

## **CHAPTER 2**

### **SCHOOL-TO-WORK TRANSITION IN CANADA WITH SPECIFIC REFERENCE TO BRITISH COLUMBIA**

#### **2.1 INTRODUCTION**

Globalized trading patterns and the growth of information and communication technologies have forced a restructuring of the economy in Canada. The impact of these changes has been felt both at educational institutions and in individual workplaces. Thus, in this economic climate where production intertwines with continuous learning, the dichotomy that has divided education and schooling from work and productive enterprise has begun to break down. Although education will always include some rote memorization, and work will always include some obedient following of orders from supervisors or clients, these capacities no longer suffice. More than in the past, preparing for work means learning to ask good questions in order to resolve the uncertainties that accompany change.

This chapter first gives an exposition of the foundations of apprenticeship and cooperative education as school-to-work transition strategies. Thereafter, it traces the historical development of apprenticeship training cooperative education and cooperative education globally and in Canada with a brief description of provision of school-to-work transition opportunities offered in each Canadian province. Particular attention is given to the transferability of training qualifications among provinces (i.e., the Red Seal programme). This chapter concludes with a description of school-to-work transitions in British Columbia and the role and functioning of apprenticeship and cooperative education in this province.

#### **2.2 THE FOUNDATIONS OF WORKPLACE LEARNING STRATEGIES**

##### **2.2.1 Experiential education**

Experiential education is the process of actively engaging learners in an experience that will have real consequences. Learners make discoveries and experiment with knowledge themselves instead of merely studying or hearing about the experiences of others. Students also reflect on their experiences, thus developing new skills, new attitudes and theories or ways of thinking (Kraft & Sakofs 1988). John Dewey (1949) (cf 2.4) was a pioneer of the idea of learning through direct experience, by action and reflection. This type of learning differs from traditional education in that instructors or educators immerse learners in action and ask them to reflect on the experience. In traditional learning instructors present content to learners in the hope that they will later be able to translate the knowledge in action. In experiential education learners are active and their endeavours taken them into real life situations. Examples of experiential education abound in all disciplines, not only the technical fields. The value of experiential education is considerable in helping with the transition from school to work. A discussion of workplace based learning as a potential strategy for incorporating the principles of experiential learning follows.

### **2.2.2 Situated/contextual learning**

Brown, Collins and Duguid (1989) maintain that the debate around learning challenge the didactic methods traditionally found in education based on the view of separate knowledge in abstract decontextualised formal concepts theoretically independent of the situations in which that knowledge is learning and used. They argue that the process by which knowledge is developed and used is an integral part of what is learned. Thus, they (1989:32) state that the situation or context can be said to co-produce knowledge through activity. Learning and knowing are thus fundamentally situated in a specific context. Thus the most appropriate instructional method is one, which incorporates the presentation of knowledge with a realistic context in which the learner can apply the knowledge. The various forms of workplace learning all provide the contextualised situated learning opportunity that increases the learner's motivation and facilitate meaning-making.

### **2.2.3 Workplace based learning**

Rapid economic shifts have given rise to considerable public concern that the educational system is unable to adequately prepare its graduates for work in the new economy. Demands for renewal are directed at the public school and at the post-secondary level including the apprenticeship system. Because of the hallmark of the emerging economy is the necessity for continual learning in the context of work, a logical implication for education and training is that young people should be given some experience in work-based learning. What is called for is not a brief exposure to workplaces or some learning by doing, but a far-reaching, extended, and well-structured work experience that is closely tied to the content of the school curriculum. In addition to addressing the needs of the emerging economy, work-based learning has immediate advantages as an efficient method for acquiring knowledge and skills. The educational benefits of work experience may also extend beyond knowledge and skills that are strictly related to work, such as work experience and interpersonal skills (Berryman, 1995). This is an additional reason to include work experience in academic curricula. Thus, if the inclusion of work experience, as a vehicle to facilitate school-to-work transition, is important to students in order to better understand abstract, theoretical ideas by applying them to practical situations, to enterprises for recruitment, and educational institutions for curricula relevance, what are the concepts and issues surrounding the concept of integrating school and workplace learning?

Alternating school with work experience assumes that the context in which knowledge and skills are applied is critical to their acquisition. The principle of alternating emphasizes the notion of “learning by doing”, but in conjunction with and informed by a theoretical understanding of the task or problem at hand. Education and work can be combined in a variety of ways. Among these are: apprenticeship, where workplace learning is complemented with regular of classroom learning. Other examples include cooperative education programs at both high schools and post-secondary educational institutions, where programs of cognitive, school-based learning are combined with practical, “hands-on” learning in the workplace. Here learners are introduced to the routines and rituals of an actual workplace and to the professional codes, values, and

norms of an occupation, and are given the opportunity to relate and apply their theoretical knowledge to real-life situations and practical problems (Schultz & Sweet 2003:5). Other examples of school-to-work strategies are found in various programs for special groups, such as youth-at-risk or the unemployed, where the emphasis is not primarily on skill acquisition per se but rather on familiarization with and socialization into the world of work. Regardless of distinctions, according to Merle (1994: 29-40) the aim of alternating school and work is to encourage individual learning, personal development, and mastery of skills by moving away from purely school-based forms of knowledge transmission and by seeking an active interrelationship between practical and formal knowledge, between the 'expertise' that develops through experience and the capacity of critical thinking that comes from school-based knowledge.

It should be pointed out that by itself workplace experience does not ensure that workplace learning will take place (Hamilton & Hamilton, 1997; 682-689; Stash & Kaganoff, 1997). If students and employers are to benefit from many of the forms of school-organized workplace experience that have been developed for learners, or to gain greater benefits from those forms such as cooperative education that have existed for some time, substantial effort must be devoted to improving programme quality. Some of the steps that need to be taken to ensure that workplace learning programmes that are managed by schools result in substantial learning by students are (OECD 2000:105)

- Workplace placements must be long enough for real learning to take place;
- Systematic analysis of the training capacity of the workplace, to see what it can realistically supply;
- The use of qualified, highly competent workers as workplace trainers or mentors;
- A formal training plan, setting out what has to be taught and learned, and clarifying the work-based and school-based parts of a student's programme.

According to Schuetze and Sweet (2003- 6-8) work-based learning can be distinguished in remedial education, work experience and systematic training. It is not the intent here

to discuss in details the first two. Suffice it to say, remedial training is aimed at those with low academic interest and/or achievement; while work experience is mainly aimed at familiarizing high school students with the routines of the workplace. However, systematic training's primary objective is the acquisition of occupational knowledge. This type is closely associated with apprenticeship training and cooperative education to a certain extent, and is seen as essential in occupations for which the workplace is, given the particular nature of the knowledge and skills required a central place of learning. Such is most obviously the case for craft occupations, "where the know-how is accorded a greater place than formal knowledge, not because the craftsperson can do without formal knowledge, but because the craft cannot be learned solely from the books" (Merle, 1994:29-40). That is not to say that this form of training is limited to trade subjects but includes others such as the academic professions, where competencies are acquired through exposures to practice and knowledge.

As a response to the need for an effective bridge between education and work, the integration of classroom and workplace-based learning holds considerable promise. Evidence of its potential to develop in learners a base of relevant and broadly applicable knowledge and skills has been documented in recent research in the cognitive sciences which focused on how knowledge is constructed and on the role that context and environment play in determining its use (Rubenson & Schuetze, 1995). This research emphasizes the physical environment and the social context of knowledge and learning as two principles of dual learning.

Raizen (1994:69-113) suggests that work-based learning is a critical factor in promoting student motivation and learning because learners in a workplace are actively involved in their own learning, even as they are provided with models of expert performance to emulate, and because instruction and learning in a workplace setting intermingle context and domain specificity and generality; most important, learners need to develop strategies for applying their competencies in a context different from the one in which they learned them, and for acquiring additional knowledge and expertise.

Linkages between education and workplace are also endorsed by Guile and Griffiths (1999:116) when they argue that there is a need to develop curricula frameworks and learning situations to encourage and enable the student to make links between work experience, its underlying knowledge and skills, and its cultural, social and technological context. The link between work and education makes the concept of school-to-work approach more than just a means of acquiring job-relevant skills and knowledge. It also involves a process of occupational socialization and contributes to the development of personal identity (Raffe 1994: 41-67).

#### **2.2.4 Apprenticeship as a school-to-work transition strategy**

Work experience can have important consequences for the ways in which people find their way into the labour market and into regular employment. Education and work can be combined in a variety of ways. While there is a need for broader definition acceptance for integrating work and learning, Barton (1996) and Wilson et al. (1996) identify a variety of work-based learning activities taking different names: apprenticeship, cooperative, internships, externships, career academics, part-time jobs, etc.

Traditional apprenticeships have three primary components: modelling, coaching and fading in which the master craftsman models real world activities in a sequence geared to fit the apprentice's level of ability. The master models expert behaviour by demonstrating how to do a task while explaining what is being done and why. The apprentice observes the master, then copies the action on a similar task with the master coaching the apprentice thorough the task by providing instant and corrective feedback. As the apprentice become more skilled in the task, the master gives more and more authority to the apprenticeship by 'fading' into the background (Johnson 1992).

Apprenticeship is based on agreements and training frameworks developed jointly by governments, employer organizations and – in most cases – trade unions; cooperative, internships, etc. are structured programmes organized by educational institutions; and part-time jobs are not connected in an organized way to students' education, and are motivated largely by people's desire for income and independence.

While the ways in which education and work are combined vary widely from one another in their nature and organization, as well as in their educational and labour market purposes, they are based on the importance of offering opportunities to combine education with work place experience. According to the Organization for Economic Co-operation and Development, this combination is important because (OECD, 2000:91):

- It can improve the efficiency, effectiveness and pleasure of learning by providing opportunities for contextual and applied learning
- It can facilitate job search, because people with job experience are believed to have acquired important generic as well as specific skills as well as positive attitudes and habits
- It can allow employees and employers to know one another. This can help job search, recruitment and retention more efficient
- Depending upon its nature it can be essential in developing expert skills that cannot be acquired, or cannot be acquired as well, in the classroom.

Apprenticeship is an industry-based basic or initial training process. By definition (Glover, 1986:50) “Apprenticeship is a work-study training scheme in which part of the training occurs on the job and part of the training occurs off the job in a classroom and/or in a workshop setting”.

Apprenticeship-type programmes involve a contractual agreement between an employer and an employee through which the employee acquires the status of “apprentice”. This agreement includes the obligation for the apprentice to participate in classroom learning during the period of the apprenticeship (generally once per year up to five weeks, for four to five years). Apprenticeship programmes are designed to equip apprentices with both generic and expert skills, which are certified through widely recognize qualifications (trades person status, Red Seal certification). During the time spent in the workplace the apprentice is expected to participate increasingly in productive work (Cantor 1995:111-127). Apprenticeship wages, usually fixed by collective agreements and provincial legislations, tend to evolve accordingly (cf 2.8). Normally the time spent in the

workplace represents a majority of the total time spent in the programme, and the time in the classroom a minority.

There are several benefits associated with this method. According to Martin (1981:34) apprenticeship training will:

- Develop and ensure a supply of trained, skilled, and knowledgeable workers and supervisors for the operations;
- Increase worker productivity and overall skills levels and versatility;
- Lessen the need for supervision of employees by developing initiative, pride of craftsmanship, speed and accuracy in work; and
- Continue to attract a constant flow of capable workers into the craft or trade.

However, apprenticeship is not without its detractors. OECD in its study of apprenticeship system across its members stated that apprenticeship is a highly diverse institution, with variations in its key features amongst its members. All of these variations affect the quality and nature of what is learned during the apprenticeship, as well as the strength of the connection between the young person and the enterprise. It goes on to say that “at its worst, apprenticeship uses young people as cheap labour in enterprises and sectors of industry which may not be viable without it, and which offer no future to the young person beyond the training period. At its best, apprenticeship produces high quality qualifications that are needed in the economy, ensures a smooth transition into regular employment and provides access to tertiary education and life long learning” (OECD, 2000:91)

### **2.2.5 Cooperative education as a school-to-work transition strategy**

Cooperative education can take many forms and its purposes can vary widely. These forms encompass a wide variety of ways in which students combine education with time in the workplace: however, the common characteristic is the educational institution’s role in organizing and monitoring it. These work experiences vary widely with respect to:

- The age at which students will participate;
- Its purpose and duration;
- The organizational and didactic linkages between learning in school and what occurs in the workplace; and
- The extent to which it is part of the regular curriculum or occurs spontaneously

The purpose of the workplace component of these forms of school-organized workplace experience can vary widely. They include: acquiring knowledge and skills needed in particular occupations; allowing skills acquired during the academic terms to be practised at work; allowing projects that require work experience to be completed; assisting career exploration and planning; developing the personal and social competence needed at work; and increasing students' motivation and academic achievement.

Thus, cooperative education is a structured method of combining academic education with practical work experience. Cooperative education places students in paid employment opportunities with participating employers as one component of their formal course of studies. In other words, cooperative education is a program which combines academic study with credit bearing, monitored work. It was established at the turn of the twentieth century as part of a movement to create experience-based education (cf 2.4). In fact, the first cooperative program looked more like what we now would call apprenticeship. The four year program which led to beginning tradesperson qualification status, began with a year in which students studied only academic subjects; in the following three years, students alternated weeks between shop and school (Bailey & Merrit, 1993).

Furco (1996) conducted a comparative study about school-to-work, service learning and cooperative education. Although school-to-work, service learning, have different goals, based on the philosophy that learners learn best through active engagement in meaningful activities, coop education (Furco 1996:7-14):

- Views of students as active learners and producers of knowledge
- Uses of such instructional strategies as contextual learning and application of knowledge to real situations
- Requires schools to establish formal partnerships with outside entities
- Is concerned with integrating school experiences and external experiences

Critics of cooperative education as a strategy for transition from-to-work cite several important differences between cooperative education and other forms of school-organized work experience on the one hand, and apprenticeship on the other. These include the lack of a contractual relationship between the student and the employer, a weaker connection between the students' school based learning and what occurs within the firm (Stern, Finkelstein & Stone., 1994), a lack of organized involvement in the design and management of the programmes by employer associations and trade unions, and the absence of recognised occupational certification. Unlike apprenticeship, where the basic design and quality control rests with industry bodies, cooperative education and similar programmes are generally initiated by the educational institution and implemented through partnerships with individual enterprises. Furthermore, critics often do not regard coop education as academically legitimate. It is viewed as taking time away from the classroom. Experiential activities are not always rewarded in postsecondary promotion and tenures systems and coop faculty may be isolated from other teaching faculty (Schaafsma 1996:85). In spite of the current pedagogical focus on contextual learning work is not always recognised as a vehicle for learning (Ricks et al 1993:10) and often it is argued that the focus is more on placements, administration, logistics and procedures rather than learning (Schaafsma 1996:87).

Supporters of cooperative education base their arguments on the fact that this form of educational program better prepares students for employment. In other words, cooperative prepares students to make a smooth and intentional transition from college/university to the workplace by providing them with opportunities to explore the world beyond the classroom. Students are placed in real-world contexts and required to

make decisions, negotiate their different roles as students and workers, develop relationships with co-workers and supervisors, take on responsibilities, and work as members of teams (Grosjean, 2003:181-183). Students are more motivated, develop greater career clarity, enhanced employability, vocational maturity and employers experience labour force flexibility, input into curricula and are better able to retain trained workers (Schaafsma 1996).

The desire to combine practical and school-based learning experiences is neither new nor original; it would be hard to find a pedagogical effort that does not share this ambition to some degree. The fact is that many training institutions are now making explicit efforts to incorporate forms of experiential learning in their curricula. Perhaps this is also in response to the fact that periods of work and learning are being spread throughout life, rather than being concentrated in distinct and separated periods: education in the period up to the mid twenties and work after that (Schuetze, 2003:77-78)

Efforts to improve transitions from school to work need to be central to education strategies that address employment issues. The process by which young people move from full-time schooling to full integration into the workforce is becoming more complex, due to underlying changes in the economy. The very concept of a transition from school to work can therefore be misleading. It may be desirable to replace it, over time, with one early stage of lifelong learning or of “learning pathways”. The transition process associated with first entry into the work force is likely to be just one of the many periods of change in people’s lives. (Schuetze, 2003:77-78)

### **2.3 HISTORICAL OVERVIEW OF THE DEVELOPMENT OF APPRENTICESHIP**

Apprenticeship is one of the oldest forms of organized education. It has been a means of passing on from generation to generation the skills and knowledge that man has accumulated. The earliest record of apprenticeship is found in the Babylonian Code of Hammurabi, about 2500 B.C., which included a section devoted to the maintenance of productive skills. Apprenticeship was also practiced in the times of the ancient Egyptians

and Greeks. During the 23<sup>rd</sup> year of the reign of Tiberius Augustus (AD 36), Thaumonium apprenticed her minor son, Onnophris, to a weaver named Abaros for a period of two years. They entered an apprenticeship contract that clearly spelled out their obligations. Onnophris was not the first apprentice, but his contract with the weaver Abaros is one of the earliest apprentice contracts that remain intact. The period of apprenticeship varied between one to five years, during which the apprentice was to carry out all duties as specified by the master. If the apprentice was absent for a period of his apprenticeship, time was added to the apprenticeship. Alternatively, the master was compensated and finally, penalties for breach of contract were commonly specified (Smits & Stromback 2001:1-2).

Apart from a small number of contracts in the first three centuries, not much is known about the apprenticeship system during the Roman period. This could be partially attributed to the fact that the Romans used slaves extensively for most of their crafts and engineering. To find out more we have to move on to the early medieval period. According to Epstein (1991:108), the apprenticeship contracts from the early medieval period have the same principle features as those from Roman times. A common expression used to specify the master's training obligation was to teach the apprentice "as is the custom". The reciprocal obligation of the apprentice to learn was usually unstated or subsumed under the serving obligations.

The earliest reference to apprenticeship in England dates from the thirteenth century (Dunlop, 1912:29). The medieval trade guilds were a means of entry into skilled trades, and were also one of the methods with which a franchise could be obtained. A guild was an association of masters in a trade that promoted the common interests of the master craftsmen. Under them apprenticeship became recognized and organized in a manner that developed skilled craftsmen and high standard of workmanship. The domestic and paternalistic plan of apprenticeship established was admirably suited to the industries of that period: they were small, local and carried out on a home-basis. The employer was responsible not only for the class training of the apprentices who lived with him, but also for their education, morals and general conduct. The period of apprenticeship was long,

sometimes up to ten years, and as a rule no wage was paid. In fact, in most cases, the parent of the apprentice paid the employer a premium (Dunlop, 1912:30).

Very rigid control was exercised by the guilds. In effect, they had an effective monopoly on the trades they represented. They could prevent non-members from practicing a trade, restricted admittance to their ranks and enforce a code of behaviour among their members. They often prescribed common terms for apprentice contracts, played a role in enforcing these terms, limited the number of apprentices a master could employ, supervised the training of apprentices, regulated the transfer of apprentices between masters and limited membership of the guild to those who and undertaken an apprenticeship (Smits & Stromback 2001:6).

In general, the British guild system broke down in the sixteenth century owing to its monopolistic control, the great expansion in trade, and as a result, a development of a national instead of a local concept of industry. The end was marked by the passing of the Statute of Artificers in 1563, inaugurating a system of state control, which was to last for a long time (Davies, 1956:271). In 1814 the Statute of Artificers was repealed, and since then the apprenticeship in the United Kingdom has been a voluntary basis. In summation, apprenticeship has passed through a number of stages or systems of “control” which can be classified as follows (Smits & Stromback 2001:1-26):

1. Local customs up to 1100 A.D.;
2. Guild control – 1100 to 1560;
3. State control – 1560 to 1814;
4. Free control – 1814 to 1920;
5. Cooperative control – 1920 to present date

### **2.3.1 Early apprenticeship training in Canada**

In Canada vocational education in general and apprenticeship in particular, has varied in response to major waves of industrialization and initiative emerging from the private sector and from provincial and federal governments. Apprenticeship training in Canada appears to date from 1668, when Bishop Laval opened two trade schools in St. Joachim

and Quebec City. After a short expansion of trade training by French colonists towards the end of the seventeenth century, educational expansion came to a virtual halt for the next hundred years. The Education and Support of Orphan Children Act of 1779 was among one of the first pieces of legislation dealing with the provision of formal apprenticeship in Upper Canada (Weiermair, 1984:4). He suggests that this act is interesting in so far as it shows the prevailing perceptions regarding vocational education in general and apprenticeship training in particular by states that (1984:4):

For, as distinct from Europe or Japan, but similar to the United States, apprenticeship historically has been considered in Canada as a welfare or social policy measure directed at society's marginal or outcast elements such as orphans Young people with criminal records and slow learners

These perceptions, in the context of social and education policies, have changed only marginally over the past 200 years. Today, apprenticeship is still considered the lowest form of training.

Prior to 1928, apprenticeship in Canada presented a rather sorry picture and, except for scattered plans carried on privately by industry, notably the Canadian National and Canadian Pacific Railways, was a neglected field, at least so far as governmental interest and support were concerned (industry depended largely on immigration from Great Britain and other western European countries, for its skilled craftsmen). Unions began to attack these private, informal apprenticeships. These attacks were based on good reasons such as the exploitive hiring practices of most employers who blatantly hired apprentices as a form of cheap labour into lengthy company programmes, which, in fact, offered little real training. Consequently, unions either opposed apprenticeship training or, in the case of the International Typographers' Union countered with their own training programme (Weiermair 1984:8-9).

The Canadian Building Association in Ontario must be given the credit for the first modern government legislation and assistance. Financed and operated jointly by the employers and unions an experimental plan of apprenticeship was established in 1928 and carried on as a demonstration. This resulted in the first genuine Apprenticeship Act

in Canada applicable to building trades only. There was provision for levying an assessment against employers to help defray the cost of class training of apprentices for two months in each of the first two years of apprenticeship. However, this development did not produce an increase in training and number of apprentices. First, the initial programme director was not a supporter of any apprenticeship training. Consequently he was not supportive of this programme. Secondly, and perhaps more significant, the onset of the depression dealt a grave blow to apprenticeship training in Ontario and at the start of World War II, only a few hundred apprentices existed in Ontario (Weiermair, 1984:15).

Apprenticeship training did not expand significantly during the war years. Most of the training was carried through the War Emergency Act of 1940. Through the influence of the Vocational Training Coordination Act of 1942, which allowed the federal Department of Labour to negotiate individually with the provinces for the development of funding of vocational education, federal-provincial apprenticeship training agreements were set up (Glendenning, 1968:7). The agreements were for a ten-year period and required each province to have an apprenticeship act. As a result, New Brunswick, Manitoba, Saskatchewan and Alberta introduced new apprenticeship legislations by the end of 1944. Under this federal-provincial agreement, there were also certain standards prescribed to which each provincial apprenticeship act had to conform if federal financial assistance was to be given. According to the Government of Canada (1953:13), the key standards were as follows:

1. Apprenticeship must be in a skilled trade requiring at least 4,000 hours of employment;
2. A written indenture;
3. A fixed scale of wages;
4. A definite length of apprenticeship;
5. All apprentices must be registered and supervision must be given by the province; and

6. A schedule of practical training and provision for technical class instruction.

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. According to Young and Machinski (1974:29), given the lack of appropriate training facilities, the federal government also began to subsidize the expansion of vocational schools, technical colleges through the Vocational Schools Assistance Agreement in 1945, which was renewed in 1950 and revised in 1954.

Today, the standards expected by the federal government in order to continue with apprenticeship training financial support, have not changed. At the time of writing, apprentices are still expected to train a minimum number of hours, a written indenture is still required, wages are predetermined, etc. Naturally there are differences amongst the various provinces, i.e. wage scales; however, fundamentally all the provinces follow these standards (Cf. par. 2.8).

### **2.3.2 Post-war apprenticeship training in Canada**

Real apprenticeship training only started after the end of the war. This claim seems to be supported by the number of registered apprentices, as reported by Young and Machinski (1974:30), which jumped from 412 in 1944-45 to 13,426 in 1959-60. First, in many instances, these higher numbers were simply derived from existing economic circumstances. Second, governments had to cope with the re-integration of war veterans into the work force, a secular rise in school from secondary schools, and inadequate and insufficient schooling facilities. The response of the federal government to these structural problems, which manifested themselves in growing unemployment and skill shortages was to induce more occupational training and retraining according to a system by which varying amounts of provincial training outlays were refunded. In addition, high levels of immigration, stemming from liberal immigration policies, closed a large proportion of the existing skills gaps (Young and Machinski: 1974:30).

Apprenticeship training in the sixties is a continuation of the policies, both provincial and federal, of the fifties. However, the only significant difference from the previous decade rests with a large expansion in both vocational and general schooling. Two pieces of legislation typify this expansion: the Technical and Vocational Training Act (TVTA) of 1960 and the Adult Occupational Training Act (AOTA) of 1967. The TVTA Act provided federal aid on a share-cost basis to institutions, assisted in training the unemployed, and stimulated the retraining of those whose jobs became obsolete. The AOT Act announced the termination of the shared-cost relationship under TVATA and substituted instead an agreement to purchase occupational training for adults under the terms of the AOT Act. (Young and Machinski, 1974:37-38). The AOT Act incorporated four major changes: (1) it was not a shared-cost program; (2) it included only transitional arrangements for capital grants and a provision for long term loans; (3) it was confined to adults; and (4) living allowances were paid to trainees (BC Ministry of Education, Science & Technology 1979:17). These two pieces of legislations, stimulated by economic conditions, did recognize the need for a more coordinated and comprehensive approach in vocational education. Despite the massive injections of capital into vocational training through the TVT Act, apprenticeship training remained a secondary source of skilled labour supply throughout the sixties (Young and Machinski: 1974:37-38)

The seventies started with a combination of high labour force growth and recession both in 1971 and in 1974, which produced high rates of unemployment particularly among the youth labour force. Direct subsidies given by the federal government for the institutional portion of the apprenticeship training, the provision of training allowances and the reduction of the three year labour force participation requirement to one year led a gradual increase in apprenticeship registration and enrolment in the seventies from 13,558 in 1971 to 24,535 in 1974 (Young & Machinski 1974:30). However, these were only palliative measures and failed to address the more fundamental issues of apprenticeship training relevance and responsiveness.

During the eighties, once again, serious questions were raised about the relevance and responsiveness of the Canadian apprenticeship system. A survey conducted by Statistics

Canada on behalf of the Department of the Secretary of State showed that many apprentices failed to complete their training programs (Canada Statistics 1990: 3-7). During 1986-87, about 50 thousand apprentices withdrew from Canadian apprenticeship programs either as graduates (completers), or as dropouts (non-completers). The distribution of those who left apprenticeship programs in 1986-87 was 59.4 per cent of completers, and 40.6 per cent for non-completers. This survey also provided an insight into four major reasons why non-completers terminated their programs. First, 17 per cent complained that the subjects covered in the classroom (curriculum relevance) were not particularly relevant to the skills required to do the job. Second, 16 per cent stated that not enough skills were taught to fulfill the trade requirements. Third, 11 percent lamented inadequate or limited equipment and last, 8 per cent complained of insufficient hands-on classroom work (Canada Statistics 1990: 3-7). The survey was limited to information on program leavers over a very narrow time horizon; consequently, the survey did not provide any indication of the dynamic relationship between apprenticeship training and changing market conditions. The conclusion was, surely, inescapable: the system was not satisfying the needs of a large percentage of its users.

The nineties saw a re-evaluation of vocational education and particularly apprenticeship training across the country and around the world for that matter. Many of the myths and misconceptions held by educators and politicians, institutions, or society, in general, went through a serious re-examination. According to Packert (1996:682):

Schools and industries together are only beginning to realize the potential bonanza of using apprenticeship to fill the labour void that is not metaphorically around the corner, but already here in the 1990s. Technology has all but eliminated unskilled labour position, while the need for semiskilled and highly skilled grows. Unfortunately, schools and training programs have fallen short of providing the technically trained workers who are now in demand. As the present labour force ages, trained new employers to take those workers' places are increasingly in short supply. Where will the trained workers come from?

Bailey (1993:4) suggested that:

By the early 1990s, youth apprenticeship had become one of the hottest topics in educational reform. Many policymakers and scholars made the pilgrimage to

Europe to study apprenticeship systems there, returning with reports of serious youth hard at work learning to be skilled workers and responsible adults.

At the same time, demands for highly skilled workers in Canada and in North America in general, began to increase. Lower rates of skilled worker immigration throughout the nineties on account of unavailability from traditional European countries of emigration, increasing wages and wage differentials for highly skilled workers and declining enrolment in universities did provide additional market pressures for more industrial skill training such as apprenticeship training. Wright, Belcourt and Young (1996:19) found that:

Until recently, it was cheaper for companies to hire skilled immigrants from Europe than to train apprentices. Current trades in our labour market, however, are creating new demands. All sectors in North America industry will need to focus attention on training skilled workers; apprenticeship training is one of the most viable options.

In the broadest terms, one might ask whether fundamental shifts in the occupational and skill mix of employment wrought by technological change will be best addressed by the existing apprentice system. According to Wright et al (1996:20):

Despite a resurgence of interest by governments, much of North America's apprenticeship system remains antiquated. Outmoded legislation, outdated curricula, poor pay for teachers, or archaic entry and completion regulations and low prestige entry modes still combine to discourage many young people from considering careers in the skilled trades. New thinking may be required to realign vocational education into a more culturally acceptable format.

Looking back at 2000 years of history of the apprenticeship system, it is not the changes but the enduring sameness that is most striking. The apprenticeship contract still in use in most provinces in Canada bears a strong resemblance to Onnophris's contract to Abaros (Cf. 2.3). Today, Canada does not have guilds but unions, admittance is restricted by union membership, common terms for apprentices are specified by bargaining units and collective agreements, and the number of apprentices a qualified journeyman can train is specified by both provincial legislations and collective agreements, (Smits and Stromback, 2001:29-31).

Apprenticeship is an important component of the ‘learning continuum’, but it has serious problems. In many respects it is an anachronism, geared more to the industrial needs of the 50s than those of the 90’s or the new century (Sharpe, 2003:256-258). Nowhere in Canada has the occupational structure of the apprenticeship system evolved to match a labour market that is being transformed by new technologies and by new ways of organizing work. Then, in seeking new experiential learning strategies to facilitate the transition from school to work, variations to the existing apprenticeship model are long overdue. Cantor commented (1991: 28)

The cooperative apprenticeship idea is a new twist on cooperative education and work-based learning programs. At the same time it bears a strong resemblance to the traditional apprenticeship.

The question of value of a significant experiential learning component in the education and training of young persons appears to be no longer part of the debate. Instead, the words figuring predominantly in current debates are: knowledge transfer, cooperative education, revival and re-engineering of apprenticeship training. If anything, the tone of this debate suggests that the value of practical training is being reasserted. This practical training can and does take many forms. However, the need to ensure that both employer and trainees have strong incentives to teach and to learn will no doubt mean that apprenticeship training and cooperative education will remain two important modes of practical training (Schuetze, 2003:69-80).

## **2.4 HISTORICAL OVERVIEW OF THE DEVELOPMENT OF COOPERATIVE EDUCATION**

The concept of cooperative education can be traced back to the development of “sandwich” courses in England. In 1903 Sunderland Technical College was the first to offer sandwich programs in engineering and naval architecture programs. In the middle of a course of studies, learners experienced substantial work period of 18 months for a four-year program and 12 months for a three-year program. The educators who initiated these programs reasoned that traditional forms of learning that stressed theoretical

knowledge alone were insufficient in preparing students for the working world. No further significant expansion of the method occurred until the late 1950s, when the College of Advanced Technology started the expansion of sandwich courses (Turner & Frederick 1987:69).

Cooperative education is over one hundred years old in North America. It has evolved from the experimental idea of a man, Herman Schneider, implemented in a single university, into a well tested and well regarded approach to education, adopted by many of North America institutions of post-secondary education. Schneider was a civil engineer who earned his degree from Lehigh University in 1894 and became an instructor there in 1899. In 1903, he moved to the University of Cincinnati as a professor of civil engineering and later became Dean of Engineering. Ryder (1987:4) suggests that Schneider was an excellent academician but he had a very practical side as well developed as a small boy while working on his father's farm.

Precisely when his conception of cooperative education took shape, and what the causes behind it were, is not known. It seems clear, however, that it was the confluence of his earlier practical experience and his canny sense of observation as a teacher that gave rise to the idea. His idea was really based on two observations. First, there were a number of topics in teaching engineering that simply could not be adequately taught in an academic setting. Second, most students were working part-time to earn money to cover their tuition fees and living expenses and usually the work they performed had no relationship at all to their fields of study or to their future careers. Although convinced more than ever of the value of relating work and study, Schneider still did not know how to go about it. Park (1943:44) describes the event as follows:

One evening, after teaching hours, Herman Schneider was pondering this question while he walked across the Lehigh University campus. Suddenly, he was startled out his reverie by the blast of a Bessemer converter at a nearby steel plant. In that moment, an idea came to him that offered a possible solution to his problem. Here was a huge modern industry existing side by side with a university – a vast industrial laboratory filled with the latest, the most expensive equipment, made to order for his scheme of training

Thus the concept of cooperative education came into being. Lehigh University turned down Schneider's plan to join academic training with industrial experience, combining theory with practice, and it was not until 1906, while teaching at the University of Cincinnati, that Schneider finally was given permission to start a voluntary program that formally linked work and education (Ryder, 1987:5). The University of Cincinnati, Engineering Faculty, has the historical distinction to be the first post-secondary institution in North America to have launched the first cooperative program. This program alternated two groups of students between classroom study and academic-related work on a weekly basis. The program was successful, but only a handful of institutions followed suit. Substantial growth did not occur in the U.S. until the 1960s, when Washington became increasingly receptive to the notion of funding cooperative education (Wolldridge 1987:19).

When or whether cooperative education in the U.S. would have been initiated had it not been for Herman Schneider is a debatable point. As is the case with any innovation, though, it is unlikely that it could have happened in the absence of influences in the environment. Changes in U.S higher education had been occurring for half a century, rendering higher education in the beginning of the twentieth century a very different enterprise from that which existed prior to the Civil War. Science was flourishing and its impact was immense. The idea of applying scientific methods of investigation to all spheres of life was taking a strong hold on persons outside the scientific community who sought ways of applying these methods of inquiry in quest for knowledge through experimentation. The chief proponents of this new pragmatic approach were William James, Charles Pierce, and John Dewey (Ryder 1987: 7).

Dewey, in particular, had great influence upon educational thought and practice. In discussing Dewey's vision of transformative education, Saltmarsh (1992:6) stated:

Dewey's philosophy emerged during the late 19<sup>th</sup> and early 20<sup>th</sup> century at a time when the root assumptions of Anglo-Saxon social theory challenged the selfish individualism, social dislocation and cultural fragmentation associated with industrial capitalism. Technological innovation and economic aggregations fueled the discovery of increasing interdependence of individuals and institutions.

In other words, one of Dewey's central beliefs was that people learn from experience and from doing. In Dewey's words (1949:7) " ...there is an intimate and necessary relation between the processes of actual experience and education". Schneider embraced this philosophy and this led him to believe that if you want to educate a student to become an engineer, then an academic institution should provide that student with the opportunity to practice being an engineer. It was the acceptance of this philosophy that created an environment in which cooperative education could and did take root in North America institutions of higher education. The essence of cooperative education is that it is a strategy to provide students with experiences that are applicable to their future working lives and to their roles as informed, responsible citizens.

The cooperative education model first introduced at the University of Cincinnati was adopted by of educational institutions in the States for engineering programs offering an alternating pattern of study and work, and required an additional year for graduation (Ryder 1987:8). This mode of cooperative education is sometimes referred to as the classical model for cooperative education and basically remained unchanged until 1970, when, with the growth of the community college and their adoption of cooperative education came the parallel scheme which was better suited the needs of older students, which they particularly attract (Wilson 1987:34). In a parallel scheme, students typically attend classes full-time in the morning and work part-time in the afternoon (fifteen to twenty-five hours per week).

In 1921, Antioch College was the first liberal arts college to adopt the cooperative education model as college educators truly believed that it was important for all liberal education students to have real-life experience outside campus life as this would facilitate the acquisition of a clear understanding of contemporary society issues. The introduction of cooperative education in liberal arts was very significant as it demonstrated that cooperative education had applicability to fields of study rather than engineering only, to female as well as male students (Ryder 1987:9). This event paved the way for the very broad application of the cooperative education plan that exists today in North America.

However, cooperative education is not without its critics. According to Noble (in Saltmarsh 1992:10)

That professional engineers in the new science-based industrial corporations sought to bring both the form and the content of that education in line with what they perceived to be the immediate personnel needs of industry and the long-range requirements of controlled corporate development

Saltmarsh (1992:196) supports Noble when suggests that cooperative education was embraced by educational institutions and industry not so much because of its academic value but rather as a means to satisfy the needs of a growing and demanding industry looking at educational institutions as a source of skilled engineers in order to meet their manpower requirements.

In spite of these criticisms, cooperative education has grown in both in number and in application, in field of studies and in constituency. Its mode of operation has been modified to meet the particular needs and conditions of the institutions that have adopted.

Baker-Loges and Duckworth (1991:253) stated that:

The development of America's human capital for the future is dependent on a better quality education, both academic and technological...  
Cooperative education is the only collaborative program that has a successful track record of involving business, industry, and education in joint training efforts

Davis (1971:145) suggests that experiential learning opportunities have existed, in various forms, in many American universities since 1906 and that cooperative education has proven to be an attractive alternative to traditional classroom instructions and as such it has provided many students with an alternate learning experience designed to integrate their academic learning with practical learning opportunities.

Taylor (1995:24) suggests that the economy in the United States has had significant impact on the world of work, which, through various reengineering phases, continues to face constant changes and challenges and it has become more high tech. Because of the rapid pace of these changes, traditional classroom instruction does not fully prepare students with the necessary skills and knowledge to meet the challenges they will face

upon entering the world of work. He embraces cooperative education as an experiential model of learning that will better prepare students for the transition between school and the workplace.

## **2.5 COOPERATIVE EDUCATION IN CANADA**

Cooperative education is widely used in the educational fields around the world and Canada is no exception to this. Cutt and Loken (1995:95) found that:

Expansion of cooperative education systems in Canada in recent years demonstrates the interest shared by many countries in cooperative education as an educational strategy. In Canada, from 1978-1991, the number of post-secondary institutions offering programs increased from 21 to 85 and the number of students increased from 13,000 to 43,000

In Britain and the U.S., cooperative education began through institutional initiatives (cf para 2.2). The same cannot be said of Canada. According to Lebold, Pullin and Wilson (1990:10) in this country, businessmen and industrialists spearheaded cooperative education saw the need for more science and technology graduates. Canada's first cooperative education program was developed in the Kitchener-Waterloo district of Ontario. In the 1950s that area had a rapidly growing diverse economy made up of manufacturing, business, and insurance industries. The only post-secondary institution in the region was a Lutheran seminary college. Local businessmen felt a technology-oriented university was essential to meet the needs of the community. Many of these businessmen had been transferred from corporate offices in the U.S. to subsidiary companies in the area, and some were familiar with America cooperative education practices. The concept appealed to them as the best means of ensuring that graduates met the requirements of industry. They examined several American cooperative universities and decided to create an institution dedicated to scholarship in science and technology with cooperative education as a central component in its scheme of operation. In July 1957 the first 75 cooperative students – all in engineering – were admitted to the new institution that later became the University of Waterloo (Lebold et al, 1990:11).

At first Waterloo's program ran on a quarterly basis, resembling an American model that was then deemed most successful. In the process of implementing this model, many shortcomings were immediately apparent: teaching terms were inadequate, student travel costs were too high, and employers were reluctant to employ and train cooperative students for such a brief period. Waterloo revamped the entire system by introducing a trimester pattern with alternating four-month periods of academic study and relevant work experience, which has become the model, in Canada, for all the university and some of the colleges cooperative programs. Employers of cooperative students judged the cooperative concept to be a success. Students were well received and given practical and challenging learning situations during their work terms. Supervisors of students became aware they had a unique opportunity to be part of the educational process of future leaders of Canadian industry and business (Lebold et al 1990:10).

While the Waterloo program was different in structure from the American model, they had a significant factor in common. They both granted academic credits to students undertaking cooperative work experience. To the extent that early programs had required students to participate in cooperative work to earn a degree, it can be said that they gave credit for cooperative experience. (Wilson, 1987:35-36). Specific academic credits, however, were only awarded for the traditional academic portion of the program. Academic credits were now specifically given for the work-term portion of the program as well. It should be pointed out that credits were not given for pedagogical reasons only, as there are strong indications that the predominant reason for the wide adoption of this practice was probably economic. The institutions found their cash flow disrupted when students left campus for cooperative work experiences and could not be counted as students for fiscal purposes. The only way these students could be counted would be if they earned academic credits. The practice still continues today. However, the positive aspect of this practice is that the award of credit is the province of teaching faculty, so teachers had to be brought into the cooperative education process, to assess student learning and to determine the appropriateness of credit. (Lebold et al, 1990:10-11)

Approximately ten years after the first program was initiated at Waterloo, other universities and colleges recognized the success of cooperative education and began

programs of their own. According to Tausig (1980:2) in 1966 the Université de Sherbrooke, in the province of Quebec, started cooperative programs in engineering and business administration. Three years later Memorial University in Newfoundland, the University of Regina in Saskatchewan, and Mohawk College in Ontario had begun cooperative education programs in engineering and industrial management technology, and in the same year the Technical University of Nova Scotia began a cooperative program in architecture. When BC institutions began offering cooperative programs for engineering students – in 1975 at the University of Victoria and Simon Fraser, and in 1978 at the University of British Columbia – cooperative education was available throughout Canada, from coast to coast (CAFCE, Table 2.1).

In the mid-1960s, a number of Canadian provinces began to establish community colleges. These colleges were designed both to serve an expanding college-age population that could not be accommodated by traditional universities and to answer the growing need of business and industry for persons with specialized skills, particularly in areas of rapid changing technology. Thus, participation in higher education increased from 9.7 percent in 1960 to 28.3 percent in 1988 (Canada 1990: 13). To help accomplish these purposes, many of the new colleges adopted the cooperative system. In 1985, the Canadian Association for Cooperative Education (CAFCE) listed forty institutions offering cooperative programs. Of these, twenty-three were at the university level while seventeen were at the college level (CAFCE 1991:iv).

The economic recession which began in the early eighties created a climate favourable to the concept of cooperative education. A decline in resource-based and primary manufacturing industries combined with expansion in trade, finance, and service industries led to dramatic changes in the economy's employment/occupation mix. As unskilled and low-skilled jobs phased out, leaving these workers unable to command the high wages of the past, new jobs were created in low-paid service occupations, or in managerial, professional and technical occupations that required post-secondary education. Participation in higher education increased significantly from 9.7% in 1960 to 28.3% in 1988 (Canada - Department of Secretary of State 1990:3). The student profile changed over the years: students are now older and more career-oriented; they want

curricula that will advance their career goals or help them get a better job. Thus, the number of post-secondary institutions offering cooperative education has grown from forty institutions in 1985 to seventy-two colleges and universities in 2002 (CAFCE 2002: Table 1).

In Canada the provincial governments have responsibility for education, while the federal government is concerned with employment issues. This means that cooperative education programs can count on receiving federal funds only to the extent that the programs are explicitly related to resolving human resources issues. In 1977 Employment and Immigration Canada introduced a financial program that gave institutions a financial incentive to begin offering cooperative education programs. This start-up funding was provided to institutions, on a matching basis, for only the first four years of the program (Schuetze, 2003:78). In 1983 a second federal funding program administered by Employment and Immigration – Canada, the Employment Career Access program, included a school/work component that reimbursed companies for employing students. As these examples suggest, the federal government can be an important catalyst in developing cooperative programs and in the general funding of postsecondary education (Turner and Frederick 1987:57).

In the meantime, provincial governments were less enthusiastic in diverting education funds from traditional methods of education to cooperative. A noticeable exception was, and still is, the BC Provincial Government. In 1986, the British Columbia Ministry of Advanced Education, Training and Technology established the British Columbia's Small Entrepreneurial Cooperative Education Grant Program in order to provide financial assistance to employers hiring cooperative students. Thus, the number of cooperative students in British Columbia doubled during the period 1986 to 1988 and again between 1988 and 1991 (BC Cooperative Advisory Committee 1992:3). The program is still in place, however, not without changes to its guidelines. Initially, the funds given to each institution in BC could only be used to "subsidize" student placements. University and colleges began to lobby the government to allow them to divert some of the funds in covering the cost associated with running cooperative programs. They were successful in achieving their goals and at the time of writing, the funds have been rolled into the

colleges and university base funding process, and it is up to the discretion of senior management of each post-secondary institution how they wish to spend these funds (Ministry of Advanced Education 2002).

The growth in the number of institutions and students participating in coop was also influenced by increased employer participation. The number of institutions offering the cooperative option has more than tripled since 1979 and the number of cooperative students rose to almost 73,000 during the same period. This dramatic growth is outlined in Table 1.

Nevertheless, there is still an entrenched attitude of many educators who tend to view education in traditional terms and are still suspicious of a method that considers work an integral element of education. Opposition still exists against the introduction of cooperative in apprenticeable trade programs where the traditional and time-based method of training apprentices is still viewed as the most effective method and that the cooperative model is simply a component within the apprenticeship system ( Weicker 1996:v).

**Table 2.1**  
**Canadian Association for Cooperative Education (CAFCE)**  
**Post-secondary cooperative student enrolment numbers**  
 (Numbers based on CAFCE member institutions only)

Colleges/Institutes 38		Universities 49	
<b>Post-secondary cooperative education student enrolment</b>			
Province	College/Institute	University	Provincial Total
Alberta	1,244	2,792	4,036
British Columbia	2,470	9,870	12,340
Manitoba	567	360	927
New Brunswick	458	806	1,264
Newfoundland	470	2,250	2,720
Nova Scotia	468	2,284	3,352
Ontario	17,966	19,443	37,409
Prince Edward Island	500	125	625
Quebec	0	8,494	8,494
Saskatchewan	763	969	1,732
Yukon	53	-	53
<b>TOTAL</b>	<b>24,959</b>	<b>47,993</b>	<b>72,952</b>

**Source: Canadian Association for Cooperative Education (CAFCE)**  
**2001-02 Cooperative Education Directory**  
**Statistics reflect CAFCE Member's 2001-02 Enrolment**

### **2.5.1 The role of the Canadian Association for Cooperative Education**

Post-secondary education in Canada is unique in several ways. Although many miles separate us, and each has province its own post –secondary education ministry, the cooperative community interacts under one umbrella - the Canadian Association For Cooperative Education (CAFCE). This association began in 1973 as an informal group of 15 representatives from cooperative institutions across the country, and was officially incorporated in 1976, nineteen years after the beginning of cooperative education in Canada. Its purpose is to act as a forum in which educators may unite to assist one another, foster high quality education, and develop a uniform approach to meet the needs of employers. Membership is voluntary, though all cooperative practitioners have joined CAFCE from its inception.

CAFCE’s definition of cooperative education (CAFCE: 2002:1) is:

Cooperative education is a program that formally integrates a student’s academic studies with work experience with participating employers. The usual plan is for the student to alternate periods of experience in appropriate field of business, industry, government, social services, and the professions in accordance with the following criteria:

1. Each work situation is developed and/or approved by the cooperative education institution as a suitable learning situation;
2. The cooperative student is engaged in productive work rather than merely observing;
3. The cooperative student receives remuneration for the work performed;
4. The cooperative student’s progress on the job is monitored by the cooperative educational institution;
5. The cooperative student’s performance on the job is supervised and evaluated by the student’s cooperative employer;
6. Time spent in periods of work experience must be at least thirty percent of the time spent in academic study.

The above criteria are integral to the operational definition of cooperative education in Canada. Institutions must meet these standards in order to be recognized as offering cooperative programs and profit from the government funding, when available, and status in the business community that cooperative institutions receive.

In Canada, all cooperative programs listed with CAFCE, are institution based. That is to say, institutions have revised their programs in order to incorporate the cooperative option. The concept of employer-based cooperative education is one that has been tabled by some corporations. It is unlikely that this concept would become generally accepted throughout Canadian economy (Lebold et al 1990:11). It should be noted that all cooperative institutions in Canada are publicly funded and it is improbable that many corporations would be willing to bear cost of creating private cooperative institutions.

CAFCE has always enjoyed employer support and involvement. The reasons include a shared belief that a centralized body promoting standardized procedures is essential for maintaining cooperative's reputation for excellence. Cooperative employers established a CAFCE Standardization Committee to make similar, wherever possible, campus recruiting process, work term evaluations, and work term ethics for employers, institutions and students. This ensures employers' participation over student placement and performance. However, the individual institutions have overall control of these procedures, and their methods of operation determine the quality of the cooperative program.

According to Lebold et al (1990:7)

as cooperative education grew in Canada, so did the need for CAFCE to maintain its responsibilities and services to its membership. From the beginning, all cooperative institutions from coast to coast have joined CAFCE. This put the onus on the Association to be current and responsive to many different membership's needs

The strength of cooperative education in Canada is evident. This observation is based on the increasing number of institutions offering cooperative education and the increasing number of students enrolled in cooperative. National commitment through CAFCE and

the federal and provincial levels of governments, the support of employers, and the maintenance of quality education through standardization will guide the course of cooperative education in the new millennium.

## **2.6 FEDERAL AND PROVINCIAL INITIATIVES IN SUPPORT OF SCHOOL-TO-WORK TRANSITION IN CANADA**

In Canada, there are 12 education systems – one for each province and territory – and no formal mechanism to bring national coherence. The only exception to this is the Red Seal applicable to some trades certification. A Red Seal means that trade qualifications granted in one province are recognized across the country (Canada – Human Resources Skills Development, 2004).

Education, secondary and post-secondary, is jealously guarded and is an exclusive provincial/territorial jurisdiction, and the federal level has no direct role and no federal Ministry of Education (Canada, 2004:1). Mainly responsible for labour market policies, the federal government has developed programs aimed at the youth population, sometimes looking for the cooperation of the provinces, sometime moving ahead with little respect to provincial sensitivities. de Broucker (1999:133) presents trends in educational developments, as they relate to the issue of transition into the world of work and the direction of provincial federal intervention into two groups: federal policies for transition and provincial policies for transition.

Through out the years, the federal government has developed several programs to assist students in transition from school to work. Youth was identified as one of the priority groups targeted for training dollars through the Canadian Job Strategy (CJS), and adults requiring skill upgrading and training in order to re-enter the work force or to seek better employment were also targeted by numerous financial assistance programs ranging from wages top –up, to employment insurance benefits while in school, to wage subsidies to employers willing to provide employment opportunities (de Broucker ,1999:135-136).

The federal government in 1985 introduced the Canadian Job Strategy and under the CJS program access to training was determined on a case-by-case basis by Canada

Employment Centre counselors in consultation of the individual. Using predetermined guidelines, the counselors determined which type of training was the most suitable, based on the individual's aspirations, abilities, education background, and the requirements of the labour market (de Brouker, 1999:135-136). In reality, labour market requirements and course availability were the major determinants in the orientation on an individual to a training program. CJS has had and continues to have significance influence of some of the programs that have replace it since the early 90s. Despite some success in getting unemployed youth and unemployed adults back to work, these government programs remained reactive measures: people must have failed in the system, meaning i.e. of work for a certain period, before training becomes available (de Brouker, 1999:134-136).

The cooperative education option began in 1985 as a component of the Job Entry Program within the Canadian Job Strategy, and then moved as a component of the Employability Improvement Program. The option was intended to promote the concepts of cooperative education as a strategy for transition from school to work. Post-secondary and secondary schools were eligible to submit applications for grants of up to \$200 000 over four years in order to set up a cooperative programs which would adhere to the Canadian Association for Cooperative Education “ (CAFCE) guidelines (CAFCE, 1995). Successful applicants were expected to match federal grants such that their contribution was equal to 60% of the grant. Since the decrease and eventual elimination of federal funding (1996), colleges and universities throughout Canada have shut down nearly 400 cooperative programs, and countless other cooperative programs have been marginalized, to the level of job-placement programs, in their institutions. Although the number of cooperative programs have decreased, the number of students placed in cooperative education jobs – about 250 000 each year – has not decreased (Pettit, 1998).

However, the federal commitment to cooperative education is still evident in the development program of Indian and Northern Affairs Canada (1997), and in Human Resources Development Canada's (HRDC) sponsorship of specific programs, albeit at the post-secondary level. (Canada-Indian and Northern Affairs, 2004)

The educational systems in every province have undergone significant changes, varying from revamping grade12 curricula, to a complete overhaul of the apprenticeship system

in Ontario, to redesigning apprenticeship training in British Columbia – work in progress. The restructuring of the economy is increasing the pressure on education to provide more relevant skills and making the identification and prediction of the required skills more difficult (de Broucker, 1999:133-135). Each of these pressures poses similar challenges in every province. All provinces have only recently recognized this commonality of intent. This factor led to the establishment of the Council of Ministers of Education, Canada (CMEC). The goal of CMEC is to develop national standard tests and looking at ways to facilitate students transition from school to work and at ways to facilitate mobility of students between provinces. British Columbia, Alberta, Manitoba, Quebec, and New Brunswick are the provinces demonstrating the most comprehensive strategy and commitment to improving school-to-work transitions. In these provinces, heavy importance has been attached to expanding vocational programs, new trades apprenticeship, high school apprenticeship programs, cooperative education and technology programs (de Broucker, 1999:133-135).

## **2.7 TRANSFERABILITY OF TRADE QUALIFICATIONS IN CANADA**

Apprenticeship programs are generally administered by provincial and territorial departments responsible for education, labour and training (under the direction of the provincial and territorial Director of Apprenticeship) with authority delegated from the legislation in each province and territory. The programs are supported by a network of advisory bodies, such as Apprenticeship and certification Boards, Local Advisory Committees and Provincial Advisory Committees. Industry-driven provincial and territorial training boards are major policy-making and governing bodies for apprenticeship training relating to recommendations of trade designation, curriculum requirements and regulatory aspects of trades and occupations. (Canada – Human Resources Skills Development, 2004).

“Designation” refers to occupation classifications. Occupations are classified as either compulsory or voluntary. Generally, compulsory occupations require workers to be certified and/or registered as apprentices in order for them to ‘work in the trade’. Voluntary occupations do not require workers to be registered in order to practice in the trade. However, often these occupations will also have certification and apprenticeship to

indicate the level of competency the holder. (Canada – Human Resources Skills Development, 2004).

Formalization of apprenticeship training under provincial legislation took place at varying times throughout the country. In many cases it was done with little or no reference to procedures in neighbouring provinces, resulting in the development of separate and often different systems of training and certification. The difference in the provincial apprentice training systems was no more evident than when a committee of provincial/territorial directors of apprenticeship met to discuss the mutual recognition of certificates, and to exchange information on training programmes. A comparison table, where by the details of the provincial/territorial programmes could be compared, was developed by the committee. Upon Mr. Ellis’ retirement in 1972 the Federal Manpower Training Branch undertook to continue the updating and publishing of the table under the title "Ellis Chart" given to it by the members of the committee of provincial territorial directors of apprenticeship. This paved the way for the transferability of qualifications amongst the provinces and territory. (Canada – Human Resources Skills Development, 2004).

The transferability of trades qualifications across the country is regulated by what is commonly referred to as the “Interprovincial Standards – Red Seal” program. The Red Seal program was established to provide greater mobility across Canada for skilled workers. Through the program, apprentices who have completed their training and certified journeypersons are able to obtain a “Red Seal” endorsement on their Certificate of Qualification by successfully completing an Interprovincial Standards Examination (Canada - Human Resources Skills Development 2003).

The program encourages standardization of provincial and territorial apprenticeship training and certification programs. The “Red Seal” allows qualified trades persons to practice the trade in any province or territory in Canada where the trade is designated without having to write further examinations. The Ellis Chart is a comparative chart of apprentice training programs across Canada produced by Human Resources and Skills Development Canada (HRSDC) in partnership with the Canadian Council of Directors of Apprenticeship (CCDA). It is the only document of its kind in Canada that allows an

interprovincial overview of the 13 Canadian apprenticeship systems. It represents a key product that provides governments, industry and educational institutions with data on more than 200 designated trades, more specifically on training, certification, education/entrance requirements and prior learning assessment and accreditation process. (Canada – HRSDC, 2003)

An Interprovincial Standards Red Seal can be obtained in the trades designated as Red Seal by (Canada – HRSDC, 2004):

- Either graduating from a recognized provincial or territorial apprenticeship training program or by obtaining a Journeyman level certificate from a province or territory; and
- Passing the Interprovincial Standards Examination for that trade.

## **2.8 PROVISION OF APPRENTICESHIP AND COOPERATIVE EDUCATION BY PROVINCE AND TERRITORY**

This paragraph recognizes that apprenticeship comes under provincial jurisdiction and that apprenticeship systems vary greatly by province and territory both in their rules and regulations and in their importance. For this reason, it may be misleading to speak of a common and consistent national apprenticeship system in Canada. Nevertheless, many or most provinces are experiencing similar trends in their apprenticeship programs, and it is useful to conduct an analysis of these trends at the provincial and territorial level, recognizing of course, that not all provinces may be experiencing these trends. (Canada – HRSDC, 2004) Apprenticeship training in British Columbia, as one of the key foci of the thesis, is covered in a separate paragraph (cf 2.10)

As suggested, the apprenticeship system is under provincial jurisdiction, and enrolment in apprenticeship programs varies greatly by province (Table 2.6).

**Table 2.2**  
**Trends in apprenticeship in Canada**

	<b>Registrations</b>	<b>% of total registrations</b>
Ontario	64,997	34.43
Alberta	40,023	21.20
Quebec	36,026	19.08
British Columbia	20,645	10.94
Saskatchewan	6,669	3.53
Nova Scotia	4,341	2.30
New Brunswick	4,010	2.12
Manitoba	4,672	2.47
Newfoundland	6,263	3.32
Prince Edward	401	0.21
<b>Canada</b>	<b>188,776</b>	<b>100.00</b>

Canada: Statistics, 2003

### 2.8.1 Newfoundland and Labrador

In Newfoundland and Labrador apprenticeship training is provided in a wide variety of trades. Apprenticeship programs generally last between two to five years, depending on the skilled occupations and related experience, with an average of 85% of the apprenticeship spent in the workplace, the rest is spent at training institutions. Each year, approximately 600-700 apprentices are registered (Newfoundland & Labrador – Institutional and Occupational Training Division: 2004). The apprenticeship is administered under the authority of the Apprenticeship Act and the Apprenticeship Board is the body responsible for the development of appropriate legislation and policy that establish standards, regulations, operational methodologies, and protocol. The Board looks for advice and guidance from groups associated with each occupation that have intimate knowledge of most matters pertaining to that occupation (Provincial Advisory

Committees). (Newfoundland & Labrador - Institutional and Occupational Training Division :2004)

### **2.8.2 Nova Scotia**

In Nova Scotia, the Apprenticeship Training and Skill Development Division administers the Apprenticeship and Trades Qualifications Act and General Regulations and is responsible for the development and maintenance of apprenticeship and certification examinations. Nova Scotia's apprenticeship training system has evolved as a partnership with employers, employees, and government. Publicly funded training institutions (Nova Scotia Community College and University College of Cape Breton) are key participants in the system (Nova Scotia - Department of Education, 2004). Similar to many other provinces across Canada, this province supports the administration of the apprenticeship program through a network of offices across the province. Standards for apprentices are extended beyond Nova Scotia's borders through the Red Seal Program.

### **2.8.3 New Brunswick**

In New Brunswick, an apprenticeship program is comprised of progressive on-the-job training as well as technical (in-school) training that culminate in recognized certification. About 80 percent of an apprentice's training takes place on the job; the remaining 20 percent involves technical training at a post-secondary training establishment. Depending on the occupation/trade chosen, the apprentice will be involved with on-the-job training for a period of four or five years. The required hours of training for each occupation/trade are defined by regulation under the Apprenticeship and Occupational Certification Act. On-the-job training is done at the employer's place of business where the apprentice performs progressively challenging prescribed tasks under the supervision of a journeyman. A Progress Record Book identifies the tasks that must be performed on the job by the apprentice. The Progress Record Book also records the progress of the apprentice through the apprenticeship program. Qualified instructors provide the technical training. In most instances, depending on the apprentice's occupation/trade, this training is provided at one of 11 New Brunswick Community

Colleges (New Brunswick - Department of Training and Employment, 2004). At the end of the apprenticeship program, the apprentice is required to write the final examination. Upon the successful completion of this examination and by satisfying all other requirements of the apprenticeship agreement, the apprentice will be issued a Diploma of Apprenticeship and a Certificate of Qualification, both signifying journeyman status. These documents are recognized across Canada. (New Brunswick - Department of Training and Employment, 2004)

#### **2.8.4 Prince Edward Island**

Prince Edward Island (PEI) is the smallest of the Canadian provinces both in size and population, 135,294 residents (Statistics Canada 2001). The province of Prince Edward Island's apprenticeship program combines on-the-job training under the supervision of a qualified journey person or trades person and classroom training at a post-secondary educational institute. On average, 80% of the apprentices 1 to 4 years are spent in the workforce and 20% is spent at, or through a post-secondary training establishment. Depending on the trade, training is usually provided through Holland College, or an off-Island technical institute (PEI - Department of Education, 2001).

#### **2.8.5 Quebec**

In Quebec, 'La Belle Province', the mandate of the *Direction de l'Apprentissage* (Quebec - Apprenticeship Branch: 2004) is to promote the development and recognition of the competence of the workforce to answer the needs of the labour market by managing the Qualification Plan, the Apprenticeship Program and Regulated Professional Qualifications; and Interprovincial Standards "Red Seal" Program (Sceau Rouge). (Quebec - Apprenticeship Branch: 2004)

The 'Programme d'apprentissage en milieu de travail' (Workplace Apprenticeship Programme) is based on acquiring and recognizing skills and leads to obtaining a professional Certificate of Qualification given by Emploi-Québec and recorded in a government register. It is an on-the-job training process that allows the paid apprentice to master the occupation under the supervision of an experienced worker, the journeyman,

who passes on his or her knowledge and experience in a real work environment. Employers upgrade the skills of their employees and may be eligible for a tax credit that funds a portion of the training expenses (Quebec - Ministère de l'Emploi, 2004).

### **2.8.6 Ontario**

Ontario is the industrial and economic capital of Canada. About 90 per cent of apprenticeship employers or sponsors who provide training to standards of skill provide training in the workplace and safety set by industry. The remainder involves classroom instruction on theory, which is usually given at a local community college or provided by another approved training organization. The interesting development in Ontario is the new Cooperative Diploma Apprenticeship Program, which provides a direct path for young people interested in pursuing apprenticeship training and obtaining a college diploma. This year the program will help 194 young people train towards careers in skilled trades such as general machinist, tool and die maker and cook and machine tool builder and integrator.. The program creates a new pathway to obtain apprenticeship certification and a college diploma. It also creates a smoother transition between apprenticeship training and college certificate, diploma and other postsecondary credential programs. In addition to trades training, students in the Cooperative Diploma Apprenticeship Program also receive instruction in entrepreneurship. Many apprentices go on to set up their own business once they become certified skilled workers. The Ontario government is planning to extend the program to provide access to a greater range of trades programs (Ministry of Training, Colleges and Universities: 2004).

### **2.8.7 Saskatchewan**

Forty-nine designated trades and approximately 5200 registered apprentices comprise the apprenticeship and trade certification program in Saskatchewan (June 30, 2003). Forty-four of the designated trades are voluntary apprenticeship trades where apprenticeship training is encouraged but not required in order to work in the trade. Apprenticeship training is compulsory for individuals working in the refrigeration, electrician, plumber and sheet metal worker trades. Apprenticeship training consists of several levels of training and apprentices generally enrol in one technical training course per year. The

majority of technical courses are offered through the Saskatchewan Institute of Applied Sciences and Technology (SIAST). Training is also contracted through private training providers and some trades training takes place in other provinces. Technical training usually occurs in blocks of time six to ten weeks in length. In participating trades, completing apprentices and holders of provincial/territorial Journeyman Certificates of Qualification can challenge an Interprovincial Standards "Red Seal" examination. If successful, a "Red Seal" is attached to their provincial Journeyman Certificate of Qualification. Workers at the journeyman level are then qualified to work in their trade in any participating province/territory where the "Red Seal" designation is recognized. The Apprenticeship and Trade Certification Commission administers the apprenticeship program. Trade Boards and the Curriculum and Examination Development Boards provide industry relevance, and validate apprenticeship training and trade certification (Apprenticeship and Trade Certification Commission, 2004).

### **2.8.8 Manitoba**

Manitoba's apprenticeship system is not significantly different than the apprenticeship training systems seen so far. In order to become an apprentice, the candidate must be working in a provincial apprenticeship designated trade and have an employer who can give the apprentice on-the-job training. Training varies from two to five levels depending on the trade (Advanced Education and Training, 2004). The apprentice spends about 80% of the time learning from an employer with the remainder (20%) at a technical institute, usually four to ten weeks. Apprentices who have successfully completed all levels of apprenticeship training receive a Certificate of Qualifications with most trades having Red Seal status. (Manitoba – Apprenticeship: 2004)

### **2.8.9 Alberta**

Alberta trains and certifies trades people through the province's apprenticeship and industry training system. Like any other apprenticeship system across the country, this is a combination of on-the-job-training, work-experience and technical training. Through the Registered Apprenticeship Program (RAP) students can even start their training while

they are still in high school. Regardless of trade or when they started, apprentices are always paid for their work. Their pay increases as training progresses. As of 2002, there are 45 trades for which Red Seal endorsements are available (Apprenticeship and Industry Training, 2004).

### **2.8.10 The Yukon**

The Yukon represents 4.8% of Canada's total land area. Of the ten provinces and three territories, the Yukon is the ninth largest with only the four Atlantic provinces being smaller. The Yukon has a population of 29260 (Yukon Government, 2002). Apprenticeship is a training program combining both on-the-job and in-school technical training. Employers provide employee apprentices with hands on trade experience under the supervision of certified trade(s) persons. Advanced Education Branch provides for the registration, monitoring, arranging of in-school technical training, and coordination of an individual's apprentice training in any of the apprenticeship occupations in Yukon.

Any Yukon resident who is 16 years of age and who meets the academic requirements for the particular occupation as prescribed by the Yukon Apprentice Training Regulations.

Apprenticeship training duration is variable, two to four years in length, depending on the individual's previous experience and training, and the requirements of the particular occupation (Department of Education, 2004). Yukon College is the only provider of apprenticeship training.

### **2.8.11 The Northwest Territory**

The Northwest Territories occupy a land mass of 1,171,918 square kilometres with a population of 41,839, approximately half of the population been aboriginal, thus nomadic and hunters in nature (Northwest territories Government Census, 2003). Because of the limited population, in-school training for Carpenter, Heavy Equipment Mechanic, Housing Maintainer, first and second level Electrician, first and second level Plumber and Oil Burner Mechanic Special for Plumber/Gasfitter is provided through Aurora College, Thebacha Campus. Other technical training takes place in Alberta, Manitoba and New Brunswick (Education, Culture and Employment, 2004). In the Northwest Territories it

will probably take from 2 - 4 years to complete an apprenticeship, depending on the trade. Each level of apprenticeship takes approximately one 12-month period of not less than 1800 hours of employment including the time spent at technical training. A person may be eligible to receive credit for trade-related experience, or for completion of trade technology programs, which could shorten the term of the apprenticeship.

Lastly, British Columbia while subscribing to the general principles of apprenticeship training has yet to clearly redefine the training requirements for each compulsory trade in the province. The evolution of apprenticeship training in British Columbia is discussed in the ensuing paragraph.

## **2.9 APPRENTICESHIP TRAINING IN BRITISH COLUMBIA**

Apprenticeship training in British Columbia has always been characterized by the integration of on-the-job training and experience with annual periods of institutional instruction of about four to six weeks in duration. These periods of institutional instruction occur on a “block day-release” basis, that is, the apprentice takes a single four or six week block of time out of his regular employment to attend classes during a regular school day.

During the depression years of the early 1930’s, there was a large expansion of government training for the unemployed. By 1935 the Province of British Columbia had passed the Pre-Apprenticeship Act that provided training for people intending to enter trades served by an apprenticeship program. The Federal Unemployment and Agricultural Assistance Act of 1937 expanded the availability of this training and resulted in the establishment of further training projects (Grasley 1977:13).

The war years witnessed another expansion of training programs (between 1939 and 1945) to meet the new industrial and military requirements. The Youth Training Act (Canada 1940) provided funds to cover the cost of sustenance allowances and traveling expenses.

The post-war period, 1946-1959, saw important developments in the involvement of provincial governments in their specific vocational education programs and policies. In the early fifties, legislation was passed, not necessarily stimulated by federal government interest, to increase facilities and promote participation in a variety of vocational fields. In the late fifties, when a demand for trained manpower became prominent throughout Canada, the federal government entered into an agreement with the provinces and Territories in undertaking programs of technical and vocational training and in providing training facilities (Young & Machinski 1974: 34-35). One of the agreements that the Province of British Columbia was quick to ratify was the Training Apprenticeship Agreement of 1954 that provided the provinces with limited capital expenditures and institutional operating costs. This money allowed the province to purchase the army trade school that was established in Nanaimo and converted it into the first provincial vocational school in British Columbia. The original heavy-duty diesel and automotive workshop provided the needed facilities to offer pre-employment programs in auto mechanics and heavy-duty mechanics. In the years that followed, additional dormitory facilities and a large welding shop were added (BC Ministry of Advanced Education and Training 1979:2).

Due to the great need in the Vancouver area for additional training facilities, money was set aside under the terms of the Vocational and Technical Agreement of 1957 in order to acquire a 40-acre block of crown land in the Municipality of Burnaby to accommodate buildings designed to provide trades occupational training. In the interim period, temporary facilities were secured at the Pacific National Exhibition (PNE) grounds. At the end of 1959 the first of the new buildings on the Burnaby site were made ready for occupancy with the remaining facilities completed in early 1960 with the official opening of the school on 29 June 1960. It was named the British Columbia Vocational School – Burnaby (BCVS) (BC Ministry of Advanced Education and Training 1979:3-5).

The year 1960 was an active one for vocational education and apprenticeship training in British Columbia. The 1960 Chant Report, named after the commission's chairman, recommended the reorganization of the public school system and recommended the establishment of regional vocational institutions located at the focal points around the

province (BC Ministry of Labour 1960). As previously suggested, all federal-provincial activities in the field of apprenticeship training were grouped under the Technical and Vocational Training Assistance Act. This act (1960) was comprised of two agreements: the Technical and Vocational Training Assistance Agreement (10 programs to encourage post-secondary technical training, some oriented to special target groups), an Apprentice Training Agreement (50% cost sharing), and a Capital Expenditure Program (Canada 1960). The latter had the most significant impact on British Columbia, as it provided the stimulus for the construction of technical and vocational schools, including the British Columbia Institute of Technology adjacent to the Pacific Vocational Institute - formerly known as BCVS (Grasley 1977:15). In 1986, these two institutions were amalgamated into one administration and became known as the New British Columbia Institution of Technology (BCIT).

In 1967, the federal government passed the Federal Adult Occupational Training Act. This act did not provide for further capital for facility expansion, but provided assistance to people enrolled in technical and trades training. This assistance was under the form of a living allowance at rates designed to offset the loss of income while in full-time attendance at a provincial institution. Travel allowances, living-away-from-home allowances, and commuting allowances were also paid. There were several eligibility criteria that trainees had to in order to qualify for assistance: be one year beyond the school leaving age, not have attended a school full-time for the preceding year and have a three year prior labour market attachment. Less than a third of the apprentices in British Columbia were eligible due to the labour force attachment rule (Ruttan 1970:23).

### **2.9.1 Report of the Commission on Vocational Technical and Trades Training in British Columbia (1977)**

The last twenty-five years have been particularly significant in the history of apprenticeship training in British Columbia. In 1976, the British Columbia Department of Education (DE) and the Department of Labour (DL) announced the appointment of an advisory commission chaired by A.J. Blakeney, to study and report on vocational, technical, and trades training in British Columbia. More specifically, the mandate of the

commission was to conduct an examination for the government on methods of improving the scope and effectiveness of technical and vocational training in British Columbia. DE and DL published the Commission's report in January 1977; this report was based on the results of hearings held around the province, interviews with individuals, and briefs received from interested parties. According to the Commission's Report (DE &DL 1977:13):

Public response was greater than expected, 200 briefs being received from concerned citizens, educational institutions, trade unions, employer associations, businesses, and corporations. The wide range of responses demonstrated that the subject of inquiry was important to youth, parents, teachers, tradesmen, employers, doctors, nurses—indeed, to all segments of the community. There is no doubt that training for employment is an issue of deep concern to the average citizen as well as to industry and government.

Members of the Commission also had the opportunity of visiting some European countries. They drew comparisons with the European training systems, specifically with the apprenticeship training systems in existence in the United Kingdom and West Germany. The apprenticeship time requirements in order to become fully qualified were found to be shorter, i.e. 33 months in West Germany, and that the increased classroom training resulted in reduced time to achieve journeyman status (DE&DL 1977:27).

The report failed to clearly identified some of the shortcomings of the West German system (DE&DL 1977:5)

The main concerns of the submissions had to do with improving the organizational structure to meet the challenge of a growing system, while continuing expansion of the system to meet the current needs of workers and industry. It is therefore proper to state that the system of vocational education training in British Columbia certainly ranks high among the better systems in North America, and, indeed, compares very favourably with facilities and programs offered in other parts of the world. Despite the successes, however, we are duty-bound to record the fact the system is showing serious signs of strain, perhaps owing to rapid and somewhat uncoordinated growth in the last decade. Further, there is a growing appreciation among the public of the importance of vocational training within our total education system. This demands that we continue to improve, coordinate, control and expand the vocational training system to keep pace with the changing requirements of society

The Commission grouped its recommendations as: most critical, another major recommendation and other recommendations. The most critical recommendation was the establishment of an occupational training council, comprised of representatives from industry, labour, education, Canada Manpower, and the general public with the responsibility to for negotiating with the provincial government an annual budget based on multi-year planning and training program for the provision of vocational training (DE&DL 1977:43). This recommendation was based on the rational that, in order to introduce additional pre-apprenticeship classes, in response to a request from industry for more apprentices in a designated trade, the requesting party had to go through a nine-government-agency approval process, any one of which could have had a valid reason for delaying or stopping the process. The process had to be streamlined.

The major recommendation was (DE&DL 1977:44) that:

The proposed new British Columbia Occupational Training Council establish occupational counselling centers throughout the province; and that these centers provide information and guidance on vocational programs (selection procedures, entrance qualifications, and course prerequisites), as well as on the labour market (current or future demand for specific occupations).

The other recommendations dealt with student concerns (tuition fees, housing needs, and training and travel allowances), operational problems of the colleges (lags in approving programs, capital maintenance and replacement, decentralization of training, vocational curriculum relevance, and financing).

While most of the recommendations put forth by the Commission were implemented in the latter part of the seventies to various degrees of success, the report failed to explore training methods or even variations in the lengths of apprenticeship training in order to facilitate the acquisition of journeymen status. The report clearly stated the Commission's reluctance to suggest major changes by saying (DE&DL 1977:46):

A system designed to produce skilled tradesmen through a combination of school training and on-the-job training over four years cannot be shut off and turned on. The demand for skilled workers in the labour force is a variable quantity dependent on the level of economic activity at any given time. The supply of

youth seeking enrolment in training programs will decrease if present population trends continue. It is of particular importance that labour and management work together with government to obviate any suspicion that either party is deliberately attempting to upset the planned-for equilibrium and thereby gain an unfair bargaining position. Moreover, it must be appreciated that these efforts have to be continuous and of long-term nature to ensure continuing benefit and the attainment of a high level of sophistication.

### **2.9.2 “The Future of Apprenticeship” report (1984)**

Factors commonly associated with the economic slow down of the early eighties, raised once again questions about the validity of the apprenticeship training system in British Columbia. The Provincial Apprenticeship Board (PAB) – Ministry of Labour, whose establishment was one of the recommendations of the 1977 report (cf para 2.7.1), commissioned a study of the future of apprenticeship training. The purpose of the study was to assess the relevancy of the existing apprenticeship system in meeting British Columbia’s trade skills needs, and to determine its future needs. In 1984, a report titled the “The Future of Apprenticeship” was presented to the Minister of Labour, Province of British Columbia. In its opening remarks, the reports identified three major reasons behind the need for the study: decline in number of apprentices, economic recession of the eighties and its implications on training, impact of technological changes on the trade training. On the declining number of apprentices, the reports stated (PAB 1984:3)

The questioning coincided with a decline in the number of apprentices indentured who now stands at about 12,000, or about 1% of the work force. The decline began in early 1982 with the worldwide economic recession and its substantial impact in British Columbia. Five years ago, when British Columbia’s economy was strong, the apprenticeship system’s ability to meet a rising trade skills demand was tested. The principal challenge was to attract more candidates to apprenticeships, particularly in trades critical to industrial growth. By and large, the system met the challenge. The number of apprentices indentured in the province grew to a peak – in January 1982 – of 18,922 representing 1.8% of the workforce.

On technological changes (PAB 1984:3)

As the number of apprentices being laid off grew, the Board began to hear people ask whether apprenticeship remained a cost-effective method of skills training.

Some questioned whether apprenticeship remained valid at all in the face of technology on the workplace and on the tools used in training.

Overall, the Board found the apprenticeship system was valid and meeting the expectations of all the major stakeholders in the province. The Board, in its view, reported that (PAB 1984:5)

- Apprenticeship remains a valid skills training system, valued by employers and individuals. It will have a long future in British Columbia.
- The present Apprenticeship System is fundamentally sound.
- At this time, the system is generally meeting the trade skills needs of employers in the province.
- For individuals in the apprenticeship system, the training is satisfactory and is doing a sound job of providing them with the desired trade skills.
- The product of the system, on the whole, is excellent; the quality of journeymen certified through British Columbia's formal apprenticeship training programs is second to none.
- The present apprenticeship system is capable of adjustment to meet future requirements of individuals, employers and the province as a whole provided all parties carry out their roles and responsibilities effectively.

With such glowing endorsement of the existing system by a Board whose very own existence was based on the existence of the system itself, one must raise some doubts on the validity of its findings and recommendations. After all, in the Board's own words (PAB 1984:6)

Will the system train enough people to meet the trade skills of the province?  
Clearly, the system trains well and it can train enough. The question is: will it?  
The Board's recommendations are aimed at making the answer "Yes"

Thus, the majority of recommendations were aimed at ensuring the status quo and that sufficient numbers of apprentices were train in the future in order to meet industry needs.

PAB suggested to the Ministry of Labour the idea of developing a mechanism for the establishment of cooperative training programs designed to assist individual small business which may require skilled tradesmen and who may not have the financial means to do a great deal of training (PAB1984:19). It should be pointed out that the Board's concept of cooperative training did not refer to trades cooperative education as a new alternate training method. Rather, it referred to the creation of pools of employers who would provide training in a cooperative effort, which would facilitate effective training by rotating apprentices among the participating employers. The intent was to produce journeymen with well-rounded on-the-job experience.

In fairness to the report, it also supported the notion of change, not only in terms of how the system dealt with the changing demand, but in the type of delivery system (PAB 1984:30).

The Board also recognizes that the present apprenticeship system, while fundamentally sound, may have to be augmented in future to meet the province's skills training needs. It believes it is timely now to look at alternatives to and variations from the structured, supervised and regulated learning process of formal apprenticeship, including such things as simulated practical skills training.

However, when the report dealt with recommendations for new methods of training, it once again praised "the perfections of the system" by stating that, while technology was indeed changing, apprenticeship training was strong and meeting the needs of industry (PAB 1984:30)

An analysis of the legislations and past practices in British Columbia seem to suggest that this province has taken a conservative approach to delivery of trades training. The recession of the early eighties, the onset of rapid technological change, the growing dissatisfaction of employers and students with the existing apprenticeship system, which began to manifest its self in the early nineties, triggered the beginning of an irreversible change in the way apprenticeship training will be delivered in British Columbia. The references to flexibility and alternate methods of delivery in the report may have been the first steps toward a paradigm in thinking about apprenticeship training. Indications at the time of writing suggest that the process is well under way, but yet not complete. The

dawn of possibly a new era in trades training was heralded by the passage of Bill 34 in 2003 by the Ministry of Advanced Education. (Ministry of Advanced Education: 2003).

### **2.9.3 Bill 34 and The Industry Training Authority Act (2003)**

In 1996, the British Columbia Ministry of Labour published a document titled “Revitalizing Apprenticeship: A Strategic Framework for BC’s Apprenticeship Training System”. A discussion was presented in Chapter I (cf 1.1.1). What is pertinent here is to examine the document’s vision and conclusion (BC Ministry of Labour 1996:1). The vision is presented as follows:

The vision: an industry driven apprenticeship training system that is responsive to economic change, accessible to all motivated individuals and integrated with other learning systems.

Its conclusions are stated as follows (BC Ministry of Labour 1996:13):

Realizing the vision set forth in this framework hinges on the commitment and cooperation of all apprenticeship system partners. The vision builds on the traditional strengths of apprenticeship in developing a skilled workforce and combines it with current strategies to meet the changing labour market requirements of industry. At the same time, the framework reflects the need to improve apprenticeship training through increased efficiencies and innovative programming. It presents an important opportunity to enhance a training system that has a proven ability of matching skill sets with employer needs. It further presents an opportunity to strengthen the learning partnerships necessary to sustain apprenticeship well into the next century.

An analysis of what transpired after these announcements indicates that very little did happen in terms of innovative training approaches to a traditional system basking in its former glories. The only tangible result was the formation, in 1997, of the Industry Training and Apprenticeship Commission (ITAC). ITAC did indeed replace the Ministry of Labour-Apprenticeship Board but in name only. ITAC continued to support existing apprenticeship practices and continued to be reluctant in giving credit for documented previous work experience and technical training gained outside the traditional apprenticeship system.

Yet, it is interesting to point out that, the existing BC Ministry of Labour, ITAC (2002:1) Web site repeatedly quoted the “new model” as the way to do business in the future

How will the new model be more flexible, efficient and responsive to industry needs? A Transition Advisory Committee will be providing recommendations on the implementation of the new model to ensure it is responsive to industry needs. The goal is to focus on outcomes not processes and to develop a system of credentialing that is based on demonstrated competencies rather than time in the trade.

The same document stated (BC Ministry of Labour, ITAC 2002:5)

What does the new model look like? Under the new model, there will be clear roles for industry, apprentices/trainees and government. Industry will play a lead role in moving towards a training system that better meets sector needs and will validate standards for trades credentials that reflect workplace requirements and needs. Apprentices will have greater responsibility for their training and government’s role will be limited to standards and credential.

The British Columbia Provincial Government passed Bill 34 entitled the Industry Training Authority Act in 2003 (BC Ministry of Advanced Education 2003) and as a result of Bill 34 coming the law, the BC Ministry of Advanced Education announced a strategic shift in its way of doing business, which will eventually lead to a new approach to industry training and apprenticeship in British Columbia. As a result, ITAC was phased out with a Transition Advisory Committee in place whose mandate was to provide recommendations on the implementation of a new model to ensure it is responsive to industry needs.

A deeper examination of this document suggest that the new provincial Liberal Government, traditionally not supportive of the labour movement and unions in this province, has clearly removed labour and unions influence on apprenticeship training. This observation is based on the following facts:

- In the future the government will not be providing counsellors, no indenture agreements, no monitoring of workplaces, no imposed ratios of apprentices to journeymen, no imposed wage increments;

- The new model will be driven by industry sectors not trade focus groups
- The new model will have a more streamlined process that is less time based and puts more choices in the hands of the employer and the apprentice, and not the unions and their collective agreements;
- The role of the government will be to set standards, issue credentials and funding.

The Industry Training Authority (ITA) has now replaced the Transition Advisory Committee, and as the legislated responsibility to govern and develop the industry training system in BC, ITA is to work with industry, people who are pursuing training, and training providers to develop approaches that will effectively meet industry-training needs, now and in the future as “Improved approaches to skills training will position BC for economic success, and provide opportunities to individual British Columbians” (ITA, 2004:1). Some trades and industry occupations in British Columbia are facing skills shortages that have the potential to limit the growth of specific industries and the provincial economy. The ITA aims to address this challenge by increasing the number of people in industry training by 30 percent over the next three years, as well as by improving completion rates and creating greater flexibility within the industry training system

To date, three sets of training pilot projects were recently selected and funded by the BC Ministry of Advanced Education, and are now at various stages of implementation and evaluation. These projects were selected from among a large number of proposals received. ITA is in the process of assessing the outcomes of these pilots, and determining which concepts and approaches are most consistent with the new approach to industry training in BC. Selection criteria for the first set of pilot projects centered on demonstrated industry partnerships, likelihood of employment for those completing the training, and the meeting of regional or provincial needs. The second set focused on projects that employ the concept of competency-based assessment, and the third on the development of secondary school programs that facilitate a transition to industry training (ITA, 2004).

One of the pilot projects currently been assessed by ITA deals with automotive apprenticeship training. The Ministry of Advanced Education provided Metro College and the Automotive Retailers Association with \$50,000 for a pilot project that would look at alternative ways to deliver training. The project began with a survey of apprentices and employers to find out what wasn't working for both groups under the current apprenticeship system. Responses indicated that (ITA, 2004) a major stumbling block for some employers and apprentices is the six-week training period that takes place each year of a four-year apprenticeship. Every time an apprentice leaves for training, the employer's business is disrupted. A temporary replacement may be needed, and hiring and orienting such a person is time-consuming. Responses also indicated that the six-week blocks of training also inconvenienced apprentices. Although they can receive employment insurance, their income drops, and they may also have to change arrangements like car pools. In some cases, they must leave home for the six weeks, with the extra expenses that incurs. Three of every four employers responding to the survey said they would be willing to take on apprentices if they did not have to lose them for six weeks each year. And 44 per cent of apprentices and entry-level students said the disruption of the current system could cause them to abandon their apprenticeships. Of apprentices surveyed, 83 per cent said they would be willing to take their training during evenings and weekends (ITA, 2004).

Based on these responses, Metro College designed an alternative model of modular training for automotive apprentices. Instead of blocks of six weeks, training would be done through three-hour evening classes twice a week, with the occasional six-hour Saturday. Apprentices would work during the day, practising what they had learned at night. This format also integrates the practical aspects of technical training gained on the job during the day, so that the classroom time can focus more on theory, with practice at the worksite and assessment based on competency. Because the modules, with a few exceptions, can be taken in any order, apprentices can opt for a particular module to complement what they are working on during the day. The modular training materials can be added to or updated easily so content remains current, and outdated material can be deleted as vehicles with old technology leave the road. The Automotive Retailers Association (industry) will review program design, theory exams and practical

assessment processes developed for the project, while Metro College will assess automotive technician competency. Participants who may come from entry-level trades training, high school, apprenticeships in other trades, or other countries will have their practical and theoretical knowledge assessed and will be assigned a skill level based on current industry standards (ITA, 2004).

What conclusions can be derived from Bill 34, and ITA's communications and projects? Clearly, Bill 34 is an enabling rather than a regulatory legislation, which is designed to place more responsibility and greater decision-making power in the hands of industry and apprentices. Industry will have a more active role through participation in sectoral activities rather than program specific advisory committees. Industry will have a strong saying in what to teach, how to teach it and when or what types of credentials will be issued.

Apprentices will choose where and when they want to undertake training. However, this flexibility has a price as apprentices are now expected to share a greater share of the costs associated with their training (cf 3.6).

Apprenticeship training, when feasible, will be modularized. Apprentices will be able to earn certificates for specific skill sets as they progress towards full credentials. An apprentice can qualify as a framing carpenter, for example, before learning the all the skills needed to complete his or her carpentry apprenticeship. In the past, if apprentices did not finish their apprenticeship, they ended up with no qualifications at all, even if they acquired considerable expertise in some areas.

Clearly, ITA views modular training as a bridge to transferability of credentials as skills and knowledge learned in one trade can be applied to another, from millwright to machinist, without having to repeat unnecessary training. The intent here is to have a more streamlined training so employers can have access to more workers with the right skills for the market and tradespeople can further their careers. In summary, ITA is looking at using a variety of training methods in order to increase access to trades training and to increase the number of semi or qualified people available to industry.

Is the door open for cooperative education? British Columbia's post-secondary institutions involved in trades training have a golden opportunity to use the cooperative education methodology for innovative, relevant and more responsive trades training. Will they take the challenge?

## **2.10 CONCLUSIONS**

This chapter has traced the conceptual foundations, origins and evolution of apprenticeship training and cooperative education and their interaction in the training of apprentices. It has also traced the provision of the school-to-work strategies in Canada on federal and provincial levels with special reference to British Columbia.

Cooperative education in North America originated in the idea of one man, a changing society that expected and demanded a more educated citizenry and a changing system of post-secondary education that became involved in the training needs of industry. It started as a single program at the beginning of the century and has grown in number, in application, in fields of study, and in constituency. Its mode of operation has been modified to meet the relevant needs of the institutions that have adopted it. Integration of academic and vocational curriculum, work-based learning in enterprises outside the school, all blur the conventional boundary between education and work. Cooperative education is a learning process that links education to the workplace. Though most Western countries have educational practices that integrate classroom study with work experience, in North America this process is formalized: programs are approved by the institutions and meet national standards, and students alternate between periods of full-time instruction and periods of full-time, salaried work on a year-round basis. The emphasis on full-time experiential learning in both educational institutions and the working world distinguishes cooperative education from other work experience initiatives that combine part-time on-the-job training with part-time classroom learning. Cooperative education in BC is varied and serves a varied student population. These two facts attest to the adaptability of cooperative education to a broad range of institutional settings and conditions and to its appropriateness to varieties of students with widely differing academic and career interests. This adaptability, in turn, is testimony to the

strength of cooperative education as an instructional strategy. Diversity of programming is indeed a principal characteristic of cooperative education in BC. Beneath this diversity, however, one finds a conceptual core, which is shared by all who engaged in this form of education. All are committed to the proposition that important learning can and does occur outside the classroom; they all believe that the workplace provides an environment for important learning and that students performing productive work is an excellent means for achieving that learning; and they believe that work experience must be viewed as an integral element of the students' educational program. Hence, we find that cooperative education in Canada holds firmly to the concept of integrating work and study but implements that concept in diverse ways, appropriate to the nature of the institution, economic constraints, and to its student body.

Apprenticeship, much like cooperative education, is one of many school-to-work transition programs sponsored by public and private educational, governmental, corporate, and small business institutions. The apprenticeship system is timeless and international in character. It is, or has been, and it will be in one form or another, the major form of entry-level training in a large number of countries in Europe, North America and Australia.

Apprenticeship has remained the principal route for the training of skilled blue-collar workers. Problems and tensions have occurred and the relevance of apprenticeship under modern conditions has been repeatedly questioned. While the essence of the apprenticeship system has not changed significantly throughout the centuries, this is not to say that changes have not taken place. The largest change to the apprenticeship system has been the increased regulation of the system. This regulation has taken many forms: legislative backing from private or public organizations to administer the apprenticeship system, union collective agreements, guidelines or syllabuses for both the provision of on- and off-the-job training, system for monitoring and assessment of training and certification of training. In the twentieth century the main issue was vocational education to complement the practical on the job training. More recently, the long time serving nature and union involvement in apprenticeship training have both been

challenged, first by industry, by advocates of more flexible training delivery methods, and more recently by the British Columbia Provincial Government through Bill 34.

BCIT has been able to integrate apprenticeship training and cooperative education successfully since its first trades cooperative program in 1987 and continues to follow its initial course of action by introducing cooperative education in more apprenticeable trades programs. Chapter three will provide an overview of the various providers of school-to work transition in BC with special reference to BCIT. It will offer an insight into the educational and financial reasons why BCIT decided to adopt cooperative education into the electronics two-year diploma program in 1984 and then expand it into other technology and trades programs.