

CHAPTER 1

BACKGROUND TO THE STUDY, PROBLEM FORMULATION AND AIMS

1.1 INTRODUCTION

During the past twenty years, educators, students, employers and government representatives have discussed, written about, and sought innovative approaches for easing the transition from school to work. Schools are not able to teach students everything they will need to know for their working lives and thus a multiplicity of educational arrangements are used to facilitate the transition (Grohn, Engestrom & Young 2003:6). Most formal programs of vocational education have built-in sequences of internship or apprenticeship and work practice during which effective learning occurs as an outcome of genuine participation in meaningful activities in the workplace. As a longstanding practice of the school-work transition apprenticeship has been defined in various ways. According to Thompson and Hobermon (1990:7), “apprenticeship is one of many school-to-work transition programs that enables individuals to combine full-time on the job training with a formal related academic and occupational education.” In the Canadian context in which the study is situated, Human Resources and Skill Development - Canada (2003:1) defines apprenticeship as “a proven industry-based learning system that combines on-the-job experience with technical training to produce a certified journeyman. Apprenticeship is an agreement between a person (an apprentice) who wants to learn a skill and an employer who needs a skilled worker - earning while learning”. This contract is often referred to as the indenture and as part of this indenture the employer has several obligations to provide adequate training and rates of pay for all apprentices. British Columbia (BC) Ministry of Labour (1996:1) defines apprenticeship as:

...a learning system that develops skills and knowledge through observation and participation at the work site. Unlike other learning systems which are supply-based, apprenticeship is demand driven by industry. Instruction is provided by qualified practitioners based on curriculum defined and approved by industry. Skills are developed through practical and theoretical learning

and are transferable across industry. In periods of unstable employment, apprenticeship is an important contributor to labour mobility.

The former Industry Training and Apprenticeship Commission (ITAC) of the BC Ministry of Labour (2002:1) extends the above definition by allocating a specific time frame for workplace learning and formal learning for the apprentice, stating “an apprentice spends approximately 80% of their time learning their skills on the job (under the direction of a highly skilled journeyman) and approximately 20% of their time learning in a classroom setting.”

To summarise, apprenticeship broadly involves an educational arrangement in which the employer is bound by a contract to teach the apprentice the skills of the trade. At the same time, apprentices usually attend training in a formal institution such as a technical college, where they learn the theory, skills that are difficult to practise in the workplace as well as additional elements (workplace safety, apprenticeship rules and regulations) prescribed by legislation or the regulations of the educational institution.

However, the system of apprenticeship is not without its critics. Saljo (2003:316) points out that in the past the system was sometimes rigid and authoritarian, in which the master who may have been a skilled worker was not necessarily an effective tutor. Moreover, many apprenticeship-based occupations worldwide have been marked by conservatism and the inability to cope with new technologies and changing work conditions. Therefore various alternative educational practices have been designed.

As an alternative to the traditional apprenticeship training in BC, cooperative education, commonly referred to as ‘co-op ed’, has emerged. Cooperative education is a wide term that is used to describe a wide range of experiential learning models. Ricks, Van Gyn, Branton, Cut, Loken and Ney (1990:7) state, “There is no clear or consistent conceptualization of cooperative education”. The Canadian Association for Cooperative Education (CAFCE) (1989:2) defines cooperative education as “an educational approach for alternating paid supervised employment with classroom study related to the individual’s career”. Wilson, Stull and Visonhler (1996:160) suggest that cooperative education programs may contain job shadowing, field studies, practicum, independent

studies, internships, apprenticeships, and school to work. Ryder and Wilson (1987:xvii) define cooperative education as “an instructional method that links classroom instruction and work for the purpose of enhancing the total educational program of students”. Thompson and Hoberman (1990:7) define cooperative education as “an educational approach for alternating supervised employment with classroom study related to the individual’s career objectives”. The Association for Cooperative Education (ACE) (1996:i) defines cooperative education as:

an educational model which provides students with opportunities to obtain relevant work experience while completing their studies. Essentially, cooperative education is a three-way partnership between students, educational institutions and employers.

The commonality amongst all the descriptions is that cooperative education is a term that is used to describe a wide range of experiential learning models. Generally speaking, cooperative education is a structured method combining academic education with practical work experience. From its early beginning in Cincinnati, USA in 1906, cooperative education has evolved into two predominant models (Grubb & Villeneuve 1995). In one model, students alternate a semester of academic coursework with an equal amount of time in paid employment, repeating this cycle several times, until graduation. The parallel method splits the day between school (usually in the morning) and work (afternoon). This method is commonly found in high schools while the former is predominant in colleges and universities in British Columbia.

What is the relationship between apprenticeship training and cooperative education? Both fall under the umbrella of experiential learning. But the similarities end there because the emphasis on employment and on education is different in the two approaches. Thompson and Hoberman (1990: 7) suggest “Occupational training is the primary focus in apprenticeships while employment experiences are carefully blended with educational objectives in cooperative education programs”. Thus, it would appear that school-based experiential education programs containing effective components of both cooperative education and apprenticeship should better help ease young people through the floundering period of low-paid, low-level job and into career-entry and

upwardly-mobile occupations. In other words, by updating and blending apprenticeship into existing cooperative education programs, more youth could move more easily from school to work and to full trade qualifications.

The next sections deal with apprenticeship and cooperative education in BC.

1.1.1 Apprenticeship in British Columbia

The supply of skilled tradesmen is crucial to the survival of the industrial sectors in British Columbia. Traditionally, the apprenticeship system has provided training in a number of apprenticeable trades, most of which support the mainstream industries in the province: construction, mining, service industries and manufacturing. Naturally cyclical economic fluctuations varied the demand for tradesmen. Yet regardless of these fluctuations, the system was always able to provide enough skilled people, albeit not in a timely fashion, to satisfy the demands of industry. In 1984, the BC Department of Labour – Provincial Apprenticeship Board (1984:14) confirmed that their confidence that the apprenticeship system was able to adapt and continue to meet future needs of industrial employers and the province as a whole.

However, since then this situation has changed. The system was not able to adjust itself effectively as it did not fully take into account the interests and responsibilities of the apprentice, the qualified craftsman, the enterprise and the economy. Today, these forces seldom coincide and are often in conflict. Simply stated, although apprenticeship in BC proved its value throughout the years as a system of training and employment, it failed to take into consideration the rapid economic growth and technological changes that characterized the late eighties and early nineties. In this BC is not alone as this has also been the case with apprenticeship in other parts of the world (Saljo 2003:316). These events, coupled with employers' decisions about the intake of apprentices frequently made on the basis of their current rather than their long-term needs, have placed the apprenticeship system in a very difficult position.

Thus, in 1996 the BC Ministry of Labour (1996:2) published a strategic plan for revitalizing BC's apprenticeship training system. The document provided a context for

the revitalization of apprenticeship by analyzing external forces, employment trends and their implications for BC's apprenticeship system. It further provided a strategic framework for the revitalization of the system in order to meet future labour market needs based on four integrated objectives (BC Ministry of Labour, 1996:5). The objectives were: to expand the system; improve relevance and quality; providing affordable programming and provide flexible delivery.

Although reference was made to changing technology and some recommendations were made regarding new training methods and flexibility, the main focus of the document was directed towards ensuring the status quo of the system and the training of enough apprentices. At this time, the issue of integrating apprenticeship training with other learning systems was also raised (BC Ministry of Labour, 1996:9)

Apprenticeship training must be viewed as an integrated learning system which includes secondary school apprentices, entry level trainees, apprentices, and certified trades workers. One of the challenges facing apprenticeship is that it is not seen as providing opportunities to progress beyond journey person certification. The system needs to evolve in order to promote lifelong applied learning and to facilitate laddering between apprenticeship and other learning systems.

The same document (BC Ministry of Labour, 1996:9) states that:

In partnership between Provincial Advisory Board, colleges, school districts and ministry staff, develop the apprenticeship training system to provide various and identifiable entry points, program options and exit points with respect to technical training and to broaden access to apprentice technical training by enabling individuals to participate in programs without being formally indentured to an employer.

However, the document failed to identify clearly new concepts or existing alternative training systems to revitalize a system that was long been perceived as immutable and fixed in its perfection. It made no reference to cooperative education as an alternate training method for apprenticeship training. It did, however, suggest the creation of a new regulatory body named the Industry Training and Apprenticeship Commission (ITAC).

The Industry Training and Apprenticeship Commission (ITAC) was established in 1997 to replace the Apprenticeship Board of the BC Ministry of Labour, the apprenticeship regulatory body in existence since apprenticeship became a legislative matter in BC. ITAC was a provincial government sponsored initiative designed to build on the strengths of the apprenticeship system and expand BC's industry training. In other words, ITAC was established to update the way workers, learners and industry relate. Apprentices are registered with the provincial government and they are provincial in scope, meaning that the skills learned by an apprentice are transferable from one employer to another throughout the province. ITAC ceased to exist after the passing of Bill 34 which is referred to later in this section.

Organized labour in British Columbia, who normally view the traditional apprenticeship system as a very valuable bargaining tool, are very reluctant to see changes instituted without their approval through a negotiated collective agreement. As reported in various newspaper articles, most unions in BC are in the process of negotiating new collective agreements. Based on the adversarial system of industrial relations in Canada and past collective agreements practices to use apprentices as a major bargaining tool (Schuetze 2003:82), it is possible to speculate that apprenticeship training will be one of the items tabled for discussion. Workers have indicated through letters to government officials, college seniors administrators, trade journals and during personal conversations with the writer their demands for a system of training that can produce marketable skills in a shorter period of time and that can be further developed to meet future needs. Educational institutions demand a system that is less costly, more flexible in the delivery of training and easier to manage. In spite of all these changes and conflicting demands, the one constant has been industry's demand for highly skilled workers.

Today, the apprenticeship system in British Columbia has been challenged by industry, the provincial government, trade unions, workers and educational institutions. Industry requires an apprenticeship training system that is more flexible and responsive to its rapidly changing needs. The BC Ministry of Skills Development and Labour through Bill 34, The Industry Training Authority Act (2003), demanded a training system driven

by industry sectors and not by trade focus groups (i.e., unions). They require a system that can provide more choices for apprentices through strategies such as closer to home training, work place training, on-line, night school and weekend training. In other words, they call for a system that will be more streamlined, less time based and which will put more choices in the hands of the employer and the apprentice.

1.1.2 Cooperative education in British Columbia

In the light of the above discussion concerning the ability of the apprenticeship system to sustain the rapid increase in demand for skilled people during the late eighties and the nineties in BC, a number of strategies were developed to address the situation. The introduction of cooperative education in 1987 by the British Columbia Institute of Technology (BCIT) into some apprenticeable trades, the first of its kind, was one such strategy.

Cooperative education was a natural choice because of its inherent flexibility and because of its potential to bring apprentices on line and up to their optimum productive potential more quickly than the traditional apprenticeship system. For example, it takes no less than four years of indentured apprenticeship versus two years through the co-op route. Apprenticeship and cooperative education were not new concepts, but their association in the vocational context was. The former Apprenticeship Board of the BC Ministry of Labour met this association with antagonism; however, industry and students welcomed co-op in trades programs as a viable alternative to a rigid, time driven and bureaucratic system. This conflict was reflected in an evaluation undertaken in 1996 by Ference Weicker & Associates on behalf of the BC Ministry of Advanced Education and Training of eight cooperative education programs in apprenticeable trades in order to validate or reject co-op ed in apprenticeable trades. The objectives of this evaluation were (Weicker 1996:1):

- a. To obtain information regarding the effectiveness of cooperative education for apprentices;
- b. To identify the specific operational practices which promote program effectiveness; and

- c. To indicate the policy decisions required if the program are to receive accreditation on on-going basis.

The report (Weicker 1996:41) established that the perceived need for the co-op program varied on the whether the representative surveyed was from a college, an Industry Steering Committee, the Ministry of Labour, or a Technical Advisory Committee. All the college representatives surveyed confirmed a need for the co-op program. However, representatives from the Ministry of Labour generally felt that there was not a need for the co-op programs. The trade advisory committee representatives surveyed were divided in their view concerning the need for the co-op program or programs in their respective trades. The main finding of the evaluation indicated that the co-op model could be an effective vehicle for training apprentices within the traditional apprenticeship system (Weicker 1996:56) and confirmed the validity of cooperative education in apprenticeable trades by stating (Weicker1996: 53):

Given a choice, more employers indicated that they would hire a graduate of a two-year co-op program than would hire an apprentice who had indentured with another employer for two years

A second study, conducted by Human Resources Development – Canada (1996) examined the employment, further education, and satisfaction outcomes of former students who were enrolled in Applied Sciences, co-op programs at BC’s public colleges and institutes by investigating the impact of co-op programs on their career and educational outcomes by means of a survey. However, both this and Weicker’s survey (1996) did not solicit any information about the rationale, factors, and political and educational motivations for the introduction of co-op education in apprenticeable trades, its impact on the traditional apprenticeship system and the level of employers’ satisfaction with both systems.

1.1.3 Need for the current research

The proponents of cooperative education identify benefits for students (motivation, career clarity, enhanced employability and vocational maturity) and employers (labour

flexibility, recruitment/retention of semi-trained workers, input into curricula) as well as educational institutions. Beyond informal and anecdotal evidence, however, a familiar refrain in the literature is the lack of well-done research that empirically demonstrates these benefits (Barton 1996; Wilson, Stull & Vinsonhaler 1996). This is particularly true as far as co-op in apprenticeable trades. Barton (1996) identifies some of the research problems for post-secondary co-op as follows: federal data collection on enrollments and completion; some studies use data which co-op is not isolated from other work experience programs. Ricks et al. (1993) describe other problems: due to lack of a clear or consistent definition of cooperative education, researchers cannot accurately identify variables and findings cannot be compared; theory is not well developed and research and practice are not integrated; and co-op research does not adhere to established standards.

Another set of problems involves perceptions of the field and its marginalization. Because of its 'vocational' association, co-op is not regarded as academically legitimate; rather, it is viewed as taking time away from the classroom. Despite the current emphasis on contextual learning, work is not recognized as a vehicle for learning (Ricks et al. 1993). Schaasfma (1996) and Van Gyn (1996) agree that the field places too much emphasis on placements rather than learning. Wilson, Stull and Vinsonhaler (1996) also decry the focus on administration, logistics, placements, and procedures. Although co-op educators know from their experience with students that the combination of work and study is a powerful learning model, the lack of research in the field of cooperative education is one of the contributing factors to the continued lack of relationship between the workforce and higher education. As Weaver (1993:10) points out, "to be credible, cooperative education must be able to substantiate claims that cooperative education practice is good educational practice and be able to relate cooperative education practice to the theoretical framework of education".

Thus a study tracing the role and function of the conventional apprenticeship system and the system of cooperative education in BC will be of value as it will identify issues that should be considered when developing further trades training programmes. Moreover, the study will contribute to an understanding of the change process as it applies to apprenticeship and the industrial community in general.

1.2 PROBLEM FORMULATION

Worldwide the conventional system of apprenticeship has been a means of facilitating the school to work transition and also in British Columbia in Canada. However, critiques of traditional forms of apprenticeship as well as the changes in the workplace as a result of new technologies, work conditions and legislative developments has stressed the need for more flexible approaches. In its sixty years of existence, the BC apprenticeship system has been only available educational strategy to facilitate the school to work transition and has played a significant role in the economic well being of the province. However, recently industry, educational institutions and government have faced rapid change as a result of the increased level of technological sophistication and the increased complexity of industrial manufacturing techniques. Thus, the introduction of innovative and flexible trades training system was inevitable. The introduction of the cooperative education concept into trades training represents one of the new delivery models to be introduced into the apprenticeship system. With the demise of the traditional apprenticeship training, new cooperative education programs are in the process of been designed to fill the apprenticeship vacuum.

In the light of this, this study poses the following research question: *What is role and function of apprenticeship and cooperative education in British Columbia as learning strategies to facilitate the transition from school to work?*

The main research question can be further refined into the following sub-questions:

- What are the foundations of workplace learning with special reference to apprenticeship and cooperative education? How is school-to-work transition managed in Canada, with special reference to the current organization and functioning of apprenticeship and cooperative education in B.C? What are the rational for and the political, economic and educational factors shaping the promotion of cooperative education as a possible alternative to apprenticeship training in BC?
- Who are the main providers of cooperative education in BC with specific reference to the role and function of BCIT regarding apprenticeship and cooperative education?

- What are the perceptions and experiences of employers in BC in regards to apprenticeship and trades cooperative education?
- What recommendations for improved practice can be presented based on literature study and empirical investigation?

1.3 AIMS OF THE STUDY

The aims of this study are to:

- Discuss the foundations of apprenticeship and cooperative education; to describe how is school-to-work transition managed in Canada with particular reference to apprenticeship and cooperative education in BC, their current organization, functioning and the main providers thereof; to describe the rational for and the political, economic and educational factors shaping the promotion of cooperative education as a possible alternative to apprenticeship training in BC;
- To identify and describe the main providers of cooperative education in BC with specific reference to the role and function of BCIT regarding apprenticeship and cooperative education;
- Explore the perceptions and experiences of the employers of learners with regard to the apprenticeship system and co-op education training in BC;
- Suggest recommendations for improved practice for the school to work transition with reference to cooperative education in new apprenticeable trade programs in BC.

1.4 THE POSITION OF THE RESEARCHER

Regardless of the methodological approach chosen, educational research involves an interactive process of experience, discovery, analysis and dialogue. The researcher's personal life experiences can, and the writer believes often do, bear significant influence on the research process. A researcher's personal history can affect the topic selected, the research method chosen, and even the conclusions ultimately reached. Consequently, the researcher is ethically obliged to provide enough details in order to help the reader situate information within the context of the former's perspectives and potential bias (Linn, Howard & Miller, 2004:5-8).

The selection of this topic for a study was precipitated by the researcher's personal understanding, as a trades instructor and as a cooperative education practitioner involved in the introduction and management of the co-op component in apprenticeable trades, of the need for deeper insight, at the provincial level, in apprenticeship and cooperative education and at an institutional level - of the particular arrangements, agendas, complexities and nuances that characterize the training of conventional apprentices compared to apprentices trained by way of the co-op apprenticeship method.

The particular value of this research lies in its independence from a commission to investigate an explicit issue for a specific purpose by a particular stakeholder. Given the significance and increasing need for qualified tradespersons in Canada and particularly in BC, research provides the empirical basis for policy formulation in an area of current, critical economic importance in BC. It is believed that research on local experience is an important and relevant means of collecting and analysing information as a basis for effective management and policy formulation ((Linn, Howard & Miller, 2004:5-8).

1.4.1 Relevance to the field

In cooperative education literature there has been limited research-based dialectic between theory, practice, and research. To date, most articles on cooperative education reveal little original thinking and research, other than that initiated by James Wilson (1988:83), who stated that "I cannot help but feel that, overall, cooperative education research to date has fallen short of the ideal of scientific inquiry to illuminate relationships, predict effects, explain findings in light of existing theory, or contribute to theory development".

Thus, the cooperative education literature tends to demonstrate what is *believed* about cooperative education that is similarly defined, rather than what has been substantiated in cooperative education research. The literature contains many assertions, and sometimes postulates, that have not yet been adequately tested. While this half-century of cooperative education literature may have been useful for political survival and expediency in establishing cooperative education programs, it has not established a body

of knowledge about cooperative education as either an alternate program or condition of learning.

In the empirical studies of cooperative education investigators have determined that “something happens” when students are enrolled in a program called cooperative education. In these studies cooperative education is often undefined or inadequately defined, how it works is not explained, and is not compared to other training methodologies or systems. This absence of operational concepts, operational models or frameworks, the lack of comparative analysis for cooperative education means that we are left with the need for further research. The literature in cooperative education research is inconclusive and the literature in comparative education research about cooperative education in apprenticeable trades is absent.

Given the short history of cooperative education in apprenticeable trades, it is no surprise that relatively little is known about its educational benefits to students, its employment benefits to students, or the benefit to employers, educational institutions and the broader community. In other words, the state of research in the field of education-work relations, as well as the methodological limitations of current research is relatively underdeveloped (Maroy & Doray, 2000:173-189).

There are, however, indications of a renewed interest in the field. The relatively recent economic (and social) restructuring has brought to prominence the problem of human capita shortages. These changes have forced substantial shifts in the theoretical perspectives of policy researchers, particularly with regard to the basic assumptions underlying the formation of skills and the importance of adult learning and the value of workplace as a setting for much of that learning. The distinction between formal and informal learning by adults has become less obvious in practice, and this shift has suggested a much broader range of needed research activity (Livingstone, 1999: 49-72).

The work on apprenticeships and on the school-to-work transitions by Heinz (1991, as quoted in Schuetze & Sweet, 2003:282) and his colleagues has, for example, been conducted within a framework developed from life-course theory. This trend is

consistent with current interpretations of policy research as having an explanatory purpose as well as the more obvious task of informing policy decisions with profiles and descriptive summaries of data.

The National Occupational Analysis (2003), the Trades in Apprenticeship in Canada (2000), and the Apprenticeship Registrations by Province (1999) are examples of national surveys that are reasonably comprehensive in providing useful statistical data. However, they are not sufficient to allow a thorough analysis of the factors that would permit one to assess the value of different forms of education and training, either to individuals or to the training institution or enterprise; nor are they adequate for the task of critiquing perceived shortcomings of the present organization of the various educational and training systems.

Therefore, it is hoped that this study will make a modest contribution to the field in its attempt to strengthen the case for co-op education in apprenticeable trades, its value is already apparent across a range of levels and types of institutions and rising participation rates attest the their utility and attractiveness to students in the Canadian province of BC.

1.5 DEFINITION OF TERMS

Apprenticeship – This term is Middle English from the Old French “apprendre” to learn to comprehend. Apprenticeship has its origins back in Europe with the earliest reference to apprenticeship in England dating back to the thirteen century (Dunlop, 1912:29). Although much has changed over the years, the fundamentals remain. It is generally accepted that apprenticeship is a learning system that develops skills and knowledge through observation and participation at the work site. In other words, an apprenticeship is an agreement (indenture) between the provincial government and an employer who agrees to train an apprentice in a particular trade. The defining feature of this indenture is the mutual obligation of the two parties – the apprentice to work with a qualified tradesperson for a specific period, whom in turn will teach the apprentice the trade.

Apprentice – The Webster’s Dictionary (1988:44) defines an apprentice as “someone learning a craft or trade from an employer to whom he is bound by legal agreement for a specified period || A beginner or a novice”.

Tradesperson – This term refers to a person who has a trade qualification status in any of the provinces of Canada. Oxford Canadian Dictionary defines a tradesperson as “a skilled (especially manual) work; an artisan” (2002:1123). Collins Thesaurus defines an artisan as “a technician, mechanic, skilled worker” (2002: 61)

Cooperative education – Cooperative education is a learning process that links education to the workplace. Co-op programs provide students of post-secondary education with work experience relevant to their career choice. Over the years, numerous definitions of what constitutes cooperative education have been advanced, often reflecting the programmatic bias of the authors. Ricks (1994:18) states:

Currently cooperative education is defined through program structure rather than curriculum. What this means is that if a program meets the criteria, then it is a cooperative education program, e.g. certain number of work terms, certain number of academic terms. Terms must have a specific length of time and students are paid for the work term and so on

To set the context it is best to think of cooperative education as a specific example or application of what has come to be called “experiential learning”. According to the definition advanced by Keeton and Tate (1978:2) “experiential learning refers to learning in which the learner is directly in touch with the realities being studied”. Clearly, this is at the heart of cooperative education, which puts the student “in touch with the realities being studied” by integrating academic study with work into a single unified curriculum plan. The procedural intent of cooperative education is to involve students in planned, paid-productive work, related to the academic program in which they are enrolled.

1.6 RESEARCH DESIGN

1.6.1 Literature review

A literature study was used to identify studies, policies, articles and reports relating to cooperative education and apprenticeship published both in print form and on the Internet. Information was drawn from the fields of vocational and industrial education and generic cooperative education. To situate the study in Canadian context with specific reference to BC, an extensive literature review on trades cooperative education programs and the traditional apprenticeship system was conducted, focusing in particular on reports and publications dealing with:

- a. Provincial Apprenticeship Board Mandate and work Plan, 1995/96;
- b. Cooperative apprenticeship program descriptions and accreditation proposals for various trades and training institutions;
- c. Federal legislations dealing with the provision of apprenticeship training apprenticeship since 1900;
- d. Provincial Apprenticeship Board Bulletins from 1994 to 1999; and
- e. ITAC Bulletins from 1999 onward.

In addition, information was collected from representatives of ITAC, BC Ministry of Education, Skills, and Training and the colleges and institutes involved in delivering the trades co-op programs.

1.6.2 The empirical investigation

An empirical investigation was conducted in two phases using a combination of quantitative and qualitative methods. Phase one consisted of a survey using a mail out self-administered questionnaire. Phase two consisted of semi-structured follow-up interviews with key participants selected by purposeful sampling.

1.6.2.1. The survey

During Phase one, employers hiring BCIT co-op students and apprentices were asked to complete a self-administered mail questionnaire designed to gather information grouped in the following categories:

1. Company's size, industrial sector, and number of employees;
2. Apprenticeship system: number of journeymen, apprentices and the level of satisfaction with the traditional apprenticeship system;
3. Cooperative apprenticeship program: level of satisfaction with trades cooperative education programs, number of co-op students and number of co-op grads hired during the last four years.

The responses were analyzed with a descriptive statistic method (frequencies and percent). The content of the questionnaire was discussed with experts, piloted by administering it, in person, to a selected group of employers (27 in total) who represented the programs where both regular apprentices and co-op students were found. Their suggestions and comments about the clarity and relevance of the questions were incorporated in the preparation of the final instrument.

The sample design used in this study was a combination of cluster and systematic sampling techniques. Respondents were drawn from the BCIT's Co-op Office Employer Database. Only employers who had employed apprentices or participated in receiving cooperative education learners during the last four years were selected to participate.

1.6.2.2 The interviews

Phase two comprised follow-up semi-structured interviews with a small sample of employers (N=6) using a flexible interview schedule as a guide to address gaps in the survey findings and to allow further probing and clarification of certain issues. These employers were chosen from among the respondents of the questionnaire by purposeful sampling. Criteria used for selection were: the participants represented all four co-op apprenticeship trades; they represented firms who employ more than 20 qualified trades

people; they currently employ both apprentices and co-op students. In the case of two participants, interviews were scheduled in response to their request to be contacted for further discussion.

The topics addressed in the interview schedule were derived from the literature and issues, which had been raised by the questionnaire data and addressed the following topics:

- Knowledge of Bill 34;
- The impact that Bill 34 has had on apprentice and cooperative training and recruiting;
- The place of cooperative education in apprenticeship training; and
- The format of the new apprenticeship training system in BC.

Interviews were conducted face-to-face, in the privacy of the respondents' own office and recorded on audiotape for accuracy and transcribed, verbatim, for more formal analysis. Permission was sought for interviews to be taped. Anonymity of individual respondents was guaranteed and individual companies are named only in specific instances where the information constitutes public knowledge, such as statistical and business profiles. Each interview lasted about one hour. A flexible interview schedule was used to ensure that all major topics were covered. Interviews were transcribed, data analysed according to the qualitative approach and findings presented as rich data.

1.7 ASSUMPTIONS, LIMITATIONS AND DELIMITATIONS

The following assumptions were made for this study:

1. Participants in the survey were sincere and accurate with respect to their responses to the questionnaire and interviews;
2. The survey instruments were clearly stated and asked for information that the respondents were expected to have;
3. The answers reflected the opinions and feelings of the participants; and,

4. The opinions and findings of the participants are valid indicators of issues related to apprenticeship training and trades cooperative education.

The limitations were:

1. The study focused principally on four specific trade areas where cooperative education models have been introduced and is in conflict with the traditional apprenticeship system;
2. The participants were all located in the province of British Columbia; and

The delimitations for this study were:

1. This study was delimited to the apprenticeship system and four trades cooperative education in British Columbia only.
2. The respondents for the survey were employers who employed BCIT co-op students from 1999 onward and were randomly drawn from the BCIT Co-op Ed database;
3. The study was conducted during the period 2002-2004.

1.8 ORGANIZATION OF THE THESIS

Chapter 1 provides the general context for the study. The question is presented and the need for research and aims of the study are identified. A general overview of the research method employed is provided as well as terms definitions, limitations and delimitations of this study.

Chapter 2 reviews the literature pertinent to the foundations of apprenticeship and cooperative education. It describes the management of school-to-work transition in Canada with particular reference to apprenticeship and cooperative education in BC and their current organization and functioning as well as the rational for and the political, economic and educational factors shaping the promotion of cooperative education as a possible alternative to apprenticeship training in BC.

Chapter 3 describes the main providers of cooperative education in BC with specific reference to role played by BCIT in cooperative education and of the apprenticeship training.

Chapter 4 describes the research design selected for this study. It includes a detailed description of the research method selected and the manner in which the research was organized, undertaken, analysed and presented. Reasons for the choice of this method are discussed.

Chapter 5 presents and discusses the quantitative and qualitative findings obtained through the use of a self-administered questionnaire and semi-structured interviews.

Chapter 6 gives an overview of the study in the light of the problem statement and aims, summarizes the procedures of the empirical inquiry and the main findings. Finally, recommendations for practice are made and suggested areas for future research are identified.

1.9 SUMMARY

This chapter has provided general background information about apprenticeship and cooperative education in BC within the framework of this research study, the need for research and pertinent assumptions. A preliminary review of the literature indicated that several descriptions of apprenticeship and cooperative education exist. The commonality is that both systems are identified as forms of experiential learning.

Traditionally, the apprenticeship system in BC has provided training and, for the most part, has been able to produce enough skilled people to satisfy the demands of industry. Today, the system is under severe scrutiny by two major groups - employers and students, who are demanding a training system that is less rigid, more streamlined, less time based and that will put more choices in their hands. Cooperative education has proven itself to be a flexible learner-centered method of experiential learning suitable to be integrated in the new apprenticeship system model. Thus it was important to gauge the perceptions and experiences of employers who have been involved with both training

methods during the last four years in order to establish its effectiveness in meeting the demands of industry in a timely fashion.

Chapter two presents the foundations of apprenticeship and co-op education as school-to-work transition strategies and an overview of the policies and provisions of school-to-work transitions in Canada with special reference to the role and functioning of cooperative education and apprenticeship training and their interactions in the training of apprentices in BC.