on professional development and support of vocational education in public institutions in BC.

Trades Training Consortium of BC

The Trades Training Consortium promotes BC's public postsecondary apprenticeship, Foundation and two-year vocational trades training programs for about fifteen member institutions. Formalized in 2005 as a non-profit society, it is governed by the presidents of the participating institutions and provides a unified voice for institutions to speak to funders. It has a management committee as well as serving as the umbrella organization for the pre-existing Trades Deans group, the BC Association of Trades and Technology Administrators. BCIT serves as the locus for Consortium services. The Consortium's website, updated and rebranded in 2009 as TradesTrainingBC.ca, displays training schedules and serves as a one-stop shop for anyone who wants to connect to training.

Formation of the Trades Training Consortium

The relationship between the ITA and the public postsecondary institutions... was problematic in the beginning. One of the major issues was the development of a credible consultation and planning process.... The second major issue was the ITA's initial overtures to fund what were existing programs on a yearly basis only, with the potential to move funding not only around the province but also between private and public trainers. Faced with these issues the public postsecondary system elected to formalize how it dealt with the ITA.

- BC Colleges draft report on educational planning, 2012

Program Development

The criteria³ by which certain occupations are deemed today to be suitable for skill acquisition through apprenticeship are rather opaque. Subject matter, training duration, and skill level do not seem to be part of the explicit criteria. Rather, the main criteria are:

- Consistency with the priorities of the Industry Training Authority
- Industry demand for workers with specific skills and industry's willingness to hire apprentices

Other criteria include more routine considerations such as clearly defined program standards that can be reviewed regularly and which require a technical training component.

Regardless of how a trade is identified, learning outcomes and curriculum for it need to be specified. In August 1957, with the federal government footing half the cost, the Technical Department Branch of the BC Department of Education (in cooperation with the Department of Labour's Apprenticeship Branch) established a vocational and technical curriculum development branch. It was intended to work closely with the Canadian Vocational Training Branch in Ottawa which was producing occupational analyses to foster the development of standards and qualifications that would be accepted across all provinces. By the early eighties, the BC Ministry of Labour also had a Program Development Unit.

³ ITA Operations Policy PP1000: Criteria for Approving New Apprenticeship and Foundation Industry Training Programs

During periods when apprentices were assigned to schools for technical training, they could complete different levels at different schools. It therefore was important to standardize to avoid duplication or omission of topics. Furthermore, the Red Seal examinations encouraged curricular consistency.

When vocational schools were melded with the colleges, the prevailing philosophy of institutional autonomy for colleges resulted in instructors developing their own curriculum. Much of the output of the Burnaby curriculum branch was simply abandoned. With college presidents of the day tending not to have been well versed in vocational/technical education, college administrators were slow to appreciate the implications of this change.

The following is from a 2009 talk by Duncan MacRae, retired Director of Trades and Technical Programs, Ministry of Education.

The formal recognition of trade occupations through designation and standards occurred in 1867 with the establishment of the City of London Guilds. Immigration from Britain fostered the adoption of the London Guilds' definitions of trade occupations and standards of qualification. These became the benchmark in Canada until the late forties. They also influenced the guiding principles of the Canadian Council of Directors of Apprenticeship when the council formed in the early fifties.

From 1960 to 1975, roughly corresponding with the life of the BC Vocational Schools, the Department of Education's Vocational Programs Branch funded the Curriculum Development Centre, located at BC Vocational School – Burnaby. Instructors from the BC Vocational School developed the curriculum with the support of the Curriculum Centre staff, as well as with review by Trade Advisory Committees and input at annual articulation meetings of instructors. The Apprenticeship Branch of the Department of Labour also coordinated and funded the creation and revision of trade courses.

The Curriculum Development Centre closed with the melding of the vocational schools with community colleges in the early seventies. By 1975, community colleges had absorbed much of its function, although the trades curriculum remained formally under the Apprenticeship Branch. The need for provincial coordination of trades and technical education was nevertheless recognized by the Ministry of Education. A Centre for Curriculum and Professional Development, with funding flowing through Camosun College, became the predecessor of the 1996 freestanding Centre for Curriculum, Transfer and Technology.

All postsecondary trades programs became the responsibility of the Industry Training and Apprenticeship Commission when it was established in 1997. No curriculum revision occurred under ITAC.

When the Industry Training Authority took over from ITAC in 2004, initiatives for trades curriculum and revision resumed. The ITA delegated a number of program development responsibilities to Industry Training Organizations. The educational institutions delivering the technical training are generally free to develop course curricula as they see fit, provided all program outcomes are achieved in some way. Requirements for learning in the workplace are minimal; employers deploy apprentices as they see fit.

ITO Program Development

Industry Training Organizations are undertaking their curriculum roles with diversity and self-direction. In their interface with the public, post-secondary institutions, there is inconsistency in the way in which institutional expertise and instructor resources are sought....it is critical that a transparent process of consultation, articulation and communication takes place between those who establish learning outcomes and those who are responsible for the delivery of those outcomes...

As outlined, each custodian of trades training in British Columbia, over the past fifty years has failed to retain the values and body of existing curriculum. With fervour, the new order starts afresh and at considerable cost and uncertainty.

- Duncan MacRae, 2009

Registrations

Although apprenticeships are available in BC in close to 150 trades, fewer than twenty account for the vast majority of registrations. Close to half the registrations came from just four trades.

Active Apprenticeships January 2012

	Number of Apprenticeships	Percentage	Cumulative Percentage
Construction Electrician	5,526	16.9%	16.9%
Carpenter	4,745	14.5%	31.4%
Professional Cook	2,811	8.6%	40.0%
Plumber	2,542	7.8%	47.8%
Automotive Service Technician	1,790	5.5%	53.3%
Hairstylist (Cosmetologist)	1,121	3.4%	56.8%
Heavy Duty Equipment Technician (Mechanic)	930	2.9%	59.6%
Industrial Mechanic (Millwright)	802	2.5%	62.1%
Refrigeration and Air Conditioning Mechanic	701	2.2%	64.2%
Sheet Metal Worker	584	1.8%	66.0%
Roofer	544	1.7%	67.7%
Truck and Transport Mechanic	472	1.4%	69.1%
Cabinetmaker (Joiner)	426	1.3%	70.4%
Steamfitter – Pipefitter	383	1.2%	71.6%
Metal Fabricator (Fitter)	344	1.1%	72.7%
Painter and Decorator	343	1.1%	73.7%
Motor Vehicle Body Repairer	307	0.9%	74.6%
All other trades	8,243	25.2%	100.0%
Total	32,604	100.0%	100.0%

Surveys

To begin addressing the paucity of empirical data about apprenticeship training in Canada, consortia of BC government and educational institutions have surveyed former apprentices and pre-apprenticeship students over the past fifteen years. The findings revealed that respondents were generally satisfied with their training and faring not too badly in the labour market, although not necessarily as journeypersons in their intended trade.

Pre-Apprenticeship Programs

Public Institutions

Entry Level Trades Training, 1998

Following the transfer of funding authority for Entry Level Trades Training programs (i.e. institution-based programs of three to twelve months duration) to the new Industry Training and Apprenticeship Commission, the Ministry of Advanced Education, Training and Technology, along with fifteen publicly-funded institutions offering ELTT, conducted a survey of all students who had graduated three to four years earlier. A total of 1,700 students (38% of the students eligible for the survey) were reached. The survey was prompted by criticisms of the ELTT system by some Commission members and from other sources.

Prior to entering ELTT, 87% of the respondents had completed high school and 23% already had some sort of postsecondary credential (42% had some postsecondary education, but not necessarily a credential.) 89% had worked after high school but before entering ELTT.

Three years after completing ELTT, 71% were in training-related, permanent jobs. 83% of these employees had always worked in the same trade. 71% of the graduates were also completely or mainly satisfied with their work and advancement in their trade.

Half (51%) of the ELTT graduates sought an apprenticeship, but only half of these (54%) succeeded. Of the one quarter of all graduates who became apprentices, over 80% were satisfied with their starting level.

Overall, three quarters of ELTT graduates were completely or mainly satisfied with their ELTT studies, and only 6% were not at all satisfied. 50% would have definitely made the same program choice again, and 24% probably would have.

Trades Training in BC Colleges, University Colleges and Institutes, 2006

A provincial survey has been conducted annually since 1988 of former students of BC public institutions who had enrolled in programs of one to four semesters in duration. Known originally as the BC College & Institute Student Outcomes, the project's name changed in 2008 to the Diploma, Associate Degree, and Certificate Student Outcomes Survey. A special analysis was conducted in 2006 of respondents who had been in trades programs.

87%, up from 59% in 1998, had reported completely or mostly meeting their most important objective for enrolling. The analysis found:

Approximately one-half of former trades training students said they attempted to become apprentices (again, not all trades training programs are designed for pre-apprenticeship). Of those who tried, 69 percent were successful (n = 834). Trades training students from programs in Electrical, Plumbing, Heating & Ventilation, and Carpentry were most likely to be successfully sponsored as an apprentice (85, 84, and 80 percent respectively).

Of the 383 respondents who tried but were unsuccessful in finding a sponsor, 70 percent reported that they could not find an employer, and another 11 percent that they did not have enough training or experience. Among other reasons mentioned were personal and health issues, a change of mind about what they wanted to do, or an employer who did not have a practice of sponsoring apprentices (5, 4 and 3 percent).

Overall, three-quarters of respondents who were successfully sponsored as apprentices said they were well or very well prepared by their trades training program....

A concern expressed by some former trades training students in certain fields was that the program was too short to cover the required material. Nevertheless, the majority of respondents said they were completely or mainly satisfied with their education and a very large proportion said they had achieved their primary objective.

Trades Foundation Programs as Preparation for Apprenticeship, 2011

A similar analysis to the above 2006 study was conducted in 2011. Former students from nearly fifty Foundation programs at fourteen BC public postsecondary institutions were surveyed. They had left their institutions in 2009 and were surveyed in 2010.

Construction Trades and Mechanic & Repair Technologies each accounted for about one third of respondents. 16% said their country of origin was not Canada.

Satisfaction levels with their Foundation education were high:

41%	Very satisfied
53%	Satisfied
5%	Dissatisfied
2%	Very dissatisfied

The majority said the program length was about right. Those from Personal & Culinary Services were the most likely to say it was too short, while those from Constructions Trades were the most likely to say it was too long.

Over three quarters subsequently tried to get apprenticeships, of which 55% were successful. 73% were employed, 17% were unemployed and 10% were not in the labour force at the time of the survey. (In comparison, across all Applied programs two years or less in duration, 78% were employed, 11% were unemployed, and 12% were not in the labour force.)

Nearly two-thirds of employed Foundation respondents said their training was at least somewhat related to their training.

Apprenticeship Programs

Apprenticeship Student Outcomes Survey, 2010

Half a dozen years of longitudinal survey data are now available from the Annual Apprenticeship Student Outcomes Survey. Assessing student satisfaction and labour market experiences, the survey is a good indicator of the health of the training system. It consistently identifies levels of satisfaction around 95%.

The results from the 2010 survey are typical of the annual findings. About half (2,750 respondents) of apprentices who completed their final level in 2008/09 responded to a survey done six months later. (The analysis of the data was not completed until 2010, however.) 82% had taken their in-school training at a public institution; the remainder had attended one of fifteen private institutions that participated in the provincial survey.

95% of respondents were male and the median age was 28. Electrician, Carpentry, Steel Fabrication & Welding, and Plumbing each accounted for about 15% of survey respondents. A little over half had taken some previous trades training or other postsecondary education before beginning their apprenticeships.

Their satisfaction with their apprenticeship experience was high:

	In-School Training	Workplace Training
Very satisfied	45%	38%
Satisfied	50%	55%
Dissatisfied	4%	5%
Very dissatisfied	1%	2%

83% reported receiving their Certificate of Qualification (Trades Qualification). Depending on the trade, between 10 and 46% said their in-school component was too short (31% overall).

Virtually all respondents (97%) were in the labour force. The 11% unemployment rate was higher than in previous surveys, reflecting economic conditions, and ranged from 2% to 20% across the trades. Of those employed, 95% said their job was at least somewhat related to their training. The median wage was \$29 per hour, ranging across the ten most common occupations from \$33 for Machinery & Transportation Equipment Mechanics to \$15 for Chefs & Cooks.

National Apprenticeship Survey: British Columbia Overview, 2007

This Statistics Canada study found that initial interest in the trade came mainly from exposure to other trades people or from prior job experience. Advertising and other types of information provision had little influence. 40% had prior technical training in the trade.

Virtually all apprentices received some form of financial help other than training allowances and employment insurance during their training. Wages or other financial assistance during technical training was the most frequent help. Very few received financial support from family and friends.

The most frequently cited reason for discontinuing an apprenticeship, lack of work or income, accounted for only 13% of the reasons. It appears that the reasons for discontinuing are very diverse and personalized, rarely reflecting perceived problems with the quality of technical training.

Stakeholders

A number of voices express views on apprenticeship policy in BC, often forcefully and loudly, and sometimes from a narrow perspective. Whether any particular conversation represents healthy stakeholder input or special interest lobbying can be a matter of interpretation.

Unions have had varying degrees of involvement in guiding apprenticeships. In some trades, union membership and seniority represent significant barriers to entry into the trade. Sometimes unions have sponsored apprentices and provided technical training as a means of controlling the supply of skilled labour. In other instances, union involvement has been motivated by a desire to fill training gaps and to maintain a standard of training.

Politicization

Structures were vulnerable to political pressures from a multitude of local and narrow-interest groups

- Klaus Weiermair, 1984

In the Canadian context, unions have generally had more to gain from involvement in apprenticeship than employers as labour seeks to maintain occupational boundaries. Employers have had a smaller stake because they can substitute on-the-job training with skilled immigrants or graduates from formal educational programs. They may want to reorganize job duties as their environment changes. Furthermore, despite providing lower wages for apprentices, employers have tended to view apprenticeship as a net cost, especially in light of poaching of labour by other employers.

Unions

With the exception of construction unions...Canadian unions have generally remained rather apathetic or predictably orthodox in matters of both training and work organization when compared, for example, with the union movements in other jurisdictions....

In the construction industry, particularly, where union hiring hall procedures are in force, placement of apprentices is controlled by the trade unions and as such, subject to the interest of their members.

*- Klaus Weiermair, 1984
Economic Council of Canada*

The balance between union and employer influence in the apprenticeship system fluctuates. With the formation of the Industry Training Authority in 2004, union representation on the board of directors was reduced from the equal representation labour had enjoyed with employers under the Industry Training and Apprenticeship Commission. Nevertheless, under the ITA, the sectoral Industry Training Organizations can decide if they want union participation on their non-profit boards. Some ITOs have welcomed union input and established advisory groups.

Relationships between the bodies administering the apprenticeship system in BC and the public postsecondary institutions that provide pre-apprenticeship and technical training have tended not to be collegial, and have occasionally been adversarial. Some of the friction has arisen over differing perceptions of whether educational institutions are partners or contractors, the roles of instructors relative to workplace personnel in determining program outcomes and curriculum, and variable or unpredictable funding.

Perhaps more than in other program areas, issues about the control of trades training has led to ongoing friction among employers, unions, training institutions and government. The result has been a very political environment with the relative influence of the various parties fluctuating with changes in government at both the federal and the provincial level.

Under-Represented and Target Groups

Concern about systemic under-representation of certain populations in apprenticeship training is longstanding, but progress to rectify the situation has been modest. In 1977, the Commission on Vocational, Technical and Trades Training in British Columbia noted:

Women continued to be excluded from many technical and trades training programs, and are channeled and segregated into a narrow range of occupations that offer below-standard wages....In most types of apprenticeship, women number fewer than one in a hundred.

In 1975/76, BC introduced an eight-week Women's Exploratory Apprenticeship Training pilot project. It was expanded to twelve weeks for offering on an ongoing basis.

Despite initiatives such as Basic Training for Skill Development, Basic Job Readiness Training, and Employment Orientation for Women – short, intensive programs to refresh or upgrade academic skills, stimulate interest, and provide up to date information on job opportunities – the Ministry of Labour's *Revitalizing Apprenticeship: A Strategic Framework for British Columbia's Apprenticeship Training System* bemoaned that, in 1977, only about 700 apprentices were women, 400 of whom were in hairdressing and cooking. "Participation by Aboriginals, persons with disabilities and visible minorities is similarly disproportional."

More recently, the Industry Training Authority's 2009 Strategic Plan commented about barriers to participation by equity groups:

There are a number of groups that face barriers to participation in the industry training system, including women, recent immigrants and Aboriginal people. Issues such as access to assessment and skill recognition, the stigma associated with trades occupations, cultural and socioeconomic factors and geography can all impact participation....Research strongly suggests that addressing essential skill (i.e. literacy and numeracy) deficiencies will help remove common barriers to entry into and completion of industry training programs.

The ITA currently has programs, such as Women in Trades Training (served about 1500 women over the past four years) and Immigrants in Trades Training, that offer customized support to unemployed or under-employed individuals seeking to begin a trade career. The supports, often federally funded, include financial assistance, language training, help in obtaining recognition of prior learning, and career counselling. The ITA partners with service and training providers across the province to deliver these supports.

Women

Employers continue to hold negative stereotypes about the ability of women to work in the trades. There is evidence that the women who have successfully gained employment have tended to come from families where parents or siblings were already tradespeople.

Some research has pointed not only to the determination and drive of women to the success of women seeking a career in the trades, but also to the importance of the attitudes of employers and, to a lesser extent, support from male work colleagues:

The findings of the report confirm the importance of informal networks in securing apprenticeships for women. Most of the women came from trade families and as children had often helped their fathers with manual work around the house. Factors which supported these women to overcome obstacles were a love and passion for their chosen trade and a high level of tenacity and perseverance. Additional findings refute negative myths and gender-discriminatory statements about the capability of women to be effective

tradespeople, such as their physical ability, the lack of childcare and family issues. Employer support was found to be crucial in helping women succeed in their trades and in guiding future gender shifts.

*- Shewring, 2009
The Female 'Tradie'*

Harassment

The American women's stories of the 1980s and 1990s are well documented by writers and tradespeople....These women met fierce opposition, not only from most of their fellow workers, but also from management and unions. Resentment was manifested through direct intimidation, sexual harassment, veiled threats and isolation, and even included 'workplace accidents'. In 1999 the United States' Department of Labor noted that 88% of women reported being sexually harassed.

*- Shewring, 2009
The Female 'Tradie'*

Aboriginal People

Since 2007, the ITA has focussed on encouraging Aboriginal men and women to participate in trades and apprenticeship training. Preliminary results have been positive, due in part to a volunteer Aboriginal advisory committee that works with the ITA to raise awareness among Aboriginal communities about apprenticeships. Another reason has been an infusion of federal funding through the Canada – BC Labour Market Agreement (\$6 million over six years, beginning in 2008/09. In the first year, almost 500 Aboriginal people were beneficiaries.)

In 2009, the ITA transferred ownership of its mobile training unit to the Nicola Valley Institute of Technology to deliver preparatory programs for trades training in communities throughout the province.

In 2006, ITA reported 150 – 200 Aboriginal students participating in apprenticeship training. Five years later, due in part to the federal money, some 350 Aboriginal students were participating in about two dozen communities throughout BC in ITA's Aboriginal Initiatives program.

Aboriginal people living off reserve have special needs and face special issues. In 1999, the federal government, through Human Resources and Skills Development Canada, began funding initiatives in several urban regions in BC. Operating with provincial and federal funding as part of Aboriginal Skills and Employment Training Strategy (ASETS), the Aboriginal Community Career Employment Services Society (ACCESS) serves clients throughout metro Vancouver. ACCESS Trades is one aspect of the operation, working closely with the Industry Training Authority to assist Aboriginal apprentices. Trades programs are available through individual seat purchase or in one of ACCESS's group programs. All group training is done through BCIT, Vancouver Community College, Pacific Vocational Institute, The Métis Training School and other ITA designated training institutions.

Immigrants and Internationally Trained Workers

Immigrants face barriers related to the recognition of foreign programs as equivalent to Canadian ones, language and culture, and familiarity with specific occupational and safety practices in Canada.

A 2012 federal initiative seeks to streamline the immigration process for skilled tradespersons. The previous process favoured professionals rather than tradespersons, with the result that only three percent of

those entering Canada under the federal skilled worker program have been in the trades. The revised process will place more emphasis on experience and practical training, rather than on formal education.

Visible minorities represent only between 5 and 7% of apprentices in Canada, even though they comprise 16% of the Canadian population.

Miscellaneous

Instructor Education

Many trades instructors have come directly from industry with little or no exposure to postsecondary pedagogies or learning environments. Instructor training was therefore a priority for the provincial government when opening vocational schools.

In 1960/61, the Department of Education decided to switch in-service instructor training to five-week summer sessions. This allowed instructors from across the province to enrol as regional BC Vocational Schools opened.

Temporary Instructors

One of the major problems faced each year is the temporary replacement of instructors to enable regular staff to take vacations and attend summer schools. The value of a large number of such temporary short-term instructors is a matter of considerable concern to our schools.

- Department of Education Annual Report, 1967/68

In summer 1962, the Vocational Instructor Teacher Education Programme, operating under the auspices of the Technical Branch of the Department of Education, enrolled 31 students (including one from the Yukon and two from Alberta.) Arrangements were made for the University of British Columbia to take over the program.

By 1964/65, UBC had developed two streams for vocational instructors, each requiring three to four summers of study. One stream led to a certificate. The other provided 18 units (36 credits) of transferable credits towards a Bachelor of Education. In 1964, 83 students registered in the certificate stream.

As Vancouver Community College matured, it became the host for a Provincial Instructor Diploma program. Today, this program takes the form of a 21-credit adult education program that transfers into the BA in Adult Education at the University of the Fraser Valley, and may be considered for entry into some masters of education programs in BC and Alberta.

Bridging into Bachelor Degrees

Two of BC's teaching intensive universities have recently introduced two to three year degree-completion programs for persons possessing a trades qualification certificate and some relevant work experience. The University of the Fraser Valley offers a Bachelor of Business Administration for Trades Management and Thompson Rivers University offers a Bachelor of Technology in Trades and Technology Leadership. The goal is to provide a career path for tradespeople into managerial or ownership roles.

Interprovincial Standards Red Seal Program

Nationally, fifty trades have interprovincial standards leading to the Red Seal endorsement on provincially-issued certificates of qualification. BC participates in 48 of these trades, up from 43 in 1993/94.

Across the country, only about half the graduates in Red Seal applicable trades attain interprovincial certification as this may involve additional qualification assessments. In BC, in contrast, over 85% of all BC apprentices are required to meet the Red Seal standard in order to be certified.

In 2009, the Industry Training Authority reported that 25% of Red Seal endorsements were earned in BC through challenge processes. 75% of apprentices writing the Red Seal exam passed it, compared to 50% of challengers. Both groups had pass rates above the national average.

Computerized Recordkeeping

The first computerized system for managing apprenticeship registrations, the Apprenticeship Information Management Systems (AIMS) came on stream in 1984. A major redevelopment occurred in 1992.

AIMS was replaced in February 2009 with ITA Direct Access to automate and provide online access to training records. The ITA's student number, TWID, is not currently linked to the Provincial Education Number (PEN) that is used by the K – 12 system and public postsecondary institutions in BC. This limits the integration of apprenticeship data into provincial analyses of student flows, but legislative amendments are required to expand the use of PENs.

Study of Trades Success Factors

In an attempt to fill information gaps about the flow of students into and out of trades, and to identify the correlates of student success, BC's Trades Training Consortium began a study in 2012 involving the privacy-protected linkage of administrative data bases and focus groups of apprentices.

Institutionally Sponsored Apprentices

In 2004, the College of the Rockies partnered with Teck Coal to launch the Mining Apprentice Program (MAP) for two trades, Electrical and Heavy Duty Mechanic. The College became the apprentice's "employer" as it sponsored them and provided the technical training. Teck Coal provided the practical or onsite training, rotating apprentices every six months through five mines. With over 90% of apprentices offered fulltime employment by Teck Coal upon completion of their apprenticeship, the parties are looking in 2012 at expanding the program.

A different form of institutionally-sponsored apprenticeship grew following the global economic downturn of 2008. The intent was to move in-school technical training in some trades to the beginning of the apprenticeship, to be followed by the workplace training component rather than alternating with it. An educational institution would serve as the initial sponsor and then was to help the apprentice find an employer sponsor.

This was a major reconceptualization of the notion of apprenticeship and public institutions were reluctant at first to sign as apprentices individuals who would otherwise have been treated as regular trades training students in pre-apprenticeship or other programs. However, apprenticeship registration became a requirement for receiving funding from the ITA.

By 2011/12, a single institution reported over 400 institutionally-sponsored apprentices in Professional Cook and Welding alone. It said that it really was not in a position to help its graduates find employer sponsors.

Concluding Thoughts

I work at a college that offers no trades training. I came to the topic with no background about apprenticeship and no agenda other than improving my understanding of the entire postsecondary educational landscape in British Columbia. My goal was to synthesize and summarize existing information about an educational sector that is frequently mentioned, less frequently understood, and poorly studied or documented.

The impressions of a newcomer are not necessarily the most important observations, or even entirely accurate, but sometimes they draw attention to matters that are taken for granted or overlooked by more experienced observers. The following are my subjective impressions as I draw this paper to a close.

Two impressions are especially strong. One is the very significant, but indirect, role of the federal government in the BC apprenticeship system, exercised mainly through funding allocations. The forms of support changed over time, as did the amount of influence, but the apprenticeship story in British Columbia would have been very different without federal interest and involvement in it.

The second dominant impression is the lack of expressed attention to student needs and characteristics. One regularly hears claims that the apprenticeship world in BC consists of interest groups among which educators' voices seldom prevail. In a paradigm where what are often short term labour market considerations take precedence over the general needs of the citizenry, students become something of a means to an end and rather expendable. This apparent lack of attention to students – even feedback through student satisfaction surveys is a relatively new development – may partially explain the challenges in recruiting and retaining apprentices.

Another aspect of the apprenticeship world that gives me cause for reflection is what seems to be a parochial rather than integrative world view. Over much of the past generation, the apprenticeship system maintained an arm's length relationship with the rest of postsecondary education, and even internal relationships have been cranky. It seems to be an environment which to varying extents over the years has been characterized by grumbling, finger pointing and posturing. And yet this is not how I would describe the individuals who work within the system; there seems to be something peculiar about the system itself.

No postsecondary sector in BC has evolved smoothly over the past generation, but the apprenticeship system has seemed especially prone to lurching along. Legislative changes, shifts in ministerial reporting relationships, and political lobbying have exacerbated the situation. In any event, apprenticeship remains complex, diverse and perhaps even disjointed.

A few problematic areas, such as employers not carrying their share of the apprenticeship training load, the modularization of technical training, and the under-representation of women, have persisted over the decades, despite attention having been paid to them. Ideological attachments to certain positions have not helped resolve the situations.

With a few notable exceptions, I was struck by the number of times my questions while researching this paper were referred to others who in turn referred me to other people, eventually resulting in silence. My experiences were in no way negative, but it seemed unusually difficult to elicit information and it was rarely volunteered. I therefore ended up relying on documentary sources more than I had anticipated.

This situation led me to write a longer paper than I had planned. If I didn't gather the material centrally and record it, my fear was that it could be a long time until someone else did, by which time additional illuminating memories might be lost.

In some ways, I feel that I have come full circle. I started this study thinking, "I really need a better understanding of apprenticeship and trades training." I'm ending it, the better part of a year later, with exactly the same thought.

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Appendices

A. Challenges Enumerated by the Canadian Apprenticeship Forum, 2004

Negative attitudes:

Trades are often perceived as second-class or dead-end careers with little potential for advancement. For young people, a lack of early exposure to trades affects their awareness of career options involving trades....Employer attitudes to apprenticeship are perceived to be a major and fundamental barrier. A perceived lack of a training culture and poor human-resource planning...result in an absence of positions for apprentices and a relatively low level of support for apprenticeship training.

Lack of information and awareness:

A shortage of effective high school trades work-experience and industrial arts programs, as well as the tendency of guidance counselors to promote university-based careers, represent significant educational barriers to apprenticeship. A lack of clearly defined career paths to allow individuals to move between school programs and the apprenticeship system...

Difficulties with unwelcoming workplaces:

Discrimination and unwelcome and sexist behaviour in the workplace....

High cost of apprenticeship:

For some employers, particularly in small businesses, it is unclear whether the benefits or apprenticeship outweigh the costs, and the cost of apprenticeship supervision and wages is a particular concern.

Impacts of economic factors on jobs:

During economic downturns, reduced demand in overall work can lead to fewer opportunities for apprentices or, worse, to an interruption in or termination of an apprenticeship. Some employers noted that seniority provisions in collective agreements may interfere....

Lack of resources:

The inadequacy of provincial and territorial apprenticeship resources....For some, this inadequacy has resulted in a lack of enforcement of apprenticeship standards...for others, it has meant that activities related to promoting apprenticeship and recruiting participants has been somewhat neglected...For immigrants...the lack of tools to assess and recognize prior learning, all point to difficulties in having their skills and credentials recognized....

Concern about apprentices' basic and essential skills:

...young people may lack the proper academic preparation at the high-school level and, consequently, these youths bring inadequate essential skills, including mathematics and literacy, to their apprenticeship training....Some would-be apprentices may also lack the self-esteem, confidence and the network of contacts required to approach employers.

Challenges Enumerated by the Canadian Apprenticeship Forum, 2004 (continued)

Shortcomings of workplace-based and technical training:

...in many trades, apprentices receive only limited exposure to a wide range of tasks...Some see block-release training as a serious problem since it can promote inflexibility in training arrangements and make it difficult to schedule and carry out normal operations, especially for small employers. The lack of training locations represents another barrier....

...technical content...and instructors' knowledge of current styles and practices often lag....In addition, the reliance on traditional written tests, rather than practical demonstration of skills, was criticized....

Issues regarding regulations and standards:

The ratio of journeypersons to apprentices...may limit employers' ability to bring in as many apprentices as required. Small business may be particularly affected by fixed ratios....

A number of stakeholders believe apprenticeship training is governed by too many rules and too much red tape, while some employers feared that apprenticeship regulations intrude on the internal workings of companies. The absence of national standards or core curricula in many trades represents a hindrance to large employers operating in several jurisdictions.

B. Registered Apprentices

	Registered Apprentices				
	Adult	Secondary School/Youth	Other	Pre-Apprenticeship	Comments/Explanation
1933	621				
1934	784				
1935	925				First Apprenticeship Act in BC
1936	261?				Active apprenticeship contracts
1937	602				Includes 111 not in designated trades
1938	965				
1939	908				Includes 159 not in designated trades
1940	1,039		63		63 temporarily withdrawn for military
1941	1,285				Includes 161 not in designated trades
1942	1,369		53		Other: preliminary contracts
1943	1,424		79		Other: preliminary contracts
1944	1,648		114		Other: preliminary contracts
1945	1,794				Includes 687 in military
1946	1,903				
1947	1,877				
1948	1,677				
1949	1,482				
1950	1,486				
1951	1,453		99		Other: 3 month probationary
1952	1,346		177		Other: 3 month probationary
1953	1,363		159		Other: 3 month probationary
1954	1,630				
1955	1,993				
1956	2,337				
1957	2,753				
1958	2,779			231	
1959	2,636			422	
1960	2,685				
1961	2,434				
1962	2,487				
1963	2,868			629	
1964	3,797			833	
1965	5,363			1,314	
1966	6,127			1,612	
1967	6,339			1,744	
1968	6,804			1,617	Pre-apprenticeship in 20 trades
1969	7,798			1,682	

Continued on next page....

Registered Apprentices (continued from previous page)

	Registered Apprentices			Pre-Apprenticeship	Comments/Explanation
	Adult	Secondary School/Youth	Other		
1970	7,429			1,690	
1971	7,552			1,811	
1972	9,083			1,400	
1973	10,630			1,698	
1974	12,965			1,996	
1975	13,139			2,207	
1976	14,599			1,856	
1977	13,512			1,886	
1978	12,518			1,808	
1979	13,799			1,531	
1980	11,911				
1981	18,852			1,533	
1982	N/A				Switch to fiscal year reporting
1982/83	16,223			1,162	
1983/84	13,129				
1984/85	9,847				
1985/86	9,847				
1986/87	10,000+				Precise figures not available
1987/88	10,515				2,874 certifications
1988/89	11,829				
1989/90	15,135				December 31 count
1990/91	14,668				
1991/92	13,903				
1992/93	14,026				
1993/94	14,515				High school program introduced
1994/95	14,624				
1995/96	14,696				
1996/97	14,739				
1997/98	15,245	398		5,534	
1998/99	15,353	498		5,513	
1999/00	15,794	675		5,646	
2000/01	16,277	1,000		6,210	
2001/02	16,281	861			
2002/03					Transitional period – data unavailable
2003/04	13,815	861			Switch to March 31 count
2004/05	18,709	1,641			
2005/06	23,266	3,259		6,864	
2006/07	28,402	5,647		3,969	
2007/08	34,316	5,481		4,125	
2008/09	35,343	4,938		3,795	6,038 certifications
2009/10	33,811	4,397		3,595	
2010/11	31,226	3,379		3,672	7,318 certifications
2011/12	30,464*	3,369*			* Partial year to January

Some changes in definitions and counting methodologies from 1990 - 2002, and then from 2004 to present.

Data sources: Department/Ministry of Labour annual reports to 1986/87, then Ministry of Advanced Education and successor Ministries. Industry Training Authority from 1990 to present.

C. Fulltime Equivalent Enrolment in Public Institutions, 1990 – 2010

	Total	Foundation Programs	Growth Since 1990	Apprenticeship Technical Training	Growth Since 1990
1990	102,580	3,610	-	6,850	-
1991	108,710	4,085	13%	7,420	8%
1992	111,280	4,395	22%	9,360	37%
1993	113,470	4,400	22%	9,015	32%
1994	119,800	4,610	28%	9,070	32%
1995	123,450	4,705	30%	8,605	26%
1996	128,450	4,780	32%	6,945	1%
1997	133,110	4,970	38%	6,207	-9%
1998	138,430	5,250	45%	7,325	7%
1999	142,620	5,320	47%	7,970	16%
2000	144,450	5,265	46%	7,945	16%
2001	150,480	5,560	54%	7,815	14%
2002	154,580	5,890	63%	8,250	20%
2003	155,790	5,715	58%	8,840	29%
2004	159,250	6,810	89%	8,905	30%
2005	162,140	7,100	97%	10,160	48%
2006	162,820	6,720	86%	12,805	87%
2007	165,380	5,955	65%	15,415	125%
2008	172,250	5,645	56%	17,420	154%
2009	180,670	5,275	46%	17,950	162%
2010	184,420	5,460	51%	16,260	137%

Source: Ministry of Advanced Education, November 2011

Note that technical training could require as little as four weeks in the classroom to generate an FTE, whereas a Foundation program could require four months or more. (This is because an FTE is defined as the normal amount of instruction a fulltime student would receive over the period of a year.)

A more useful measure than FTE enrolment is Student Contact Hours. Contact hour data show that public institutions have recently been providing roughly the same amount of instruction in Foundation programs as in technical training for apprentices.

Student Contact Hours

	Foundation Programs	Apprenticeship Technical Training
2007/08	4,562,500	4,167,300
2008/09	4,299,200	4,784,800
2009/10	3,874,400	5,325,100
2010/11	4,057,000	4,972,300

D. List of Trades, 2011

Source: ITA Website

		Active (Accepting Registrations)		
	Red Seal Interprovincial	Apprentice	Challenge	Foundation Program Available
A				
Aggregate Plant Operator				
Agricultural Equipment Technician	X		X	
Aircraft Maintenance Technician		X		
Aircraft Structural Technician		X	X	
Appliance Service Technician	X	X	X	X
Arboriculturist (Urban Forestry)		X		
Architectural Sheet Metal Worker		X	X	
Asphalt Paving/Laydown				
Asphalt Plant Operator				
Automatic Transmission Service Technician				
Automotive Glass Technician		X	X	
Automotive Machinist				
Automotive Painter (Automotive Refinishing Technician)	X	X	X	
Automotive Radiator Manufacturer and Repairer				
Automotive Refinishing Prep Technician		X	X	X
Automotive Service Advisor				
Automotive Service Technician	X	X	X	X
Automotive Service Technician 1		X	X	
Automotive Service Technician 2		X	X	
Automotive Service Technician 3		X	X	
Automotive Wheel Alignment and Brake Service Technician				
B				
Baker	X	X	X	X
Barber				
Boilermaker (Construction Boilermaker)	X	X	X	X
Boom Truck Operator - Folding Boom Unlimited tonnage		X	X	
Boom Truck Operator - Stiff Boom Unlimited tonnage		X	X	
Bricklayer (Mason)	X	X	X	X
Building Envelope Technician		X	X	
C				
Cabinet Maker (Joiner)	X	X	X	X
Cable Splicer				
Carpenter	X	X	X	X
Communication Technician				
Community Antenna Television Technician				
Concrete Finisher (Cement Mason)	X	X	X	
Concrete Plant Operator				
Construction Formwork Technician				
Cook (Professional Cook 3)				
Cook see Professional Cook				
Cremationist		X		

		Active (Accepting Registrations)		
	Red Seal Interprovincial	Apprentice	Challenge	Foundation Program Available
D				
Dairy Production Technician		X	X	
Diesel Engine Mechanic		X		X
Diesel Fuel Injection Mechanic				
Domestic/Commercial Gasfitter		X	X	X
Drywall Finisher		X	X	
E				
Electric Motor Systems Technician (Winder Electrician)	X		X	
Electrician, Construction	X	X	X	X
Electrician, Industrial	X	X	X	
Electronics Communications Technician			X	
Electronics Technician			X	
Electronics Technician (Consumer Products)	X			
Electro-Plater				
Elevator Mechanic				
Embalmer		X		X
Embalmer & Funeral Director		X		X
F				
Floor Covering Installer	X	X	X	
Florist				
Forklift Mechanic			X	
Funeral Director		X		X
G				
Gasfitter - (Class A)		X	X	
Geothermal Technician		X	X	
Glazier	X	X	X	
Graphic Arts - Bookbinder 1				
Graphic Arts - Litho Pressperson				
H				
Hairstylist (Cosmetologist)		X	X	
Hardwood Floorlayer		X	X	
Heating Technician		X	X	
Heavy Duty Equipment Technician (Mechanic)	X	X	X	X
Heavy Equipment Operator	Pending	X	X	X
Horticulturist, Landscape	Pending	X	X	
Horticulturist, Production		X	X	
Hydraulic Service Mechanic				
I				
Inboard/Outboard Mechanic		X	X	X
Industrial Mechanic (Millwright)	X	X	X	X
Industrial Warehouseperson	X	X	X	X
Instrumentation and Control Technician			X	
Insulator (Heat and Frost) (Heat and Frost Insulator)	X	X	X	
Ironworker - Reinforcing	X	X	X	
Ironworker Generalist (Ironworker)	X	X	X	

		Active (Accepting Registrations)		
	Red Seal Interprovincial	Apprentice	Challenge	Foundation Program Available
L				
Lather (Interior Systems Mechanic) (Wall and Ceiling Installer)	X	X	X	
Locksmith		X	X	
Log Builder		X	X	
Logistics and Distribution Person 2		X		
Logistics and Distribution Person 3		X	X	
Lumber Manufacturing Industry – Benchperson		X	X	
Lumber Manufacturing Industry - Circular Sawfiler		X	X	
Lumber Manufacturing Industry - Sawfitter		X	X	
M				
Machinist	X	X	X	X
Marine Engine Mechanic		X		X
Marine Mechanical Technician		X		
Marine Service Technician		X		X
Meatcutter		X	X	X
Metal Fabricator (Fitter)	X	X	X	X
Meter Technician				
Millwright - see Industrial Mechanic (Millwright)	X	X	X	X
Mobile Crane Operator - Hydraulic 80 tonnes and under		X	X	
Mobile Crane Operator - Hydraulic Unlimited tonnage		X	X	
Mobile Crane Operator - Lattice Boom Friction Crane	X	X	X	
Mobile Crane Operator - Lattice Boom Hydraulic Crane	X	X	X	
Motion Picture & Theatre - Grip				
Motion Picture & Theatre - Set Dresser				
Motor Vehicle Body Repairer (Metal & Paint) (Automotive Collision Repair Technician)	X	X	X	X
Motorcycle Mechanic	X	X	X	X
Moulder and Coremaker				
O				
Oil Burner Mechanic (Residential)	X		X	
Outdoor Power Equipment Technician			X	X
P				
Painter and Decorator	X	X	X	
Parts and Warehousing Person 1		X	X	X
Partsperson 2		X	X	
Partsperson (Partsperson 3)	X	X	X	
Petroleum Equipment Installer		X	X	
Petroleum Equipment Service Technician		X	X	
Piledriver and Bridgeworker		X	X	
Planermill Maintenance Technician 1		X	X	

		Active (Accepting Registrations)		
	Red Seal Interprovincial	Apprentice	Challenge	Foundation Program Available
Planermill Maintenance Technician 2		X	X	
Plasterer		X		
Plumber	X	X	X	X
Power Line Technician	X	X	X	
Professional (Truck) Driver				
Professional Cook 1		X	X	
Professional Cook 2		X	X	
Professional Cook 3 (Cook)	X	X	X	
R				
Railway Car Technician		X		
Recreation Vehicle Service Technician	X	X	X	X
Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic)	X	X	X	X
Residential Building Maintenance Worker		X	X	
Residential Framing Technician		X	X	
Residential Steep Roofer			X	
Rig Technician	X	X	X	
Roofer	X	X	X	
S				
Security Systems Technician		X	X	X
Sheet Metal Worker	X	X	X	X
Sprinkler System Installer	X	X	X	X
Steamfitter / Pipefitter	X	X	X	X
T				
Telecontrol Technologist				
Tilesetter	X	X	X	
Tire Repairer		X		
Tool and Die Maker	X	X	X	
Tower Crane Operator	Pending	X	X	
Transport Refrigeration Mechanic			X	
Transport Trailer Technician (Commercial Trailer Mechanic)	X	X	X	
Truck and Transport Mechanic (Commercial Transport Vehicle Mechanic)	X	X	X	X
U				
Utility Arborist		X		
W				
Water Well Driller			X	
Welder (Welder Level A or Welder Level B)	X	X	X	
Welder Level C		X	X	