Apprenticeship: Lessons from the German Dual Studies Model of Vocational Education and Training

by
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in the Transformational Change Program Faculty of Education

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Abstract

The German model of dual studies vocational education and training (VET) is often described as a major contributor to the successes of the German Economy. This thesis compares the main features of the German dual VET with the current VET system in British Columbia (BC) using the criteria proposed by Dieter Euler in a 2013 report commissioned by the Bertelsmann-Stiftung Foundation. Euler identified 11 essential elements as being keys to the success of the German VET and suggested that the elements could be useful in guiding implementation of the German VET model in other contexts. Euler also claims that a VET system should not be viewed as a single entity, but rather understood in terms of its component parts. This thesis applies Euler’s key elements as a frame for a critical review of the main elements of the current BC system of vocational elements and training and identifies areas of strength, weakness and sites for potential improvement. In order to ground the dual studies concept in current BC examples the thesis includes a field study of two different approaches to apprenticeship: the Block Release model of training as commonly used in the vocational programs of BC colleges and a working example of the application of the Day Release approach by an operating business. The field study found that while both models were grounded in the dual studies approach to apprenticeship, the two different applications resulted in varying experiences for students. The thesis concludes that the BC VET system could be improved in five of the 11 key areas identified by Euler and proposes that the BC system should be expanded over time to include occupations beyond the traditional trade categories through cooperative partnerships with leaders of government, the BCITA, business and labour. In addition, in order to improve the current social acceptance of VET, the provincial government should actively promote apprenticeship as an effective learning model and valid post-secondary option.

Keywords: Apprenticeship; Vocational Education and Training; German dual studies system; Economic Competitiveness; Human Capital; Alternation Education; Work-integrated Learning
Dedication

I wish to dedicate this thesis to my son Ian who gave me the inspiration for examining the subject of apprenticeship. I shared his frustration struggling to find career employment after university graduation here in Vancouver. I had been optimistic that my own personal connections could help him get his foot in the door somewhere in this city. After a year of applying to job after job and completely exhausting my connections, he literally gave up on Canada and moved to Europe. In France he was introduced to the professional apprenticeship pathway that led directly to a well-paid job. I was surprised that such a program existed because I had always associated apprenticeship with training for the trades. It offered so many benefits to my son that I had to not only find out more about it but how and why it developed.

My son’s experience and my subsequent research into this issue opened my eyes to the struggles of the millennial generation in transitioning from school to work. This research is timely, as there is momentum throughout Canada to consider the benefits of work-integrated learning. The Business Higher Education Roundtable, representatives of the business community, as well as many post-secondary education administrators are now recognizing that work-integrated learning can better prepare young people to enter the job market by providing them with real-life work experience while still in school. The US has recently taken a big step forward with an apprenticeship system modelled after northern European VET systems. My hope is that work-integrated learning experiences in BC and throughout Canada will eventually become more formalized with standards and contracts like the German dual VET system. A structured and formalized system whether through apprenticeship or Work integrated learning will better facilitate the transition of the next generation of Canadians into the workforce.
Acknowledgements

I would like to extend my thanks and appreciation to Drs. Milt McClaren, Tom Roemer, and Carolyn Mamchur, the members of my committee, for their help, guidance, knowledge and support on this amazing journey. Carolyn Mamchur created the original Transformational Change vision that started me down this path. Milt McClaren and Tom Roemer have been with me since the beginning of my research, and I am grateful that they remained committed to the project.

My sincere gratitude to Dr. Robin Brayne, my former supervisor and mentor at the North Vancouver School District, for introducing me to the SFU doctoral program. Robin Brayne’s support and encouragement was instrumental in getting me through a difficult phase of writing this thesis. I had very nearly given up because of the challenges and the difficult journey ahead when he told me to “just write,” so I did, and I made tremendous progress. I remembered those two little words any time I was tempted to stop.

My deepest thanks to my friend Victoria Miles who checked in with me every couple of months to ask how I was doing and remind me of all the good reasons why I should continue. Those reminders and her words of encouragement always seemed to come when I needed it most and helped me to keep me going. My SFU cohort colleagues, Joanne Robertson, Darren Francis, and Greg Gerber, provided me with the inspiration to finish just as they had several years ago. I am grateful that they were there to listen to my tales of woe whenever I encountered a setback. I am thankful to have good friends like Bill Allman, Ruth Raymond, Wendy Adjoury, and Holly Back, who distracted me when I needed a break and were patient when I could not go out because I had another deadline. Special thanks to Ruth Raymond for editing the final draft of this thesis.

Finally, a sincere thanks to my friends and colleagues at the New York Institute of Technology who have been very patient with me and gave me the space and time I needed to continue writing. Their support was incredibly helpful in getting me to the finish line.
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<thead>
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<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ACE-WIL</td>
<td>Association for Co-operative Education and Work-Integrated Learning BC/Yukon</td>
</tr>
<tr>
<td>BC</td>
<td>British Columbia</td>
</tr>
<tr>
<td>BCIT</td>
<td>British Columbia Institute of Technology</td>
</tr>
<tr>
<td>BCITA</td>
<td>British Columbia Industry Training Authority</td>
</tr>
<tr>
<td>BIBB</td>
<td>Bundesinstitut für Berufsbildung – the Federal Institute for VET</td>
</tr>
<tr>
<td>CAF</td>
<td>Canadian Apprenticeship Forum</td>
</tr>
<tr>
<td>CCDA</td>
<td>Canadian Council of Directors of Apprenticeship</td>
</tr>
<tr>
<td>CEWIL</td>
<td>Co-operative Education and Work-Integrated Learning Canada</td>
</tr>
<tr>
<td>CME</td>
<td>Coordinated Market Economy</td>
</tr>
<tr>
<td>COPS</td>
<td>Canadian Occupational Projection System</td>
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<tr>
<td>GIZ</td>
<td>Deutsche Gesellschaft für Internationale Zusammenarbeit</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GTO</td>
<td>Group Training Organization</td>
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<tr>
<td>ITA</td>
<td>Industry Training Authority</td>
</tr>
<tr>
<td>ITIC</td>
<td>Institute des Techniques Informatiques et Commerciales</td>
</tr>
<tr>
<td>LME</td>
<td>Liberal Market Economy</td>
</tr>
<tr>
<td>MDP</td>
<td>Management Development Program</td>
</tr>
<tr>
<td>Ministry of AEST</td>
<td>Ministry of Advanced Education and Skills Training</td>
</tr>
<tr>
<td>NDP</td>
<td>New Democratic Party</td>
</tr>
<tr>
<td>NOC</td>
<td>National Occupational Classification</td>
</tr>
<tr>
<td>NQF</td>
<td>National Qualifications Framework</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>PAC</td>
<td>Program Advisory Committee</td>
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<tr>
<td>PTIB</td>
<td>Private Training Institutions Branch</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>SDC</td>
<td>Swiss Agency for Development and Cooperation</td>
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<tr>
<td>SFU</td>
<td>Simon Fraser University</td>
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<tr>
<td>UBC</td>
<td>University of British Columbia</td>
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<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>VCC</td>
<td>Vancouver Community College</td>
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<td>VET</td>
<td>Vocational Education and Training</td>
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<tr>
<td>WATS</td>
<td>Weekly Apprenticeship Training System</td>
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<td>WIL</td>
<td>Work-Integrated Learning</td>
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## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td><strong>Applied Research Projects</strong></td>
<td>Students are engaged in research that occurs primarily in workplaces. This includes consulting projects, design projects, and community-based research projects (Co-operative Education and Work-Integrated Learning Canada, n.d.).</td>
</tr>
<tr>
<td><strong>Alternation</strong></td>
<td>The combination of practical skill development delivered at the workplace with the acquisition of formally organized, theoretical knowledge delivered in the classroom. In France, the dual studies model of vocational education and training is called Alternance (Pigeaud, 2014).</td>
</tr>
<tr>
<td><strong>Apprenticeship</strong></td>
<td>An agreement between a person (an apprentice) who wants to learn a skill and an employer who is willing to sponsor the apprentice and provide paid related practical experience under the direction of a certified journeyperson in a work environment conducive to learning tasks, activities, and functions of a skilled worker. The program combines 80–90% at-the-workplace experience with 10–20% technical classroom training, generally completing two to three levels of schooling over a two- to five-year period (Co-operative Education and Work-Integrated Learning Canada, n.d.-b).</td>
</tr>
<tr>
<td><strong>Block-Release Model</strong></td>
<td>The technical classroom component of apprenticeship training in Canada is usually delivered in blocks of between four and 25 weeks in duration at a community college or private training facility (Canadian Apprenticeship Forum, 2018a, p. 10).</td>
</tr>
<tr>
<td><strong>Co-operative Education</strong></td>
<td>A program that “alternates periods of academic study with periods of work experience in appropriate fields of business, industry, government, social services, and the professions” (Co-operative Education and Work-Integrated Learning Canada, n.d.-a, para. 1).</td>
</tr>
<tr>
<td><strong>Certificate of Qualification</strong></td>
<td>The certificate issued by the British Columbia Industry Training Authority in recognition that an individual has met the requirements of an industry training program either through participation in a formal apprenticeship program or through a challenge process (British Columbia Industry Training Authority, n.d.-d).</td>
</tr>
</tbody>
</table>
Compulsory Trade  A trade in which registration as an apprentice or certification as a journeyperson is mandatory under provincial legislation (Ontario Ministry of Advanced Education and Skills Development, 2018, p. 28). British Columbia currently does not mandate any compulsory trades.

Day-Release Model  The classroom component of apprenticeship training alternates weekly between classroom training (one or two days per week) and the workplace (three of four days per week; Canadian Apprenticeship Forum, 2018a, p. 4).

Dual Studies  This term usually refers to the Vocational Education and Training System common in Germany, Austria, and Switzerland, where the learning settings alternate between the workplace and the classroom (Euler, 2013, p. 16).

Entrepreneurship  This “allows a student to leverage resources, space, mentorship and/or funding to engage in the early-stage development of business start-ups and/or to advance external ideas that address real-world needs for academic credit” (Association for Co-operative Education and Work-Integrated Learning BC/Yukon [ACE-WIL], n.d., Entrepreneurship section, para. 1).

Experiential Learning  “Experiential learning is the application of theory and academic content to real-world experiences, either within the classroom, within the community, or within the workplace, which advances program or course-based learning outcomes that are specifically focused on employability skills” (Carlton University, 2018, para. 2).

Experiential learning requires the student to not only engage in the experience activity, but also requires them to reflect upon their learning and how their skills learned through their academic studies can be applied beyond the classroom” (Strategic Transformation Group on Employability, as cited in Carleton University, n.d., para. 1).

Field Placement  A “field placement provides students with an intensive part-time/short term hands-on practical experience in a setting relevant to their subject of study. Field placements may not require supervision of a registered or licensed professional and the completed work experience hours are not required for professional certification. Field placements account for work-integrated educational experiences not encompassed by other forms, such as co-op, clinic, practicum, and internship” (ACE-WIL, 2017, p. 2).
Foundation Programs

These are "pre-apprenticeship and primarily school-based programs directly aligned with apprenticeship programs, and providing an entry point by which participants can earn credit for Level 1 technical training without the need for a sponsor who has committed to provide work-based training" (Industry Training Authority [ITA], n.d.-b, Foundation Programs section, para. 1).

Go2HR

An organization created in 1979 that serves British Columbia’s tourism and hospitality industry with programs and services. “Formerly known as the Hospitality Industry Education Advisory Committee (HIEAC), the organization was re-branded as Go2 in 2003” (Go2HR, n.d., para. 1). Go2HR steps in to sponsor apprentices in the tourism and hospitality field when employers are unwilling or unable to sponsor that apprentice.

Industry Training Authority BC (ITA)

ITA BC is the British Columbia provincial Crown agency “that governs and manages BC’s industry trades training and certification system. The ITA works with employers, employees, industry, labour, training providers and government to issue credentials, manage apprenticeships, set program standards, and increase opportunities in the trades” (BCITA, n.d.-a, para. 1).

Each province has a similar regulatory agency. In Alberta, it is called Apprenticeship and Industry Training (Alberta Advanced Education, n.d.).

Industry Training Program

This is “any number of occupation-specific programs involving defined competencies and standards, assessment tools, and a credential to be awarded upon successful completion. Includes both apprenticeship and foundation programs” (BCITA, n.d.-c, Industry Training Program section, para. 1).

Internship

“An ‘internship’ is on-the-job training offered by an employer to provide a person with practical experience. Often internships are offered to persons who have completed a diploma or degree program and are seeking employment” (Government of British Columbia, n.d.-b, Policy Interpretation section, para. 8).

Journeyperson

A journeyperson is someone who holds a valid Certificate of Qualification in a trade.

Labour Market Agreement

Labour market agreements are “bilateral agreements under which the federal government provides funding for specific labour market initiatives for which the province then assumes responsibility to design and deliver” (BCITA, n.d.-c, Labour Market Agreement section, para. 1).
Mandatory Professional Practicum/Clinical Placement

"Involves work experience under the supervision of an experienced registered or licensed professional (e.g., preceptor) in any discipline that requires practice-based work experience for professional licensure or certification. Practica are generally unpaid and, as the work is done in a supervised setting, typically students do not have their own workload/caseload" (ACE-WIL, 2017, p. 2).

Red Seal

A national designation that confirms a tradesperson’s competence to perform a trade anywhere in Canada, without the tradesperson’s having to take another examination.

Service Learning

“Community Service Learning (CSL) integrates meaningful community service with classroom instruction and critical reflection to enrich the learning experience and strengthen communities. In practice, students work in partnership with a community-based organization to apply their disciplinary knowledge to a challenge identified by the community” (Co-operative Education and Work-Integrated Learning Canada [CEWIL], n.d.-b, p. 1).

Sponsor

A person who has agreed, via registered training agreement, to ensure that an individual is provided with the training required as part of an apprenticeship program established by the BC Industry Training Authority (Government of British Columbia, Ministry of Advanced Education and Training, 2018). A sponsor can be from an employer, union, or trade association (e.g., Go2HR), and will hire, train, and pay an apprentice during an apprenticeship.

Trade Qualifier

“An individual who has amassed sufficient practical work experience to meet the established criteria to attempt the certification journey level (provincial or interprovincial) examination. The criteria require relevant on-the-job experience of at least one year in excess of the apprenticeship term” (T section, para. 8).

Work-Integrated Learning (WIL)

“A model and process of curricular experiential education which formally and intentionally integrates a student’s academic studies within a workplace or practice setting. The WIL experiences include an engaged partnership of at least: an academic institution, a host organization and a student” (ACE-WIL, n.d., What is Work-Integrated Learning section, para. 1).
The Dual Studies System

Chapter 1

Overview

Significance of the Study to the Author

In May 2011, I was a proud parent watching my 23-year-old son Ian cross the stage at the University of British Columbia (UBC) Chan Centre to collect his diploma for the Bachelor of Arts Degree with a Major in Modern European Studies that he had earned over the past five years of full-time schooling. By July 2012, I was saying goodbye to a consistently underemployed and frustrated young man who believed his only chance for career success was in Europe. After more than a year of working at temporary jobs in Vancouver that never turned into the kind of opportunity in which he could demonstrate that he was an asset to the company and begin a career, he gave up on Canada.

Despite being career focused, hardworking, multilingual and having earned a university degree from UBC, a highly respected public institution, my son viewed himself as essentially unemployable in Vancouver. For those few interviews Ian landed while still in Vancouver, potential employers told him that they would not hire him because he lacked work experience and that they only gave junior opportunities to business school graduates.

Without a plan or citizenship in any European country and very little cash, he flew to Hamburg, Germany, where he found his opportunities just as limited as they had been in Canada. He considered enrolling in a Master of Business Administration program; however, the tuition fees had gone up astronomically from 1991 when I completed my Master of Business Administration at UBC for a mere $3,000 to anywhere from $40,000 to over $100,000 for the two-year degree program. Then there was the opportunity cost of lost wages to consider from not working for two more years to consider.

Life turned around for Ian later that fall when his application for German citizenship was approved, which allowed him to work anywhere within the European Union. He subsequently moved to Paris and applied to a technical school, which offered...
diplomas and degrees through the Alternance delivery model. The French Alternance program is very similar to the dual studies vocational education model that is so well known in Germany. His Paris-based school, the Institute des Techniques Informatiques et Commerciales (ITIC) helped him land a two-year internship position with the Fortune 500 Company, Schneider Electric, at a warehouse based in Evreux in the Normandy region of France.

In order to complete his advanced technician certificate (Brevet de technician superieur) in International Commerce, he was required to attend classes at ITIC in Paris two days per week and work at Schneider Electric for three days per week. He was paid $1,000 Euros per month, had full medical, dental, and extended health coverage, participated in company profit sharing, and, upon passing his national standardized examinations and graduating in July 2015, he received a bonus of $2,000 Euros from Schneider. He spent two years at Schneider Electric as an integral member of the team, just like any other employee even though he only worked 3 days per week. His work was important and meaningful to him and essential to the company. Most importantly for him, he developed transferable skills that were instrumental in enabling him to obtain a career path position at the European headquarters of Steelcase in Strasbourg, France, one of the largest office furniture manufacturers in the world.

My son’s success, which came about largely through the Alternance vocational education and training model in France inspired me. After some research on the program, I realized that it was similar to the German model of dual studies and other European Vocational Education and Training (VET) models. I could not help but wonder what all of the other university liberal arts graduates who could not pack up and move to Europe were doing to get the kind of work experience that would help them land that first career path position, one that would lead to valuable and meaningful work, and a job that paid enough to cover the costs of rent and a life independent of their parents. This personal experience and the questions it generated led to the research embodied in this thesis.

General Introduction, Theory and Basic Issues

The induction of young people into adult life and transitions from school to work as experienced by my son are enduring social and educational issues. At a theoretical
level, the induction process includes the transfer of learning developed in one context into application in other settings having different requirements and expectations. “No one is born with the ability to function competently as an adult in society.” The processes of learning and transfer of learning are central to understanding how people develop important competencies (Bransford, Brown and Cocking, 2000, P. 39).

Due to technological changes, globalization and economic restructuring, the transition from school to work or adolescence to adulthood has been prolonged in industrialized nations. Whereas 60 years ago, most adolescents joined the workforce after completing their compulsory schooling, young people are now more frequently pursuing a higher education degree before seeking career employment. The school to work transition is a central theme of “emerging adulthood” (Arnett 2007). Many emerging adults work part time during higher education studies but Holden and Hamblett (2007) found no indication that emerging adults considered their future careers in selecting part time jobs. Nevertheless, Pacurari & Nechita, 2013: Passaretta & Triventi, 2015 found that having a job during higher education has positive effects on future career trajectories. A possible reason for this is that emerging adults benefit from real work experiences because higher education is not directed toward developing the practical skills needed by employers (Pacurari & Nechita, 2013).

Apprenticeship is a form of instruction in which a student or novice learns from a master of a trade or occupation. Apprenticeship has existed for centuries as an approach to transitioning young people into the workforce. While it differs in various cultural settings, its broad outlines are still found today. Since the emergence of industrialism, apprenticeship has changed from being mainly private and tradition based to being institutional and part of the public national systems of organized vocational education and training (Stewart and Kerr, 2010).

Historically, the term vocational education has been associated with the modern industrial era of male-dominated skilled labour in the crafts and trades as delivered through apprenticeship training models (Canning, 2012). In Canada, the modern-day apprenticeship has remained as a form of vocational training for trades primarily undertaken on the job under the supervision of a certified journeyperson (Stewart & Kerr, 2010). By the middle of the 20th century, Germany and several other Northern European countries began to improve and expand the crafts and trades apprenticeship system.
Apprenticeship in northern Europe gradually transitioned from a system that was workshop or studio based, traditional and private, to one that was institutional and public (Rafferty, 1995). Some of the same principles that governed that system, such as learning on the job under contract with a master tradesperson were incorporated into the modern training model. The school-based component of education that encompasses both the general and technical education was added and the system evolved into the dual studies VET system.

The duality in this model is between what the apprentice learns in classroom or school settings and what they learn on the job. During their training, the apprentice will spend on average 80% of their time on workplace training under the supervision of a journey person learning and doing the productive work of the business as a paid employee and 20% of their time in a classroom environment, often at a college or vocational school. On conclusion of their program, the apprentice will write an exam (Red Seal exam in Canada and the Chamber of Commerce exam in Germany) to be certified as a journeyperson in their particular trade or occupation. The modern dual studies VET system in Europe and Germany in particular applies to the vocational training needs of the post-industrial and knowledge-based economy including services.

Euler and Wieland report that there has been growing international attention on the dual-system approach as a means of addressing the problem of youth unemployment. They note that countries with dual VET systems have the lowest youth unemployment rates in Europe (2015, p.5). They also cite studies that have reported that work-experience, whether acquired informally or formally as part of a course of study increases the likelihood of post-education employment.

In a post-industrial society, the increasing importance of the service sector and the rise of the knowledge economy have created vast numbers of new jobs and vocations. Throughout the world, the education and training for these new positions is increasingly being delivered at the tertiary level. In BC, this includes colleges, institutes, and universities. Germany, Switzerland, and other Northern European countries have chosen to deliver much of the training for these new occupations through an expansion of the apprenticeship training model, which is actually considered part of the secondary education system. As the requirements for technical knowledge become increasingly complex, the education systems in both BC and Germany have been evolving. In BC
(and throughout Canada), colleges and universities are offering more work-integrated learning opportunities as a part of their vocational programs, and, in Germany, some universities are adopting the dual studies model.

Canada has consistently relied more upon immigration for the continued supply of skilled trades rather than on strengthening its own trades training system delivered through the apprenticeship model. As the need for new types of skills and training became necessary for Canadian business and industry in the middle of the 20th century, vocational training and education was offered through the new community college system. The British Columbia Institute of Technology (BCIT) and Vancouver City College (now known as Vancouver Community College), were institutions that were created based upon the recommendations of the MacDonald Report (MacDonald, 1962). These institutions offered training programs for the new economy mainly through academic programs delivered in classroom settings and complementary college led business enterprises, rather than through apprenticeship - the direction taken by Germany. Further, the BC apprenticeship system did not evolve to include occupations in the service or knowledge economy and currently still remains a vocational training system mainly for the traditional trades (e.g., construction electrician, carpenter, and plumber).

Significance of the Study

Vocational education and training is an issue of national interest for various reasons. The most obvious reason is that we need people with occupational knowledge, skills and expertise to design and build our infrastructure, innovate telecommunications, maintain and repair machinery and equipment and provide hospitality and other services. More recently, vocational education has been associated with economic competitiveness with the assumption that improving the quality of VET has a positive effect on competitive advantage through generating greater productivity and facilitating innovation (Fuller, 2015). Stewart and Kerr (2010) noted that there is a clear need for provincially specific partnership research to better understand how Canada’s post-secondary pathway is or is not working for Canadian students and employers. Refling and Dion (2015) have suggested that there is a need for research to develop a general understanding of what kinds of employers are investing in apprenticeship training and what can be done to encourage high quality on the job training.
The Skills Mismatch in Canada and BC

Over the past several years, there has been a great deal of media coverage about a skills mismatch in the Canadian labour market. “People without jobs [and] jobs without people” (Miner, 2014, p. 6) has frequently been a headline (see also Flavelle, 2013) in Canadian news stories. The Canadian Imperial Bank of Commerce CEO Victor Dodig stated that Canada’s post-secondary institutions are not producing enough graduates with the right skills to drive economic growth (Blatchford, 2015). In an article in the Huffington Post Dodig (as cited in Blatchford, 2015) stated, “A lot of people are overeducated and underqualified for the jobs that are needed” (para. 5). The Ontario Chamber of Commerce recently released a report entitled Talent in Transition: Addressing the Skills Mismatch in Ontario (Sullivan, 2017), in which the author reported 82% of employers who attempted to recruit staff in the past six months encountered at least one significant problem. The top challenge reported by 60% of employers was finding someone with the proper qualifications. The Ontario youth unemployment rate (between 15 and 24 years of age) in the spring of 2017 was at 12.2% (Government of Ontario, Labour Market Report, 2017) and likely included many college and university educated young people. In the recently published 2019 Canada Salary Guide (Hays Recruiting Experts Worldwide, n.d.), 80% of employers reported being affected by a skills shortage and projected this would become worse in 2019 as hiring picks up. Despite the apparent skills shortage, only 33% of employers planned to address the issue by internal training to improve the skills of their workforce (Hays Recruiting Experts Worldwide, n.d.).

Miner (2014) has claimed that Canada will face a shortage of 2.3 million skilled workers by 2031 due to increased economic demand and the aging workforce. In addition, he stated that this is only the beginning of the problem because there are several categories of skills mismatches, including (a) supply and demand, (b) geographical, (c) underemployment (over-skilled), and (d) under-skilled and overemployment mismatches (Miner, 2014).

In BC, the concern has also focussed on new skilled jobs being created in the resource industry including mining and liquefied natural gas as well as positions opening up due to retiring skilled trades’ people from all industries. The BC Ministry of Advanced Education and Skills Training (Ministry of AEST) recently released a report titled BC
Labour Market Outlook: 2018 Edition (Government of BC, 2018). The report noted that 903,000 job openings created by retiring workers and economic growth will need to be filled over the next 10 years, and approximately 80% of these jobs will require post-secondary education (Government of BC, 2018).

About 50% of the expected job openings will be filled by workers just starting their careers (Government of BC, 2018). Another 27% will be filled by immigrant workers, and 8% by migrants from other provinces (Government of BC, 2018). This leaves a shortfall of about 130,000 jobs - about 15% of the total number of openings. The ministry stated, “Educators and employers will need to provide training to ensure that workers have relevant skills and competencies that make them resilient as jobs evolve and as yet-unheard-of roles come into existence” (Government of BC, 2018, p. 3). This statement appears to recognize that mismatches in skills will have substantial consequences in the face of the forecasted labour shortages in Canada.

Integration of Youth into the Workforce

The overall Canadian unemployment rate has continued to drop since the 2008 recession, and as of December 2018 it is down to 4.8%; however, the youth unemployment rate remains more than twice as high at 11% (Statistics Canada, 2018a). This problem is not a new issue caused by the 2008 recession; rather, this has been an ongoing problem in Canada. The issue was first noted in the mid-1950s when the youth unemployment rate was at 11.1% (Werniuk & Morissette, 2017). The rate dropped to 5.6% in 1966 but began to rise shortly after to 11.1% by 1971, peaking in 1983 at 19.2% (Werniuk & Morissette, 2017). From 1990 to 2015, the youth unemployment rate remained between 17.2% and 11.2% (Werniuk & Morissette, 2017).

Additional problems faced by youth in Canada today are the decline in full-time employment from the late 1970s to the mid-2010s and decreasing wages for those young workers with full-time jobs (Werniuk & Morissette, 2017). In 2015, full-time wages for male youth were 11.2% lower than in 1981, while wages for female youth were 3% lower than in 1981 (Werniuk & Morissette, 2017). These are likely some of the causes behind the trend of young people delaying leaving the family home. According to Statistics Canada, in 2011, “25% of young people aged 25 to 29 still lived with their parents” (Galarneau, Morissette, & Usalcas, 2013, p. 2), up from 11% in 1981. The rate
of young people aged 25 to 29 still living with their parents increased to 27.2% in 2016 (Statistics Canada, 2018b).

A further issue to consider is the youth underemployment rate, which was 27.7% in 2013 (Canadian Labour Congress, 2014). The underemployment rate counts those individuals who want to work but are not looking because they are in school, ill, discouraged, or because they have personal or family responsibilities. In 2013, the top reason for not looking for work among all age groups at 28% was being in school (Canadian Labour Congress, 2014). It is reasonable to infer that a substantial number of adults and youth who are attending school do not wish to be there and would not be in school if there were a suitable job available. While being in school to develop more employment skills is a reasonable strategy to finding a job in future, it suggests that some amount of education is superfluous. This additional education comes at a cost to the Canadian taxpayer, as most Canadian students attend a publicly funded institution. It also comes at a cost to the student in terms of time and tuition fees without any guarantee of a job once the educational program has been completed.

**Student Debt**

Government funding of the Canadian post-secondary education has not kept pace with the increasing costs of running a post-secondary institution. As a result, tuition fees have increased well beyond annual inflationary increases, about 5–7% per year above the annual inflation rate in the mid-1990s and then about 2% annually above the inflation rate commencing in 2000 (Usher, 2018a, p. 40). It is problematic enough for students accumulating student debt to finance their post-secondary education when their only prospect is a poorly paid part-time job after graduation; however, it is even worse when they feel it is necessary to return to school for further education (and more debt) in the hopes that the next degree might be the one that enables them to secure a full-time job with real career prospects. In Canada, 50% of university students take on loans, and graduates who take on loans are on average $27,000 in debt (Government of Canada, 2017a).

Despite a substantial amount of funding invested by the Canadian and provincial governments in post-secondary education and a highly educated workforce, business and industry continually report that it is difficult to find appropriately qualified employees.
It would be reasonable to ask whether there is a solution. The solution should benefit employers by providing a better matching of skilled employees to labour market needs (Bergevin, 2013). Better matching of job training to skills needed could improve business productivity, as vacant jobs would be filled more quickly. This would further Canada’s economic growth by helping businesses to be productive and improving Canada’s competitiveness in global trade. Young adults would also benefit by having access to more direct pathways from post-secondary education and training to the job market.

A Systems Perspective

The BC post-secondary education and training system is large and complex. It includes 25 public post-secondary institutions, 19 private degree-granting institutions, and 485 private training institutions that provide short-term training and credentials at the certificate and diploma level (Government of BC, n.d.-b, -e). Most of the colleges, universities, polytechnics and special purpose teaching institutions offer both vocational and academic programs, however the vocational programs are delivered primarily through classroom-based instruction. In addition to the vocational and academic institutions, the BC apprenticeship system overseen by the BC Industry Training Authority oversees and regulates training for approximately 100 trades. A Red Seal designation is available for about 56 trades while the remaining trades lead to a Certificate of Qualification.

A systems theory approach (Bess and Dee 2012) can be helpful in analyzing how the BC post-secondary education and training system functions and what must change in order to adopt the German model of dual studies education and training. The main components of a system are the inputs (students), who are transformed through an educational training program. The outputs are educated graduates who have a substantial knowledge base in a particular field or a certified journey person in the case of a trade.

An important influence on the students’ choice about whether to engage in a program of vocational education and training is relevant information. Students’ choices of what to study at the post-secondary level tend to be influenced by parents, school counsellors, advisors, media, friends, potential employers, and society in general (Temple, 2009). It has been noted, “secondary school teachers and guidance
counsellors often have a poor awareness of the opportunities available in the skilled trades and are more likely to promote college or university as a preferred educational option.” (Stewart & Kerr, 2010, P, 12). Students must also decide whether it is worth investing the money and whether they have they capacity, time, and motivation to undertake a post-secondary education program. It is important to understand these influences on students because the demand shapes the overall post-secondary system.

In the vocational programs offered by academic institutions, the classroom instructor is the most important part of the student’s transformation process. In the apprenticeship system, however, employers play the most significant role because approximately 80% - 90% of the students’ training is completed at the workplace.

Boundaries separate the system from its environment. The environment includes everything beyond the boundary of the system but the boundaries shape and influence the system if the boundary is relatively more open than closed. In the case of the BC post-secondary education environment, multiple environmental influences shape the system. These influences include the BC Government, Boards of Governors (appointed by Government), employers, businesses, parents, students, and the public. They all have a voice in shaping the operations of our education and training systems. The legislative framework, funding, appointed boards, and direct control through administrative directives by the BC government are so powerful that they are more than an environmental influence and are in fact part of the post-secondary institutional system. In Chapter 2, I will review literature and scholarship that consider VET from a systems perspective.

Research Questions

For many young people, the transition from school to work and adulthood is a significant life event. Arnett (2004) has named this life phase “emerging adulthood”. Emerging adulthood is both prolonged and more challenging in a knowledge-based economy as young people feel obliged to seek higher education degrees after compulsory schooling to make themselves more marketable. Given the importance of global economic competitiveness and the nature and rate of technological and social changes, VET is receiving attention from governments and employers all over the industrialized world. Canada is experiencing challenges in matching the knowledge and
skills of the graduates of post-secondary educational institutions with the diverse needs of employers in rapidly changing and emergent fields. The German dual studies model of VET has been cited as a potentially effective solution to the matching problem as well as the school-to-work transition issue faced by young people. Critics of the German model have suggested that it is not readily transferrable to other sociocultural and economic contexts. This thesis explores the following general and associated sub-questions.

**General Question**

Scholarly research has identified key elements of the German dual studies VET model as being of critical importance to the success of the implementation and development of VET systems. As a frame for a critical review of BC’s current VET system, can the key elements of the dual studies model of VET be used to identify potential revisions and innovations to BC’s VET system?

**Questions**

1. What are the similarities and differences between the BC system of VET and the German dual studies model of VET?

2. What challenges need to be considered by the province’s policy makers in applying key elements of the German dual studies model of VET to the current VET system in BC?

3. What does a BC-based field study of different approaches to apprenticeships add to the knowledge base about the province’s VET system and suggest as directions for further research?

**Organization of the Thesis and Research Design**

The first two research questions will be addressed through a review of relevant literature and scholarship concerning VET with a focus on apprenticeship as a model of training in BC and in Germany. Chapter 2 documents BC’s post-secondary system in some detail because most VET programs are delivered primarily through classroom instruction at colleges, institutes and universities, and in some cases supplemented by a variety of work-integrated learning opportunities. In Germany, the majority of VET
programs are delivered through a modern apprenticeship system, which is also documented in Chapter 2.

Question 3 is addressed by a qualitative field study of the experiences in the use of two forms of apprenticeship delivery models: the block release model commonly used throughout BC’s apprenticeship system and the day release model as used by a single private BC business. The goal of this study was to ground some of the theoretical or large system findings of Questions 1 and 2 in a practical example to illustrate the effects of different approaches on students, employers and system administrators. There is very little research on the lived experiences of students involved in programs of apprenticeship. The data reported from this study will address the general research question at a human scale and point to future research questions. Chapter 3 outlines the methodology of the field study, and describes the participants, the conduct of the interviews and data collection.

Chapter 4 documents the findings of the comparison of the BC VET system to the German dual studies VET system and the findings of the field study of two different operational apprenticeship programs. Chapter 5 discusses the significance of the study for current policies and directions for VET in BC and closes with recommendations for policy development and further research.
Chapter 2.

Literature Review

This thesis places a major focus on the concept of apprenticeship as an important component of VET. Apprenticeships involve a central relationship between the apprenticing employee and business employers with the trainees spending up to 90% of their instruction “on the job” under the supervision of an experienced journeyperson. The dual principle, in descriptions of VETs, refers to the two major components of an apprenticeship: classroom and workplace. Since the training is grounded in the business processes and workplace culture of an employer’s business, there should be less chance of a “skills mismatch”. Stewart and Kerr (2010) have written, “At first glance apprenticeship training appears to be a perfect educational solution for many Canadians, providing a clear pathway into the labor market.” (p.2.)

While apprenticeship as a component of the VET system is a focus of this thesis, it is important to acknowledge that apprenticeship is a minor element of the overall post-secondary system. In 2004, BC had 20,050 registered apprentices (BCITA 2007), and the number increased to 37,703 (BC ITA 2018). However, at 2.0% apprenticeships are still a relatively small portion of BC’s labour force. By comparison, Alberta had the highest proportion of apprenticeships at 3.6% of the labour force (Refling and Dion 2015). While many descriptions of apprenticeships within the VET system assume that the process involves young people, often directly from high school or even during high school, the actual average age of apprentices in BC is 27.7, which is close to the national average of 30.8 (Refling and Dion, 2017). Further, apprenticeships often attract adults who have some prior work or postsecondary education experience.

Scope and Limitation of the Literature Review

The focus of this literature review is on national VET systems, in particular those in BC (to represent Canada) and Germany. This chapter will provide a detailed review of the literature describing the BC post-secondary education system because VET is delivered in some form by all the main players- universities, colleges, private training institutions and employers in the apprenticeship system. I chose BC to represent all of
Canada's post-secondary VET systems because Canada does not have a national system. Under the Canadian constitution, education and training are a provincial responsibility, and each provincial and territorial system differs from the others. Stewart and Kerr (2010) describe the current structure as one in which “apprenticeship is properly conceived of as 13 different systems operating in parallel.” (p.6).

The next part of the literature review goes into some depth about the German education system because the dual studies VET system is part of the secondary school system. Only a small part of the German VET system is delivered at the tertiary (post-secondary) level. The German system exemplifies the training system in coordinated market economies while the BC system exemplifies the training systems common in liberal market economies. The underlying economic philosophy of VET systems is described in more detail in Section 2A.

I have elected to focus on research, reports, websites and journal articles that discuss national systems of VET in Europe and North America. In many countries, particularly in northern Europe, apprenticeship is the focus. I have mainly included articles and reports that address VET in the German and Canadian context with a focus on British Columbia. Although VET is topic of active international interest for policy development and implementation, I have included only one reference to a study conducted in Asia and none in Africa or South America. My review is largely drawn from articles and books published in English. Although the scope of the review is mainly on work published since the year 2000, some works date back to the 19th and 20th centuries to provide historical context.

My research of the literature on apprenticeship led to many issues and sources that had many strands reaching far beyond apprenticeship as a model of education. With the reader in mind and keeping the focus of the study, I narrowed the scope of my review of research, legislation, policies, and practices to include only those areas most relevant to VET systems that featured work-integrated learning practices, and especially those with a focus on apprenticeship. I examined issues related to trades training but only in so far as they influenced system-wide training.

Many authors (Euler 2013; Barabasch and Wolf 2011; Phillips and Ochs 2003) have analyzed the potential to transfer the German dual studies system of VET to other
countries. The discussion of the theoretical potential to transfer the system has had three separate phases. The first transfer phase was driven by the idea that the dual system could be transferred intact, using a blueprint approach to exporting and implementing it in other VET structures. The long-term goal under this phase was to replace the local VET system with the German model. This phase commenced in the 1970’s and lasted to the 1990’s.

The second transfer phase using a systems component approach commenced in the 1990’s and lasted until about 2010. In this phase, theorists focused more on transferring individual components of the system and acknowledged the need to pay more attention to local social and economic conditions. The third and current transfer phase began in 2010 and focused more on a key concept approach. The key concept approach means that neither the system as a whole nor its components can be transferred. Instead, key elements of the system, which together constitute the philosophy or spirit of the dual system, must be adapted to the specific conditions of the countries taking on the system (Hummelsheim & Baur 2014, P. 287). Section 2G provides more detail about the third and current transfer phase and examines the 11 essential systems elements identified by Euler (2013).

Apprenticeship is a broad and substantial topic and is often perceived to be a model of training only for the traditional craft trades (e.g., electricians, carpenters, and plumbers). As the researcher, I view apprenticeship as a model of education that is a systemic form of work-integrated learning. Further, although some Canadian provinces operate youth apprenticeship programs at the high school level, this thesis is mainly concerned with VET at the post-secondary level, and youth apprenticeship programs are excluded from this review.

The literature review encompassed in this chapter is divided into seven sections as follows:

• Section 2A examines the connection between education and training, the economy, and politics.
• Section 2B looks at some of the data behind the claims that a skills mismatch or skills shortage exist in BC and Canada.
• Section 2C reviews the theory behind apprenticeship as an approach to education and training. It also provides some context as to how the European dual studies model evolved through history.

• Section 2D documents the BC post-secondary education and training system and includes a background of the overall Canadian system for context. In Canada, education and training are provincial responsibilities and there is no single federal training system against which to compare the German national training system.

• Section 2E reviews the history of education and training in Germany, how the system evolved, and presents an overview of the modern dual studies VET system.

• Section 2F critiques the German system and reviews the advantages and disadvantages of vocational education over general education.

• Section 2G considers the feasibility of exporting the German dual studies VET system.

Section 2A: Education and the Economy

VET exists at the intersection between systems of education, the economy and societal needs and expectations. Countries throughout the world have different constitutions, economies, political views, and values that have influenced the development of their respective VET systems. Compared to Canada, northern European countries have better outcomes as measured by lower youth unemployment rates, faster integration of youth from school to work, a lower rate of job mismatches than in Canada, and more competitive economies (European Centre for the Development of Vocational Training, 2014; Lerman, 2014). In the World Economic Forum’s Global Competitiveness Report 2018, Schwab (2018) rated Germany and Switzerland as the third and fourth most competitive economies out of 140 countries ranked by 98 indicators, including nine related directly to skills, and both countries have strong VET systems (dual studies apprenticeship). Canada is ranked as the 12th most competitive economy—11th in terms of the skills pillar of the index (Schwab, 2018). The skills pillar, comprised of nine indicators, ranks Canada 20th in terms of staff training, 11th for quality of vocational training, and 16th for ease of finding skilled employees (Schwab, 2018). Numerous research articles suggest that Canada should consider adopting the German dual studies VET model as a potential solution to improving Canada’s productivity (MacLaine, 2015; Stewart & Kerr, 2010).
There is a great deal of interest in national education and training systems because enhancing and broadening the skills of the workforce is viewed as a key strategy to increase the productivity and competitiveness of a country or state (Kirpal, 2010). In addition, “education seems to remain the single most important determination of career and other life chances” (Teichler, 2015, p. 131). However, strategies used by countries to support the development of both an effective workforce and generally educated, personally competent and engaged citizens vary depending on underlying economic philosophies, social structures and beliefs about the nature of education.

Hall and Soskice (2001) created a “varieties of capitalism framework” (p. 86) describing Canada’s economy (and those of the USA, Australia, and United Kingdom) as liberal market economies (LMEs). In LMEs, businesses rely purely on free market mechanisms and principles. Fuller (2015) described the liberal market countries approach to the relationship between capital and labour as laissez-faire, voluntarist, and limited to providing a legal framework that supports the workings of market forces. The main contribution of the state in LMEs is to create and maintain an education system that provides citizens with basic general education. Orientation to work and workplace training is left to be sorted out by individuals and businesses.

The economies of Germany and several Northern European countries are referred to as coordinated market economies (CMEs). In CMEs, various non-market mechanisms such as coordinated collective bargaining and concentrated shareholdings play a role. CMEs tend to intervene in the capital–labour relationship to create a social partnership approach (Fuller, 2015, p. 235). This creates shared support for and involvement in the VET system and facilitate the supply of apprenticeship positions. Table 2 compares the different education philosophies of each type of economy.
Table 1. Education Philosophy by Type of Economy

<table>
<thead>
<tr>
<th></th>
<th>Coordinated Market Economy</th>
<th>Liberal Market Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Philosophy</td>
<td>Corporatist</td>
<td>Capitalist</td>
</tr>
<tr>
<td>Training System</td>
<td>Interventionist in macro planning and steering education</td>
<td>Rely on self-regulating market</td>
</tr>
<tr>
<td>Degree of Standardization</td>
<td>High – dominated by specific occupations</td>
<td>Low – more generalized education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Education and Occupations not linked</td>
</tr>
<tr>
<td>Education Philosophy</td>
<td>Specific knowledge is considered exemplary in-depth learning</td>
<td>General to enable flexibility and personality development</td>
</tr>
<tr>
<td>Education and Employment Match</td>
<td>High – Employers help define requirements</td>
<td>Low – limited employer engagement</td>
</tr>
<tr>
<td></td>
<td>Employers offer apprenticeship</td>
<td>Apprenticeship limited to trades</td>
</tr>
</tbody>
</table>

*Note. Based upon the words of Fuller (2015) and Teichler (2015).*

It must be noted, however, that most LMEs do have very small apprenticeship systems that are limited to the trades, while CMEs maintain investments in universities and colleges. The difference between the two economies is that the highly regulated, occupation-specific VET is the predominant model of workforce training model in CMEs and the laissez-faire, market-driven model is predominant in LMEs.

Another way of looking at the differences in these two approaches is that some countries have a stronger education logic (i.e., general education systems that do not take into account employment after graduation) and others have a stronger employment logic (i.e., education systems that lead directly to employment). In education-logic countries (e.g., Sweden, United Kingdom, and Canada), linkages between education and employment are weak. In employment-logic countries (e.g., Germany and Denmark), entry to skilled occupations is regulated and restricted to those who have completed an agreed vocational program—usually in the form of an apprenticeship—and have achieved the required qualifications (Fuller, 2015). There are of course exceptions in LMEs, such as the professions of accounting, law, and medicine. The education programs and work experiences of these professions are highly regulated and must be approved by both government and professional associations.

The differences in the two types of economies suggest that it is not possible for a country with an LME to adopt the training model of a CME. Sharp and Gibson (2005)
noted that the German system exists in a particular context of social and labour market institutions that are unlikely to arise in Canada (p. 39). There are exceptions, however, such as Ireland and Australia, both of which have LMEs. Ireland was able to shift to a more Northern European style of apprenticeship through legislative reforms with the introduction of the 1993 Apprenticeship Act (as cited in Ryan, 2000, p. 59). Australia’s government also chose to intervene in the national apprenticeship system by creating a regulatory framework and institutional structures to promote apprenticeship (Smith, 2010).

Despite the challenges documented above, various authors have suggested Canada should consider adopting the German dual studies VET System (Lerman, 2014) or at least learn from the German system (Mowat Centre, 2014). Other authors (Mowat Centre, 2014, Hanushek, 2017) have claimed it is impossible for Canada to adopt the German dual studies VET system outright. The reasons given usually relate to the cooperative nature of stakeholder relationships (e.g., between employers and labour) that do not exist in North America or the cultural embeddedness of the German system that cannot be transferred to other countries that do not have similar history or culture.

During the 1980s and 1990s, the German Agency for International Collaboration or Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Swiss Agency for Development and Cooperation (SDC) attempted to export the dual VET system to developing countries. These efforts failed and led researchers to the conclusion that the dual model of VET is not directly transferable to other countries because of cultural embeddedness and the complex institutional structures in Germany and Switzerland, nations that successfully operate dual VET systems.

The GIZ and SDC did not give up on the idea of transferability of the dual VET system to other countries. Their efforts focused instead on assisting other countries in developing the most important dual VET institutions and structures using structures prevalent in the adopting country and helping the institutions in adopting countries to evolve more gradually to support the dual VET model (Valiente & Scandurra, 2017). The GIZ and SDC recognize that system changes in another country cannot be immediate but rather need to evolve, taking into account the local context.
The most important question to be considered, however, is that, regardless of which system has been successful in the past, there is no guarantee that it can continue to meet the needs of the future workforce. Policymakers in all countries and jurisdictions must decide whether further expansion of more general higher education or greater investments in vocational training will better meet the needs of the future workforce.

Section 2B: Research on the Skills Mismatch Debate

The term skills mismatch is used in some reports to refer to a shortage of skilled tradespeople. In the context of this study, a skills mismatch is a problem of the differences between the expectations and requirements of employers and the output of young people from the education system. It can refer to a shortage of people with the right skills in virtually any occupation and need not be seen as strictly limited to trades. It can also refer to an oversupply of people trained for a particular occupation in which sufficient demand does not exist.

The Government of Canada (2017a), Ontario Chamber of Commerce (Sullivan, 2017), professional academics (Lerman, 2014; Miner, 2014; Weaver & Osterman, 2017), Chartered Professional Accountants of BC (Mathison, 2017), Canadian Council of Chief Executives (Coates, 2015), and other agencies throughout Canada (e.g., Bergevin, 2013; Canadian Labour Congress, 2014) have all expressed concerns about a significant skills mismatch in Canada with accompanying claims that not addressing the issue has substantial economic consequences for BC and the rest of Canada. According to Mathison (2017), President and CEO of the Chartered Professional Accountants of BC, this issue costs the provincial government billions of dollars in foregone GDP and millions in tax revenue. The Chartered Professional Accountants of BC is concerned about the economic impact of an inadequately trained workforce in BC; however, skills shortages are not unique to BC or Canada. Employer surveys in the US show that 40% of college graduates seeking employment lack applied skills to meet employer needs (Grant, 2016, p. 3).

Research reports sponsored by employer organizations put the onus for the skills mismatch on post-secondary institutions that are alleged to have failed to produce job-ready graduates. However, most universities would argue that a university degree is intended to focus on developing general capacities rather than teaching narrowly defined
applied skills. Universities have responded by providing more technical and vocationally oriented degrees; however, in BC, these degrees typically do not include work-based training with the exception of co-op terms, practicums, or other work-integrated learning programs and placements that are not aligned with the students’ program of study (Stirling et al., 2014).

In March 2015, Coates published *Career ready: Towards a National Strategy for the Mobilization of Canadian Potential*. The report was commissioned by the Canadian Council of Chief Executives with a stated goal of improving the quality of education and skills training in Canada while enhancing young people’s ability to succeed in the 21st century job market. Coates’ report, which does not cite sources or provide background on any research specifically completed to inform the report and, therefore, may simply be an opinion piece, suggested encouraging entrepreneurships, providing better career advice and information, promoting applied learning, integrating the apprenticeship system with high school, and establishing a competency framework for a range of sectors and occupations.

In April 2014, Lerman published a report entitled *Expanding Apprenticeship Training in Canada: Perspectives from International Experience*. Lerman’s report also identified the issues of skills mismatch and youth unemployment as being serious concerns in Canada and based upon the claimed successful experiences of graduates in Northern Europe, proposed expanding the Canadian apprenticeship system to occupations beyond the trades.

In March 2014, the federal Minister of Employment Jason Kenney took a Canadian delegation on a study tour of Germany and the United Kingdom to learn from their respective education and skills training systems, a model he has touted as “enormously successful” (“Jason Kenney on 6-Day Study Tour,” 2014, para. 2) and one from which Canada could learn. In a statement made to CBC News, the minister stated that his goal was “to learn how we can apply best practices to Canada in order to improve our labour market system” (Kenney, as cited in “Jason Kenney on 6-Day Study Tour,” 2014, Comments section, para. 11). In later public comments, Kenney (as cited in Lapoint, 2014) clarified that he viewed the German system as a model that could help address an anticipated skilled trades shortage of one million workers by 2020.
The 2019 Canada Salary Guide from the Hays organization presents information on some issues of direct significance for VET systems including the skills mismatch. The report (Hays, 2019) claims that Canadian businesses are generally optimistic about the state of the economy and its prospects for growth in 2019. At the same time, however, the report indicates that 82% of the surveyed employers claimed to be suffering from a moderate to extreme skills shortage (p.1) while 60% noted that the skills shortage was negatively affecting their business productivity (p.4.) The report also notes that survey results indicate that the skill shortage also affects current employees with 73% of employers reporting that their employees are experiencing increases in workloads and stress (p.19.)

To support claims of a skills mismatch, many of the studies cited above access data from either Statistics Canada’s (2017a) Canadian Occupational Projection System or surveys commissioned by organizations such as the Canadian Federation of Independent Businesses (2018), the Ontario Chamber of Commerce in 2016 (Sullivan, 2017),¹ and the Conference Board of Canada (Grant, 2016).

Employer-commissioned surveys are not necessarily concerned with scholarly accuracy and, therefore, must be interpreted cautiously. They have their own agendas and are using survey outcomes and reports to move their goals forward. In some cases, the severity of the claimed mismatch seems to depend upon the question asked. For example, the Ontario Chamber of Commerce study asked the following question: Has your business experienced at least one challenge with recruiting staff in the past six months? The businesses that answered “yes” were asked to identify their top challenge. The top challenge cited by businesses in the survey was finding a properly qualified employee. A Canadian Federation of Independent Businesses (2018) survey identified 399,000 vacant jobs in the final quarter of 2017 with the majority of vacancies occurring in BC and Québec. The report does not state for how long the jobs were vacant but claims the job vacancy rate changed little by the first quarter of 2018.

Statistics Canada, on the other hand, which has a reasonable reputation for quality and independence, does not have an obvious agenda. Their most recent forecast

¹ These include a Fresh Intelligence survey of 773 Ontario Chamber of Commerce members conducted online between October 25, 2016, and November 30, 2016 and a Gandalf Group survey of 1,004 Ontarians between December 28, 2016, and January 3, 2017. A random probability sample of this size has a margin of error of +/- 3.1%, 19 times out of 20.
of future skills mismatches published in 2017 was entitled *Canadian Occupational Projection System (COPS): Projections Imbalances Between Labour Demand and Supply 2017–2026* (Statistics Canada, 2017b). The Statistics Canada (2017b) forecast analyzed labour market conditions in four different skill levels and identified the shortage and surplus in each of the five occupation categories as follows:

Management Occupations—almost in balance at 0.2% (39,800 workers).

Occupations requiring university education—5.9% shortage and 0.5% surplus resulting in a combined mismatch of 6.4% (1.1 million short plus 94,200 surplus = 1.2 million workers).

Occupations requiring college education or apprenticeship training—2.0% shortage and 5.3% surplus resulting in a combined mismatch of 7.3% (369,700 short plus 960,400 surplus = 1.33 million).

Occupations requiring high school education—1.7% shortage and 2.6% surplus resulting in a combined mismatch of 4.3% (304,000 short and 468,400 surplus = 772,000).

Occupations requiring on-the-job training—no shortage and 3.4% surplus, resulting in a combined mismatch of 3.4% (0 shortage and 620,000 surplus = 620,000 mismatch).

The Statistics Canada (2017b) analysis demonstrated that the vast majority of occupations are projected to be in balance over the next 10 years. However, the total number of mismatched workers is claimed at nearly four million and the overall Canadian workforce mismatch is projected to be 18 million workers or 22%. The overall mismatch masks regional variations, which may be worse (or better) in some provinces.

The Conference Board of Canada has suggested that there is a difference of opinion on skills mismatches and shortages between Statistics Canada forecasts and employer surveys, which relate to their fundamentally different purposes and functions (Grant, 2016). Macro systems such as the COPS maintained by Statistics Canada (2017a) are designed to forecast skills demand out into the future. Macro systems are organized around educational attainment (credentials), and those credentials are equated to skills. Macro systems are only effective when the credential and the skill set acquired during education are well aligned (e.g., medicine or law). Micro systems, such as employer surveys, are an expression of current demand. Micro systems cannot function as guides for students or educators on future employer demand (Grant, 2016).
The Conference Board of Canada claims that when education disciplines studied at university are not organized in a way that achieves alignment with employer needs, there is a risk of unrelated knowledge acquisition. Graduates in psychology, humanities, social sciences, and education have between one and three and one and two odds of earning less than the median income (Grant, 2016, p. 25). Graduates from these fields often continue on to colleges seeking more marketable skills. Franklin (2014), the President of Colleges Ontario, noted that between 2009 and 2014, the number of university graduates enrolled in Ontario’s colleges increased by more than 40%. Attending college after university is costly (for the student, their family, and society) and extends the school-to-work transition.

In the US, the discussion of the skills gap has centred around the contention that America’s workers lack the skills employers demand because “information technology has hit American firms like a whirlwind, intensifying demand for technical skills and leaving unprepared American workers in the dust” (Weaver, 2017, p. 76). This belief has resulted in calls for American workers to acquire more science, technology, engineering, and mathematics skills. The recent US economic success coupled with a low unemployment rate should have exacerbated this problem, but Weaver’s (2017) research revealed that hiring is no more challenging now than it has been in the past, and some of the challenges relate to inadequate compensation for difficult working conditions. Rather than blaming workers for inadequate skills or schools for not preparing job-ready graduates, Weaver (2017) claimed the focus should be on employer relationships with technical colleges and other educational institutions as well as employer-provided training. Weaver (2017) noted that only one-half of US plants provide formal training to their production workers compared to 70–80% in the 1990s. This view was echoed by Boggs (2017) writing for the Globe and Mail, who noted that Ontario’s own labour-market data did not support claims of a skills mismatch caused by an undersupply of qualified workers. Boggs also noted that employers are paying less and less on employee training and advised that if they care enough about their own operations, they should invest in training their workforce in firm-specific skills.

A 2012 survey of 2,700 manufacturing firms with more than 10 employees selected from a Dunn and Bradstreet database found that only half of the firms had spoken with their local community college about the education and training of the firm’s core employees and only 20.3% had used the local college to train incumbent workers.
(Osterman & Weaver, 2016). The firms that worked with local community colleges reported high levels of overall satisfaction with the training. Weaver (2017) stated that rather than fretting about a skills gap, the focus should be on the challenge of coordinating the supply and demand side of the labour market. One way to do that is to focus on institutional mechanisms necessary to make apprenticeship work.

The Paths on Life’s Way project (British Columbia Council on Admissions and Transfer, n.d.) is the only longitudinal study of its kind in BC, and one of the few longitudinal studies of youth in Canada (Andres, 2004, p. 114). The data set drawn from high school graduates from 1988 permits a detailed account of individuals’ lives, choices, and post-secondary education and work experiences across different points in time since high school graduation. In 1993, the researchers mailed a follow-up survey to the original sample pool, and responses were received from 2,030 of the original respondents. Post-secondary participants and non-participants in all school districts in BC responded to the survey (Andres, 2004).

The 1993 survey asked respondents to specify the names of all institutions attended, and responses were categorized on the basis of whether survey respondents attended universities, vocational technical schools, community colleges or university colleges, participated in private post-secondary institutions, in apprenticeship programs, or were non-participants for each year between 1988 and 1993 (Andres, 2004). They were also asked to report on credentials earned and the trade or line of work in the case of apprenticeship. The 1993 survey found that 91% of respondents had participated in some form of post-secondary education in the five years since high school graduation and over 60% had earned some form of credential.

The final question on the 1993 questionnaire was open-ended and worded as follows:

Do you have any final comments or thoughts regarding education and work that you want to share with us? In particular, you are invited to comment about the following: a) accessibility to post-secondary education; b) the cost of post-secondary education; c) work, education and the economy. (Andres, 2004, p. 125)

A total of 1,608 (79%) of respondents to the 1993 survey took the time to provide written answers to this question (Andres, 2004).
Applied/vocational education and work were the two most popular unsolicited topics representing approximately 30% of the total number of survey respondents’ comments. Overall, the responses indicated participants’ disappointment that they were provided “only with theory and a lot of knowledge that employers couldn’t care about” (Andres, 2004, p. 126). Another participant commented, “Given the changing workforce, I think that education is becoming less in touch with what employers need” (p. 126). These sample comments indicate that students expected post-secondary education to have prepared them for work and employability, resulting in challenges and disappointment for them after graduation. Although the students were not asked how the lack of preparation for the workforce actually affected them, the fact that so many of the 1993 respondents made similar comments about work and education strongly indicates that they believed there is a problem.

In Canada, there is agreement amongst employers, policy writers, and students that a labour market mismatch is a problem. A 2013 Prairie Research Associates study of first-year university students’ most important reason for attending university revealed that preparing for and obtaining a good job was the top response coming from 68% of the 15,218 respondents (Grant, 2016, p. 17). Clearly, students wish to be prepared for the world of work upon completion of post-secondary education and seemed to believe that would happen when they entered the post-secondary system. Employers seem to be equally disappointed that post-secondary graduates are not better prepared for the workforce, leaving these two major stakeholder groups dissatisfied.

There is, however, no consensus on what to do to fix, or at least reduce, the problem. In a Conference Board of Canada report titled Aligning Skills, Grant (2016) suggested several strategies to reduce the labour market mismatches, including enhancing employers’ partnerships with post-secondary education institutions. The Conference Board of Canada’s survey of 854 BC employers indicated that employers did not have good opportunities to communicate their skills needs to post-secondary education institutions but that many were interested in creating partnerships with these institutions (Grant, 2016).

The German VET model may be seen as a comprehensive and structured solution to the skills mismatches and shortages problem (MacLaine, 2015). Adopting the German dual studies VET model is however, by no means the only option to address the
problem. Expanding co-operative opportunities, practicums, and other work-integrated learning strategies, as suggested by the Conference Board of Canada (Grant, 2016), would better position students for employment post-graduation. Other strategies are to (a) set government hiring targets of youth between the ages of 18 and 29, (b) convene an employers’ roundtable to establish hiring goals, (c) encourage mentorship, (d) develop additional supports for young entrepreneurs, and (e) create a more accurate and reliable labour market information system that links skills with credentials (Government of Canada, 2017a).

Section 2C: Apprenticeship as a Model of Education

Throughout human history, apprenticeship has been the most prevalent mode of learning for occupational preparation (Jordan, 1989). Occupational and cultural preparation has been necessary for developing each individual’s capacity to provide food, shelter, and services for survival in settled communities over the past 10,000 years. Our society would not have progressed to where it is today if not for the human ability to mimic or imitate (learn from) more experienced and senior practitioners, be they family members on the farm or mentors at local workplaces. Didactic teaching, the verbal communication of abstract knowledge removed from its occasions of use, is at most a few thousand years old and stems from Greek philosophers expounding theories to their students (Jordan, 1989).

Mimetic learning for occupational preparation is described as observation, imitation, and practice. Imitation may be described as the trial phase of mimetic learning and is the precursor to skills learning (Chan, 2017). Mimetic learning requires the learner’s active and interdependent engagement in occupational tasks (Billet, 2016). Rather than describing apprenticeship as “learning on the job,” it is more accurately characterized as being self-mediated learning. The learning arises mainly through the learner’s active and interdependent engagement in occupational tasks (Billet, 2016). This does not mean that apprentices lacked guidance from elder family members; rather, it describes how the learning occurs. Imitative learning requires coaching and feedback to assist learners to recognize when they are on the right track and enable the learner to assess what needs to be worked on further therefore, the social setting is crucial (Chan, 2017).
Billet (2016) described two dimensions to the practice curriculum that support apprenticeship learning. The first is engaging in the lived experience of working in a particular work community over time (immersion), which creates the process of experiencing and learning through everyday work activities (Billet, 2016). Learning and development are a social collaborative process. Vygotsky’s (1987) zone of proximal learning theory stated that through interacting with the teacher or capable peers, students can learn subject matter that is just beyond their existing experience because the interaction bridges the space between what the student can do independently and what he or she can achieve with support. Lave and Wenger (1991) asserted, “Learning is an integral and inseparable aspect of social practice” (p. 31).

The second dimension is the deliberate structuring of experiences along a pathway to create a progression of learning. This dimension is often referred to as scaffolding. This theory was advanced by Vygotsky (1987) who stated the learner builds on the knowledge he or she currently has in order to advance to the next level of understanding. That pathway may be determined on a risk basis, that is, starting with low-risk tasks (with low-error costs) to high-risk tasks, in which the learners are given opportunities to hone their skills progressively along the sequences of tasks from easier to more difficult. Another model is parallel practice, in which the learner engages in the occupational practice next to the master and the master checks the work prior to the learner making critical decisions (Billet, 2016).

Apprenticeship as a model of education became prevalent in Europe around the middle ages with the creation of craft guilds that assumed responsibility for establishing production controls over various industries (Ogilvie, 2014). The guilds created steps for an individual to follow (scaffolds). A novice would start as an apprentice at an early age of perhaps 10 or 12 (Ogilvie, 2014). After a period of indenture that could last anywhere from between one to 10 years, the novice would graduate to status as a journeyman (Ogilvie, 2014). After another period of time, which varied from city to city, a journeyman could become a master of that particular trade once the journeyman had produced a masterpiece (as judged by other masters) and if an employer could support the cost of the master (Ogilvie, 2014).

Guilds and apprenticeships lost their importance during the industrial revolution with the establishment of large factories. The guilds and their individual tradesmen could
not compete on price or output with large factories that could mass-produce a variety of products. The deskilling resulted from the creation of assembly lines in which workers only performed and repeated one step in the process. In his seminal work entitled *The Wealth of Nations*, A. Smith (2009) referred to the guilds as engaging in rent-seeking behaviour by controlling production and prices. He believed guilds interfered with supply and demand in the market place. He also believed that apprenticeships took advantage of young people because the period of indenture or learning far exceeded what was needed to learn the skills of a particular trade.

The modern institutionalized apprenticeship system has been used as a form of mass occupational preparation for school leavers since the end of the Second World War (Billet, 2016, p. 616). This system is characterized by strong collaboration between workplaces and vocational schools at the local level. These national training systems vary widely from country to country and are dependent upon that country’s economic philosophy. Asghar et al. (2016) noted the benefits of apprenticeship include the following:

- Lower labour turnover – apprentices tend to stay with the organization (Ryan, Gospel & Lewis, 2007).
- Apprentices provide a pool of employees from which to select future managers (Hasluck et al., 2008).
- Apprenticeship training can increase interest training among other employees.
- Apprenticeship training shows company commitment to the employee (Dionisius et al., 2008).
- Apprenticeships are more practical and job related than other forms of learning.
- A good apprenticeship scheme can reflect an enhance reputation for the business, both within the industry and in the local community (Hasluck et al., 2008). (pp. 80–81)

**Choosing between academic and vocational education.**

Education can be viewed on a spectrum with vocational training for specific, narrowly defined jobs at one end and general education designed to help young people lead productive and fulfilling lives at the other end (Fuller, 2015). These two distinct educational pathways result in comparisons of the relative value of each to the main

Employers would generally prefer more job-specific company-based training, as it has direct value to them in the short term (Fuller, 2015). The government of any given country has a strong interest in aligning itself with employers’ views because VET is associated with economic competitiveness (Fuller, 2015). The assumption is that improving the quality of VET has a positive effect on competitive advantage through generating greater productivity and facilitating innovation. Therefore, countries with highly developed and effective VET systems are likely to be successful in the global economic competition (Fuller, 2015, p. 233).

As documented in Section 2C of this chapter, the preferred route for BC students has been to enter university for a more general educational experience. Although strides have been made to expose young people to the world of work while still in high school, BC high schools are still primarily geared toward the academic pathway. This was a good economic choice for students 20 to 50 years ago, as evidenced in recent study comparing vocational and general education graduates’ employability in 18 different countries throughout their working career (Hanushek, Schwerdt, Woessmann, & Zhang, 2017). Hanushek et al. (2017) selected the data for their study from the 1980s and 1990s.

Hanushek et al. (2017) found that graduates of general education fared better over the long run than graduates of vocational programs including apprenticeship although the authors acknowledged that graduates of general university degree programs face more challenges entering the workforce and are initially paid less than vocational graduates. In their study, Hanushek et al. demonstrated that general education graduates were more likely to be employed after 50 years of age than vocational education graduates. This suggests that the value of VET depreciates over time. In this same study, the authors found that general education has a lifetime earnings advantage over vocational education even after taking into account the slower entry into the workforce experienced by general education graduates (Hanushek et al., 2017). The results of Hanushek et al.’s study mirrored Weber’s (2014) work, one of the few studies that compared education type, vocational versus general education, to long-
An older study from 2010 that used data from Austrian plant closures between 1982 and 1988 compared the effects of job displacement on white- and blue-collar workers (Schwerdt, Ichino, Ruf, Winter-Ebner, & Zweimüller, 2010). These two categories are legally defined in Austrian legislation and are proxies for generally educated workers and vocationally educated workers. White-collar workers are typically employed in supervising and administrative jobs, while blue-collar workers are directly involved in the production process employed in manual jobs (Schwerdt et al., 2010). Schwerdt et al.’s (2010) study demonstrated that while both white- and blue-collar workers experienced a decrease in employment and earnings in the short run, white-collar workers were more negatively impacted in both the short and in the long run.

In the short run, the literature suggests that high-quality VET systems are superior for providing young adults with early entry into employment and assisting in transitions such as re-engaging youth and providing job re-entry for women after child rearing (Fuller, 2015). The long-run outcomes between the two pathways are not nearly as clear. Weber (2014) speculated that university-educated workers make more investments in their own education post graduation, making them more adaptable to environmental changes. Vocationally trained workers do not invest as much in further training during their career. In addition, specific education makes workers dependent on a specific workstation or occupation, which makes them vulnerable to market fluctuations.

The traditional belief in Canada has been that individuals choose a university education because it leads to greater economic value over the individual’s lifetime (Kopatz & Pilz, 2015). A university education likely provided greater returns than a vocational education 20 to 50 years ago, however, there were far fewer university graduates back then than there are today. Even then, the belief of superior returns to university education did not account for the fact that some degrees (e.g., engineering, law, accounting and medicine) provide substantially greater returns than most degrees thereby increasing the average salary of all university graduates. In their research, Kopatz and Pilz (2015) confirmed that students do not make rational economic decisions because they continue to choose university over trades, regardless of financial returns.
By isolating for a few degrees, such as librarian, counsellor, social worker, and comparing them to plumbers, electricians, and oil and gas well drillers, Kopatz and Pilz (2015) showed vocational training provided greater salary returns than a university education. These authors concluded that social considerations are among other factors that lead individuals to select a university education over a vocational education and that it is not strictly an economic consideration (Kopatz & Pilz, 2015). This study had limitations because it did not account for different selection criteria used by men and women. For a variety of reasons, women are less likely than men are to select a job in oil and gas well drilling, plumbing or any other trade and accounted for only 10% of new apprenticeship registrations in 2014 (CCDA, 2016, p. 14).

The whole debate comparing the relative merits of general education to vocational training has historically been polarizing and sets up a false dichotomy. The European qualifications framework, adopted in 2008 (European Centre for the Development of Vocational Training, 2012), has the goal of bridging the divide between higher education and vocational training. This framework recognizes that both academic education and vocational training systems produce graduates with learning outcomes that have comparable value.

**Section 2D: Overview of the Post-Secondary Education System in BC**

There are 25 publicly funded post-secondary institutions in BC: 11 universities (including five special purpose teaching universities), 11 colleges, and three institutes (BCIT, the Justice Institute, and Nicola Valley Institute of Technology; see Government of BC, n.d.-b). In addition, there are 19 private degree-granting institutions and 485 private career-training including schools teaching English as a Second Language institutions listed with the Private Training Institutions Branch (Government of BC, n.d.-e). Both public and private universities are primarily degree-granting institutions. The public colleges, special purpose teaching universities, three Institutes, and the private career training institutions offer a wide variety of programs that lead to credentials such as certificates, diplomas, trades, and vocational training certification. Almost all of these public and private degree-granting institutions offer four-year undergraduate degrees, some offer both undergraduate degrees and masters degrees, but some of the private institutions like Adler University, the New York Institute of
Technology, and University Canada West do not offer degrees at the undergraduate level and only offer Masters level degrees (MA or M.Sc.). The research universities (UBC, SFU and the University of Victoria) offer degrees at the undergraduate, graduate, and doctoral levels as well as professional schools for medicine and law.

Although there are minor variations, the post-secondary education system in each province is similar all across Canada, but responsibility belongs to the province or territory (see Figure 1). The federal government’s role is mainly funding social transfer payments to the provinces and territories that deliver the education. The federal government does, however, have a role in employment. It provides labour market training funds to post-secondary institutions in areas of high need to support the delivery of short-term training programs and provides labour market information through the Canadian Occupational Projection System.

In Canada, the Canadian federal government allocates a substantial amount of funding in the form of transfer payments to each of the provinces for the purposes of funding health and education. As the provinces have constitutional responsibility for education, they decide how large the overall education-funding envelope will be and it always exceeds the amount of the federal transfer payment. The provinces decide the share of funding between primary and secondary schools and post-secondary education and the size of the allocation to each individual institution.

The Government of BC invests $8.2 billion annually in education, skills training, and postsecondary education annually and $2.1 million on postsecondary education and skills training (Ministry of AEST, 2018). Canada spends about 6.0% of GDP on education from primary to tertiary programs (Organisation for Economic Co-operation and Development [OECD], 2011, p. 224). In addition, 30% of post-secondary education funding comes from private sources including tuition fees, industry research grants, donations, and revenue from ancillary services (OECD, 2011, p. 227).
Three post-secondary pathways to careers

In BC, students can choose between three broad types of educational programs. These three broad-based educational programs have varying purposes and different outcomes. The broad categories are (a) academic education, generally offered at a
university (b) vocational education, offered at a public or private college or a special purpose teaching university; and (c) apprenticeship training programs.

**University degree pathway**

The first program category leads to a four-year university degree, which can be earned at any of the public universities and institutes (the four-year degrees offerings at institutes are limited and specialized), the 19 private degree-granting institutions and depending upon the degree, the public, and private colleges (Government of BC, n.d.-b). Community colleges in BC also offer the first two years of several four-year undergraduate degree programs with credits that are fully transferable to the universities. The four-year degree programs provide students with theoretical knowledge with a focus on the development of critical thinking and cognitive skills. The large publicly funded universities offer both general degrees as well as a number of vocationally oriented degrees such as business, engineering, nursing, and pharmacy.

Universities have also not traditionally been involved with providing work experience for students during their studies. Many students find summer jobs from May through August, often to help fund their tuition or living costs while attending university. That summer work experience may or may not assist a student in finding permanent career work post graduation. The usefulness of the summer work likely depends upon the type of position held, the career ultimately pursued by the student and whether the employer can see the connection between the two. WIL experiences have become more common in the past 20 years for university and college students and are described in more detail in the section on work-integrated learning.

**Applied vocational education college programs**

The second pathway is through the college system of applied and vocational education. The colleges offer a variety of certificates and diploma programs that are aligned with the skill requirements of specific occupations. These occupations are defined under the Government of Canada’s (2016) National Occupational Classification (NOC) coding system; for example, the NOC code for Computer Programmer and Interactive Media Developer is 2174.

Computer programmers write, modify, integrate and test computer code for software applications, data processing applications, operating
systems-level software and communications software. Interactive media developers write, modify, integrate and test computer code for Internet and mobile applications, computer-based training software, computer games, film, video and other interactive media. They are employed in computer software development firms, information technology consulting firms, and in information technology units throughout the private and public sectors. (Government of Canada, 2016, para. 6)

The colleges rely on faculty to stay current with the latest curriculum either on their own or through the advice of each program’s advisory committee (PAC). All programs are required to have a PAC, and these PACs consist of representatives from business and industry who have a stake in the program’s curriculum mainly because they are interested in hiring its graduates. PACs are typically recruited by the program’s dean from their industry contacts. Although PACs have terms of reference outlining their roles and responsibilities, the degree of formality of the appointment varies by college with some appointees staying on PACs for many years.

**Apprenticeship**

The third pathway is the apprenticeship route, which is offered in collaboration with employers and post-secondary institutions, overseen by BCITA, a provincial Crown corporation with a government-appointed board of directors. An apprenticeship may start in secondary school or after high school graduation. In high school, the Youth Train in Trades program (formerly known as ACE-IT) allows students to work towards one of 16 trades (e.g., cook, electrician, hairstylist) while simultaneously receiving high school credit (Youth Industry Training Authority, n.d.). This pathway is described below.

**Work-integrated learning**

Work-integrated learning (WIL) is the process through which students come to learn from experiences in educational and practice settings. It includes the kinds of curriculum and pedagogic practices that can assist, provide, and effectively integrate learning experiences in both settings. All of these practices form part of Canada’s vocational education and training system. Table 1 depicts the categories of WIL common throughout Canada. All of these learning categories recognize the importance of the duality of learning settings but achieve that learning with more or less systemization with apprenticeship being the most structured and systematized.
Table 2 Types of Work-Integrated Learning

<table>
<thead>
<tr>
<th>Categories</th>
<th>Apprenticeship – alternating workplace and school-based learning – skilled trade</th>
<th>Internship – work experience, lasting a year or more near the end of study</th>
<th>Mandatory Professional Practice – work required for license for designation</th>
<th>Field Experience – work experience related to study program – no license</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic Learning (most learning is done at worksite)</td>
<td>Co-op – work and study alternate. Work integrated into student study program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured Work Experience (Students gain work experience during school)</td>
<td>Applied Research – student project supports industry partner as client</td>
<td>Service Learning – range of activities that benefit student and community. Maintain focus on learning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Partnership (activities to achieve industry or community goals)</td>
<td>Incubators and Accelerators – promote entrepreneurship</td>
<td>Boot Camps and Hackathons – mainly for computers</td>
<td>Digital badges and co-curricular records – a means to certify work or experience</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Note. Adapted from Taking the Pulse of Work-Integrated Learning in Canada (pp. 4–5), by Business Higher Education Roundtable, 2016, Toronto, Canada: Business Higher Education Roundtable.

Although there are exceptions such as Medicine, Nursing, and Law that are very career focussed, an academic education is typically designed to develop students’ skills in a broad range of applications such as analytical abilities, abstract thinking, scientific inquiry, writing and verbal communication, and other objectives specific to a program. A broad-based general education can be useful to a graduate in seeking any number of jobs or careers, although they may be insufficient to fully prepare a graduate for any one specific career or vocation.

Even vocationally oriented university degrees such as law, medicine, or business do not fully prepare graduates for their careers or vocations. A residency or period of articling is required post university graduation under the supervision of a senior
practitioner. While universities have begun offering more applied, career-oriented programs, such as pharmacy, kinesiology, recreation, health education, and information technology (University of Victoria n.d.), there are relatively few opportunities for university students to obtain real-life working experience while in full-time studies. The exception is through co-op programs discussed below.

A recent survey of 1,000 students aged 18 to 29 found that 57% of graduates completed a paid placement in a job unrelated to their field of study (Canadian Alliance of Student Associations, 2018). Approximately 60% of students stated that a paid work placement as part of the academic program was not available, and 49% reported related unpaid placements were not available for their academic program (Canadian Alliance of Student Associations, 2018). Students working in co-op positions that are unrelated to their academic studies will not obtain the true benefit of the WIL experience. An Ontario study found that there is a lack of emphasis on linking internship practice with classroom learning and an overemphasis on the practical level of the experience (Stirling et al., 2014).

Non-degree community college certificates and diplomas are by design more aligned with specific occupations (i.e., alignment with NOC codes). Apprenticeship is exceedingly well aligned with job requirements because approximately 80–85% of the apprentice’s training is delivered by an employer at the workplace. Figure 2 depicts how the various pathways are aligned with employability on a continuum from most aligned at the top to least aligned with the labour market at the bottom of the chart.
Figure 2. Continuum of transition routes from school to work: From no “school to work” integration to very high “school to work” integration.

Note. Adapted from “An Introduction to Alternation Education Concepts and Issues” in R. Sweet & H. G. Schuetze (Eds.), Integrating School and Workplace Learning in Canada (p. 11), by R. Sweet & H. G. Schuetze, Montréal, Canada: McGill Queen’s University Press.
As noted above, both colleges and universities have made efforts to respond to employer and student demands for work-related experience for students while they are primarily engaged in studies. These work experiences vary widely throughout Canada in terms of quality, duration, integration into the academic program, and student pay. These experiences have been referred to in many ways, for example, co-operative learning, experiential learning, field education, internship, and practicum. The term work-integrated learning (WIL) has become the umbrella term for all of these activities in Canada. The Higher Education Quality Council of Ontario (as cited in Business Higher Education Roundtable, 2016) defined WIL as follows:

Work-integrated learning is the process through which students come to learn from experiences in educational and practice settings. It includes the kinds of curriculum and pedagogic practices that can assist, provide and effectively integrate learning experiences in both settings. (p. 4)

The main types of WIL are summarized in the Table 1 found in the “Scope of the Literature Review” section of this chapter.

In a recent study, Work Integrated Learning and Post-Secondary Education: What Students Think, Abacus Data (2016) reported that 89% of current students and recent graduates support more WIL in their programs. Students with WIL experiences rate themselves as more prepared than those students without WIL in the following skills that are valued by employers:

- Having good people skills: 79% vs 46%,
- Making presentations and speaking in public: 77% vs 45%,
- Being able to lead a team: 72% vs 33% and
- Being creative: 72% vs 43%. (Abacus Data, 2016, p. 5).

**Service learning**

Service learning is now becoming a popular option for university students to obtain applied work experience. In service learning, students take on action projects in their communities on a volunteer basis (CEWIL, n.d.-b, p. 1). If properly structured, service learning can be an excellent alternative to paid employment to help build a student’s resume. A well-structured program should be supervised by both the university
faculty and the community partner (Business Higher Education Roundtable, 2016). These projects can be directly related to the student’s program of study.

**Co-operative education programs**

Co-operative education (co-op) semesters are very popular in BC and are offered by most of the universities including Simon Fraser University (SFU), UBC, Vancouver Island University, and the University of Victoria. These universities have extensive cooperative education programs available to their undergraduate and master's level students. According to the SFU (n.d.-c) co-op website, the goal of cooperative education at the university level is to facilitate the acquisition of practical workplace experience, which will ultimately assist students in finding permanent placement after graduation. SFU (n.d.-b) students complete 2,500 work terms each school year.

Students participating in the SFU co-op program must apply to enter it like any other program. There is an application fee of $130 and tuition fees of $795.51 for a single co-op term (SFU, Student Services, n.d.). Undergraduate students in some programs are expected to complete three co-op terms during their course of studies. The tuition fee for a co-op practicum includes workshops, personal consultations, ongoing support, and resources. The tuition is payable after the student has accepted a job offer and is officially registered in a co-op practicum. Students are considered full-time university students during the co-op term and are paid by their employers for their work.

In addition, UBC also offers a co-op program and coordinating office similar to that of SFU: “The UBC Co-operative Education program has grown to be the largest program offered at post-secondary institutions in British Columbia with over 4000 annual work terms” (UBC, n.d., “What UBC Faculties,” para. 1). As the chart in Figure 3 shows, co-op placements are most common for students in engineering and science programs.
Figure 3.  Placement numbers by program and academic year.

Note. This screenshot was taken from the UBC Co-operative Education webpage on October 14, 2018. From FAQs, by University of British Columbia, 2018. Retrieved from http://www.coop.ubc.ca/faq/
**Practicums**

Practicums are defined as field experiences that allow a student to observe and document how working professionals perform their job responsibilities. Students may also participate to a limited extent in performing tasks under supervision by program professors and onsite staff. Concurrently, in programs that entail a practicum (such as the Bachelor of Education or Nursing) students are typically enrolled in a course that outlines the expectations and requirements of the practicum. Practicums are not paid and are more directly related to the field of studies as part of the curriculum. Students will receive a grade or possibly a pass or fail designation for the practicum period or term.

The Professional Development Program at SFU (i.e., professional teacher training) requires students to teach for a semester. During this course,

…each student is placed with a School Associate(s) for 10 – 12 weeks of student teaching, which includes an extended period where the student teacher assumes primary instructional responsibilities. During this semester, the School Associate and Faculty Associate provide help and guidance, as well as assess student’s growth, toward the achievement of standards of professional competence. (SFU, Faculty of Education, n.d., “EDUC 405/406,” para. 1)

**Challenges and limitations of work-integrated learning**

According to the Business Higher Education Roundtable (2016) review of various surveys taken over the past decade, about one half of university students take part in some form of WIL during their post-secondary studies and about 65% of college and polytechnic students have similar experiences. Given that WIL does not have a commonly agreed-upon definition or standards, it can include substantial work experience such as a co-op semester or an internship that could last up to a year, but it can also include mock interviews, one-day site visits, roleplaying, and volunteering. Many of the work experiences are quite limited in scope and are not integrated into the curriculum of the student’s study program.

An Ontario study, “What is an Internship: An Inventory and Analysis of Internship Opportunities Available to Ontario Postsecondary Students” (Stirling et al., 2014) collected data on 369 internship programs from the websites of Ontario’s 44 postsecondary colleges and universities. According to Stirling et al. (2014), there was
substantial variation in college and university internship programs within and across academic disciplines, including educational activities, prerequisites, length of program, fees, salaries, and requirements for completion. Internship salaries ranged from zero to more than $60,000. The number of hours for internship completion ranged from 10 to 1,000 hours and the length of internship duration ranged from one to 16 months.

Unlike apprenticeship training, which falls under the oversight of the BCITA, there is no government oversight or regulatory body in Ontario, BC, or anywhere in Canada providing a legal framework and standards for WIL programs. In most provinces, students in academic placements are exempt from employment standards laws (Philipps, Turcotte, & Nichols, 2016). Another related problem that can leave students vulnerable to harassment and discrimination is the extreme power imbalance. Although human rights codes apply, a student who must pass an internship to graduate, or who does not want to risk losing a future job reference or employment opportunity, is motivated to avoid rocking the boat (Philipps et al., 2016).

The non-apprenticeship WIL programs that are more likely to have standards, learning objectives, and that are paid in BC are co-ops; however, these opportunities are very limited. At SFU, for example, co-op places are only available to approximately 12.3% of the enrolled students on a headcount basis (2,500 annual work terms divided by 15,906 full-time undergraduate students plus all 4,444 graduate students; SFU, n.d.-d). Given that, many of those students may have taken two co-op terms in one school year, the actual percentage of students who have taken those work terms could be less than 12.3%.

The Canadian Alliance of Student Associations (2018) released the results of a poll on July 4, 2018, which reported that 49% of students accepted unpaid placements. Despite this, 55% of graduates still believed the unpaid placement was valuable. On the other hand, 93% of graduates found a paid work placement that was part of their academic program fairly valuable.

Despite the value students place on WIL experiences while in full-time studies, the issue of unpaid WIL placements is of growing concern. On November 19, 2018, more than 54,000 university and collège d'enseignement général et professionnel (i.e., general and vocational colleges in Québec) students across Québec walked out of
their classes and internships in protest against unpaid internships (“Québec Students Launch Week-Long,” 2018). One student interviewed for the story stated that student internships are not recognized under Québec's labour law, which means “student interns are subject to whatever conditions supervisors or universities decide to impose” (“Québec Students Launch Week-Long,” 2018, “No Labour-Law,” para. 2). She added, “Interns often work more hours than required, lightening the workload of their paid colleagues without receiving remuneration” (“Québec Students Launch Week-Long,” 2018, “No Labour-Law,” para. 3).

The apprenticeship training pathway

There are over 100 trades recognized in BC (n.d.-k), only 56 of which are nationally recognized Red Seal trades (CCDA, 2016). The Red Seal program sets common standards to assess the skills of tradespersons across Canada (CCDA, 2016). It is the Canadian standard of excellence for skilled trades, and those individuals who have earned the Red Seal are eligible to work in their field anywhere in Canada. For non-Red Seal programs, the BCITA grants a certificate of qualification (COFQ). These certificates are not recognized in other parts of Canada, as only those with the Red Seal designation provide the holder with interprovincial mobility.

A person must complete an apprenticeship or challenge the exam after extensive work experience (an employer must attest to the hours) to become a certified skilled tradesperson in Canada (BCITA, n.d.-c). In BC, an apprenticeship is composed of 10–20% technical training at a designated training institution and 80–90% paid work-based training. Completion of all levels of training takes between three and five years.

There are three possible entry points into a BC apprenticeship program (BCITA, n.d.-h):

1. Employer/sponsor: A participating employer provides the workplace, training equipment, and supervision by a certified journeyperson who oversees the training. Training can take place across multiple worksites with multiple employers. The apprentice must be released from work to complete 10–20% of the technical or in classroom training. Upon completion, the sponsor recommends the apprentice to the ITA for certification. The ITA issues the trade certificate or ticket.
2. Foundation Programs (or pre-apprenticeship): A three- to 10-month college program that exposes an individual to the trade through technical training and shop work. Completion of this Level 1 technical training program equips the individual with skills to be productive in the workplace. The student cannot be registered as an apprentice unless an employer agrees to sponsor them. (This program was created as a result of insufficient provision of training places from employer sponsors.)

3. Youth in Trade Training (formerly known as Accelerated Credit Enrolment in Industry Training): This is a high school dual credit program jointly funded by the ITA and the Ministry of Education. It allows registered students to obtain first level technical training in a trade offered by a college, training institute, or school district. Students receive credit towards secondary school graduation as well as credit towards the trade or apprenticeship.

The classroom technical training portion of the apprenticeship is delivered through 11 publicly funded colleges, as well as BCIT, Kwantlen Polytechnic University, Vancouver Island University, Thompson Rivers University, and 54 private training institutions (BCITA, n.d.-j). These colleges and institutions deliver both foundation and apprenticeship programs. PACs provide these institutions with employer or business advice and guidance in three areas: labour market demand, program design, relevance and delivery, and delivery of the classroom portion of the training.

All provinces except BC have designated some of their trades to be compulsory. A compulsory trade is one in which registration as an apprentice or journeyperson candidate, or certification as a journeyperson, is mandatory under a province’s legislation in order to practice that trade. Ontario has designated 23 trades as compulsory (Ontario Council of Agencies Serving Immigrants, n.d.) while Alberta has designated 19 trades (Government of Alberta, n.d.-a). Certain trades are designated as compulsory because the work could impact the safety of the public or the worker. Ontario’s apprenticeship completion rate for compulsory trades is 59%, compared to 35% for voluntary trades suggesting that designating a trade as compulsory can improve completion rates (Sullivan, 2017, p. 26).

Red Seal program.

The Red Seal program sets common standards by which to assess the skills by which of tradespersons across Canada (CCDA, 2016). Tradespeople who meet the standard receive a Red Seal endorsement on their provincial or territorial trade
certificates. There are currently 56 designated Red Seal trades in Canada (CCDA, 2016). The Red Seal program was created in 1952 following the National Conference on Trades and Industries (Red Seal Program, 2014b), which was attended by representatives of each province and the federal government. The Red Seal program has a mission to:

• Harmonize provincial/territorial processes and requirements for red seal trades training certification and standards.

• Develop and maintain interprovincial standards for Red Seal trades.

• Facilitate collaboration with Industry to build a skilled trades labour force.

• Increase the mobility of skilled tradespersons in Canada.

The Canadian Council of Directors of Apprenticeship (CCDA) is a voluntary partnership between the federal government and the provinces and territories responsible for the Red Seal program (Red Seal Program, 2018b). The Director of Apprenticeship appointed by each province and territory sits on the Board. Employment and Social Development Canada (2017) sponsors a Red Seal Secretariat to support the program. One of its key initiatives during the period 2013–2016 was to improve recognition of foreign qualifications to develop consistent processes for evaluation, trade qualifications, and work experience obtained outside of Canada (Employment and Social Development Canada, 2017).

Due to the limited supply of apprenticeship opportunities in BC, many of the province’s colleges have developed creative options for providing hands-on work experience for students who are unable to find an employer or sponsor. For example, at VCC, students in the foundation (pre-apprenticeship) Professional Cook 1 program prepare and serve three meals per day, which are sold in the college cafeteria to other students, staff, and the general public. In addition, VCC operates a hair salon and spa, an automotive service department, a dental clinic, a bakery, and a full-service dining room. All of VCC’s student business operations charge for their products or services below market rates since the college recognizes that students are learning their crafts and may not be performing at a level worthy of charging market prices. Students are not paid for their work, as it is considered part of the training curriculum. The goal is to provide these students with a sufficient level of hands-on skill experience that they are
able to find employment in their chosen trade with an employer who can sponsor the student through the rest of apprenticeship program.

Many of these college-run enterprises do not recover their costs even though they have free student labour and do not pay rent to the college. The faculty are usually long-term college employees who may no longer be current in their trades since they may have been teaching for 20 or more years. Colleges have not typically required faculty to return to their original vocations to upgrade their skills. In addition, because these college enterprises are structured alternative training, faculty may feel it is not essential to ensure the business breaks even, since the priority is student education and training rather than operating a profitable college business enterprise.

**Governance structure of the BC apprenticeship system**

The Industry Training Authority (ITA) is a Crown agency of the BC provincial government accountable to the Minister of Advanced Education, Skills and Training (Government of BC, n.d.-d). The BCITA was intended to be the driver of the trades training system in partnership with government, public and private training providers, labour organizations, six industry training organizations, and other partners and stakeholder, including employers, sector associations, First Nations, and the public. The 2014 MacDonald report resulted in the elimination of the six industry training organizations.

The current vision of the BCITA is world-class apprenticeship for British Columbians and its mission is to “build the trades that build BC” (BCITA, n.d.-l, Mission section, para. 1). The enabling legislation under which the BCITA operates is the *Industry Training Authority Act (2003)*. This Act authorizes the minister to appoint a board of nine directors and may appoint one of the directors as chair. Although the minister officially makes the appointment, in reality the government makes the board appointments through the BC Government’s Crown Agencies and Board Resourcing Office (Government of BC, n.d.-a). The purposes of the authority under the act are the following:

a. to manage and support an industry training and apprenticeship system in British Columbia;
b. to ensure that the industry training and apprenticeship system referred to in paragraph (a) meets the Province’s need for skilled workers;

c. to work with government to achieve the government’s objectives respecting the industry training and apprenticeship system referred to in paragraph (a);

d. to promote industry training programs, including by encouraging employers and individuals to participate in those programs;

e. other purposes the minister may prescribe. (Industry Training Authority Act, 2003, Section 2.1, para. 2–6)

The 10 industry sectors that rely most heavily on apprenticeship training provide input to the ITA through the representatives of their sector advisory board (BCITA, n.d.-e). The 10 sectors are aerospace, automotive, construction, forestry, liquefied natural gas, manufacturing, marine and shipbuilding, mining, tourism and hospitality, and transportation and transit (BCITA, n.d.-e).

The BCITA has 11 sector advisory committees to help it better understand, communicate, and respond to each industry’s needs (BCITA, n.d.-d). Sector advisory groups will provide input to the following subjects:

- The most important and relevant sectoral training strategies to address labour market demand
- Government collected data sets, assumptions, and general labour market forecasts
- Actual labour market forecast numbers
- High-level policy issues. (BCITA, n.d.-d, para. 4)

The advisory committees are relatively balanced and include representatives from sector employers and employees as well as unions. These advisory committees are only tasked with providing input into government policy and any major policy decisions are made by the board. Nevertheless, further changes may be anticipated in the advisory committee membership and mandate resulting from the strategic direction in the most recent ITA (2018a) Service Plan.

**Stakeholders roles in the apprenticeship training system in Canada**

The stakeholders in the Canadian training system are the federal government, the provincial government, employers (either individually or through associations), public
and private post-secondary institutions, labour as represented by unions, students (and their parents), and society at large, represented more formally as voters and taxpayers. In the Canadian context, the provincial government through its control of the BCITA and related legislation has substantial control. A small percentage of employers (19% in four sectors who regularly employ apprentices) have a strong interest in the system (Canadian Apprenticeship Forum [CAF], 2011, p. 6). A 2011 survey of 851 employers found that 61% in the four sectors that traditionally employ apprentices (i.e., construction, manufacturing and mining, transportation, and retail and service) were unfamiliar with apprentices and apprenticeship training (CAF, 2011, p. 28).

Figure 4. Influences on BC training system.
Note. ITA = Industry Training Authority; LMDA = Labour Market Development Agreement. The different colours represent the various entities involved in the BC Apprenticeship System.

The federal government has retained an indirect role in labour market training. The federal government provides over $2 billion funding annually to provinces and territories to support unemployed workers who are eligible for employment insurance through the Labour Market Development Agreements it has with each province (Government of Canada, 2018a). Provincial post-secondary institutions deliver the actual training. In addition, the federal government provides funding to the CCDA Secretariat
and the CAF. These bodies are supported the CDTAC, the public college and technical institute advocacy group on national issues pertaining to trades and apprenticeship training, education, and learning (National Council of Deans of Technology, n.d.).

In 2017, the federal government appears to have taken a renewed interest in VET. The Advisory Council on Economic Growth released a report in 2017 titled Building a Highly Skilled and Resilient Canadian Workforce through the FutureSkills Lab. According to the report, this lab will be “led by an executive team drawn from the private, non-profit, and education sectors, the FutureSkills Lab would invite all levels of government, private sector organizations, labour unions, not-for-profits, and other interested parties to partner on an opt-in basis” (Advisory Council on Economic Growth, 2017, p. 2). The lab will have three main functions: (a) to seek out and co-finance innovative pilot programs in skills and competency development, (b) to develop new sources of labour market data, and (c) to determine future skills objectives and widely disseminate best practices in skills development (Advisory Council on Economic Growth, 2017).

The Skills Lab is intended to be independent so as to avoid the perception of undue influence by the federal government, but as the Mowat Centre noted, “It must still be created by, authorized by, mandated by and accountable to government” (Parkin, Hartmann, & Morden, 2017, p. 5). This is an interesting concern given that labour market training is a federal responsibility. The challenge arises because education is a provincial responsibility and, with the exception of apprenticeship, education and training is carried out primarily by provincially funded and controlled post-secondary institutions.

Sá (2018), the Director of the Centre for the Study of Canadian and International Higher Education, noted that Canada has numerous agencies that deal with similar functions that overlap with the Skills Lab. For example, Statistics Canada for labour market information and through the Social Sciences and Humanities Research Council’s Connections Program to disseminate research findings (Sá, 2018). He asserted that the Skills Lab will likely spend half of its six-year mandate learning how to do its job effectively.

Another interesting observation about this report is that universities and polytechnics are mentioned frequently as examples of post-secondary institutions.
partners while colleges, school districts, and private training centres (union based or otherwise) are not mentioned at all. In addition, there is a focus on increasing collaboration, communication, and experiential learning opportunities between employers and post-secondary institutions, but I could find no reference in the entire Skills Lab report of the existing apprenticeship system. The *Merriam-Webster Dictionary* has defined *skill* as “the ability to use one’s knowledge effectively and readily in execution or performance (“Skill,” n.d., para. 2). The definition does not exclude skilled trades but rather encompasses all skills regardless of whether they may be traditionally classified as blue or white collar. The absence of any mention of the existing apprenticeship system as a tried and true, effective form of skills training is glaring.

The report does recommend that the Skills Lab should work to develop a return-on-investment-based business case for needed but overlooked skills development training by Canadian employers of all sizes (Advisory Council on Economic Growth, 2017). The return on investment for apprenticeship, which is a well-known and established method of on-the-job training, was completed by the federally funded CAF in 2009, proving that the for every dollar an employer spent on apprenticeship training, they received a net return of $ 0.47. Clearly, different training models will result in different returns.

The CCDA oversees the Red Seal program in partnership with the provinces, territories and industry partners (see Section 2C of this chapter for a description of CCDA’s mission). The CAF has a mission to:

1. Influence Pan-Canadian apprenticeship strategies through research, discussion and collaboration with the apprenticeship community;

2. Promote apprenticeship as an effective model for training and education; and

3. Contribute to the development of a skilled, productive, inclusive and mobile labour force. (CAF, 2011, p. 11)

The CAF is guided by a Board of Directors comprised of more than 40 industry leaders and stakeholders from across Canada, representing every aspect of the apprenticeship community (CAF, 2011, p. 11). The board includes representatives from business, labour, the Interprovincial Alliance of Apprenticeship Board Chairs (IPA), educators, equity groups, the provincial and territorial apprenticeship authorities, and
Human Resources and Skills Development Canada, now known as Employment and Social Development Canada (CAF, 2011, p. 11).

The role of unions is multifaceted and encompasses everything promoting health and safety of workers to promoting fair collective bargaining. The BC Federation of Labour (2017) has set a goal in Article 2 “to promote the interests of its affiliates and generally to advance the economic and social welfare of the workers of British Columbia” (p. 2). There is no goal surrounding training other than union steward training and health and safety training; however, it could be argued that since worker training helps workers improve their economic well-being, advancing the economic and social welfare of employees encompasses strong support for training and training schemes.

Unions in BC have not always played a strong role in apprenticeship training, and in 2016 had only one labour representative on the Board of the BC Industry Training Authority. In 2018, labour has four representatives on the board reflecting the new direction of the New Democratic Party (NDP) government elected in 2017. Both the Canadian Labour Congress and the BC Federation of Labour promote apprenticeship training.

The BC Federation of Labour released a report in November 2017 entitled BC’s (not so) Great Apprenticeship Training Experiment: A Decade Reconsidered that is very critical of BC’s apprenticeship system. The main recommendations coming out of this report are that BC should reconsider compulsory trades, create a framework for a review of all trades for compulsory trades certification, and eliminate modularized training and realign BC trades with the rest of Canada (BC Federation of Labour, 2017). Compulsory trades are required in the rest of Canada in high-risk trades like construction electrician, which means that only journeypersons and registered apprentices can work in that trade.

In their final recommendation, the BC Federation of Labour (2017) stated, “The BC government should recognize the traditional role of trade unions and labour organizations in supporting apprenticeship and providing training by strengthening formal representation of labour organizations in the governance of BC’s trades training system” (p. 6). Clearly, the trade unions believe they have been left out of the apprenticeship training system for many years, as evidenced by their absence from the BC ITA Board of Directors.
Section 2E: Overview of the German VET System

A distinguishing feature of the German dual studies VET system compared to BC is that it is part of the secondary school system. Although BC does have a youth entry point into apprenticeship (Youth in Trade Training), it is very small. Most trades programs in BC commence in the post-secondary system. In Germany, the typical graduate of Realschule or Hauptschule will enter into the dual VET studies program after completing Grade 9 or 10 at about age 16 or 17 (Tremblay & LeBot, 2003). This is considered Stage 2 of the secondary school program (see Figure 5). These students attend a vocationally oriented, state-sponsored Berufsschule for academic and theoretical training one or two days per week. The students train with a business for the remainder of the week. Some schools offer blocked schedules in which students attend school for a whole week followed by two weeks of on-the-job training (German Federal Ministry of Education and Research, 2003). These programs last between two and four years with many students graduating from their programs by the age of 18 (Tremblay & LeBot, 2003).

Another unique feature of the German system is the streaming of children at age 10 into different pathways. After four years of compulsory primary education (Grundschule), in Grade 5, students attend one of the following Stage-1 secondary education schools: (a) Hauptschule—school for practical education; (b) Realschule—provides a mix of practical and liberal education; (c) Gymnasium—school for liberal education and the only pathway to university; and (d) Integrierte Gesamtschule—comprehensive school offering practical, liberal, and practical liberal education (Tremblay & LeBot, 2003).
At the end of elementary school, the child’s teacher makes a recommendation as to the most appropriate secondary school for the child to attend based upon previous performance and grades (Hillmert & Jacob, 2010, p. 66). The teacher’s recommendation is only binding in some German states. In most states, the child’s parents make the final decision as to the child’s secondary track (Hillmert & Jacob, 2010, p. 66). Hillmert and Jacob (2010) claimed parents rely on their own educational experience in order to come to a decision and have found that university educated parents will choose gymnasium for their children and non-university educated parents will choose one of the other secondary school tracks. Gymnasium prepares students to take the Abitur, the school-leaving certificate that allows entry into university (Tremblay & LeBot, 2003). This streaming of children at a young age has been blamed as a significant cause for the lack of permeability between the academic stream and the vocational stream of education.

**History of the German dual studies VET system**

Researchers have noted that Germany’s dual studies system evolved from craft guilds that have existed in Germany since the beginning of the 12th century (Deissinger,
The implication of this finding is that if a country has never had that tradition, then it would be impossible to implement a similar dual studies system (Hanushek, 2017; Valiente & Scandurra, 2017). In fact, craft guilds existed throughout continental Europe for hundreds of years, in the United Kingdom, and briefly in North America. The guilds served many functions depending upon specific local circumstances. In Europe, some of those functions were to control production quality and output, provide protection for merchants engaged in long-distance trade, enforce contracts, and train apprentices (Ogilvie, 2014). European guilds started declining in importance in the 18th and 19th centuries as cities took over some of the functions of the guilds and national states provided law courts to enforce laws (Ogilvie, 2014). Many guilds became social clubs once their economic function disappeared.

After the industrial revolution, when most other countries throughout the world adopted a hands-off approach to workplace training, Germany took a different approach. Germany became heavily involved in regulating and maintaining a role for craft guilds. Deissinger (1996) stated, “The genesis of the modern vocational training system called the ‘Dual System’ is determined by the emergence of substantial activities on the part of the state to promote the ancient craft system” (p. 318). Deissinger noted the following legislative measures taken by the German state over the past 150 years surrounding apprenticeship:

- **Trade Act 1845** – required a master (master tradesperson) to supervise apprentices.
- **Trade Act 1869 (Gewerbeordnung)** – reaffirmed free trade and mandated employer apprentices to instruct and employ apprentices. Legislated mandatory attendance at part time continuation (vocational) schools (the second pillar of the dual studies model).
- **Act to Protect the Crafts (Handwerkerschutzgestz) 1897** – gave authority to regional craft chambers and local guilds to serve as training agents and permitted them to hold examinations for journeymen and masters.
- **Craft Regulation Act 1953 (Handwerksordnung)** – Defined 111 trades as craft occupations, authorized in-company training and instructing apprentices.
- **The Compulsory School Attendance Act 1938 (Reichsschulflichtgestz)** – required employers to release apprentices from work. Non-compliance could result in employer fines.
• The Vocational Training Act 1969 – governs only training at the workplace and does not interfere with responsibility for vocational school-based education, which is the responsibility of individual states (Länder).

Without substantial involvement by the German government, the dual VET model would look quite different today. Before the 1969 Vocational Training Act was passed, the workplace training experience varied widely throughout Germany (some apprentices received training while others swept the floor), and some apprentices did not receive wages but rather a modest training allowance (Smart, 1975). In addition, the vocational schools controlled by the Länder, were developing full-time courses as an alternative to the dual system and generally shifting the emphasis to training from businesses to the schools (Smart, 1975). The 1969 Vocational Training Act imposed a requirement for businesses to have the proper equipment as well as properly qualified instructional staff providing workplace training. It is clear that the German federal government shaped the dual VET system through legislative means.

The governments of countries with liberal market economies such as Canada, the United Kingdom, the United States and Australia generally choose not to intervene in training because of the underlying economic philosophy of laissez-faire capitalism in which government believes that intervention restricts rights and freedoms even in training matters. In Germany, “the law is regarded as guaranteeing rights” (Raggatt, 1988, p. 176). It should be noted however that in Australia and the United States there is increasing government intervention in VET through policy development, legislation and targeted funding.

**Legislative basis for the modern German dual studies system**

The *Vocational Training Act* (as cited in German Federal Ministry of Training and Research, n.d.), adopted by Germany in 1969, is the framework legislation governing the actions of all stakeholders in the dual studies VET system. This legislation legally defines an apprentice, specifies the qualifications of company trainers, regulates exam procedures, and defines the nationally recognized occupations (Chamber of Commerce, Industry and Services Zaragoza, Spain, n.d., p. 10). The nationally recognized occupations include industry, the craft trades, commerce, administration, agriculture and home economics but exclude the public service. (Tremblay & LeBot, 2003).
Major reforms of the German 1969 legislation were necessary in the 1970s in order to respond to a period of high youth unemployment, an overall national economic downturn in Germany that resulted in fewer apprenticeship positions being available and the quality of the training itself (Tremblay & LeBot, 2003; Smart, 1975). In 1981, the German Parliament passed the *Vocational Training Promotion Act*, which continued the application of the *1969 Vocational Training Act* (as cited in German Federal Ministry of Education and Research, 2003, Section 21). The new law gave a legal basis to the Federal Institute for VET (BIBB), which was set up in 1969 (German Federal Ministry of Education and Research, 2003, Section 24). The BIBB is accountable to the Federal Ministry of Education and Science and is responsible for collecting statistics and for the research, development, and planning of vocational training throughout Germany (Tremblay & LeBot, 2003). The BIBB also has the mandate to modernize and improve vocational education based upon technical, economic, and social developments (Tremblay & LeBot, 2003).

The German federal government is technically only responsible for workplace training while the individual states (16 separate Länder) have retained responsibility for school-based instruction (Smart, 1975). This constitutional arrangement is identical to that in Canada, where the provinces are responsible for the delivery and organization of education. In Germany however, the level of cooperation between the two levels of government is superior, and the whole system ensures smooth functioning by inclusion and participation by employers’ associations and trade unions. The diagram in Figure 6 provides a brief description of the roles of each level of government and other bodies that have an important role in the system (German Federal Ministry of Education and Research, 2003).

The key stakeholder in any apprenticeship system are the employers who provide training places and supervise the workplace training. German employers have no legal obligation to supply a specific number of apprenticeship positions. Not all employers are willing to train apprentices, as doing so requires them to accept all of the rules and obligations of training (Tremblay & LeBot, 2003).
Although employer associations as a group feel a social obligation to provide placement opportunities, in 2014 only 57% of companies were authorized to offer training, and not all authorized firms offer training positions each year (German Federal Ministry of Education and Research, n.d.). The number of firms offering training in Germany has been steadily declining from 24% in 2007 to 20% in 2015 (German Federal Ministry of Education and Research, n.d.). The local Chambers of Commerce and employers’ associations regularly lobby local businesses to provide more apprenticeship positions (Tremblay & LeBot, 2003).

Businesses authorized to provide apprenticeship training must comply with the rules and regulations under the legislation governing the dual studies system (German Federal Ministry of Education and Research, 2003). For example, German employers must have signed contracts between their firms and their apprentices. In the contract, the employer commits to paying the apprentice a training wage and to providing the apprentice with the knowledge and skills required for the desired occupation (German
Federal Ministry of Education and Research, 2003). The apprentice commits to working for the company at the negotiated wage for the stated hours. In addition, the employer must have the appropriate equipment and properly trained staff to supervise and train the apprentice (German Federal Ministry of Education and Research, 2003).

The states pay the cost of the vocational school-based training, which is free to the student. The training is provided on an alternating basis, which may be one or two days per week or alternating in blocks of a week or two, depending upon the needs of the employer and how the curriculum was developed (German Federal Ministry of Education and Research, 2003).

Other legislative influences on the German dual studies VET system

In 1976, the German Parliament passed the Co-Determination Act (Mitbestimmungsgesetz) to institutionalize employee representation on corporate governing boards (European Foundation for the Improvement of Living and Working Conditions, n.d.). Businesses that employ more than 2000 employees must have equal representation from the employee side of the company and from the shareholders of the company on their supervisory boards. Supervisory boards consist of 12, 16, or 20 members, according to the size of the company (European Foundation for the Improvement of Living and Working Conditions, n.d.). The board chairperson is elected by the board members through ballot. If the first ballot is unsuccessful, then the shareholders elect the chairperson and the employee representatives elect the vice-chairperson (European Foundation for the Improvement of Living and Working Conditions, n.d.). The Works Constitution Act of 1952 (Betriebsverfassungsgesetz) requires one-third of supervisory board members to be employee representatives of businesses employing between 501 and 1,999 employees (Müller-Jentsch, 1995). In my opinion, strong employee representation on corporate governing boards must affect Germany’s choice and implementation of training models, especially the German dual studies VET model that results in a net cost to business.

The 1952 Works Constitution Act (Betriebsverfassungsgesetz) also created works councils, which play an important role in German industrial relations (Müller-Jentsch, 1995). According to this act, the staff members in every firm with more than five employees have the right to elect a works council. Works councils have a broad range of
responsibilities, including the right to participate in the planning, implementation, and monitoring of vocational training. Research has established that works councils have an impact on a firm’s training behaviour (Kriechal, Muehlemann, Pfeifer, & Shütte, 2014). In a recent study, medium-sized German firms with a works council incurred €3,800 higher net cost than a similar sized firm without a works council (Kriechal et al., 2014). On the other hand, the apprentice retention rate of firms with works councils after five years is 26% higher than those that do not have works councils (Kriechal et al., 2014).

The background on Germany’s social market economy with its substantial employee board representation and works councils explains the preface made in many research articles regarding the German dual studies model about the strong institutionalization of supporting principles in society (i.e., co-determination principles; Euler, 2013; Valiente & Scandurra, 2017). It may also explain why German firms appear to accept the high outlay for initially training an apprentice, the cost of which can only be recouped if the apprentice stays with the same business for at least five years (Kriechal et al., 2014).

**Curriculum development in the dual studies VET System**

Training under the dual system must teach nationally defined craft or occupation skills rather than skills specific to the firm (business or industry). Training referentials (minimum skills and knowledge that must be taught) are developed in partnership between employers’ associations and trade unions with the BIBB leading and arbitrating the negotiating process (Tremblay & LeBot, 2003). The BIBB is responsible for proposing a project to the Länder (states) that are responsible for the vocational schools.

The Länder develop a preliminary curriculum for the vocational training schools while the BIBB develops the contents of the workplace training with experts from employer associations and unions in the relevant sector (Tremblay & LeBot, 2003). The partners must all agree before the government will ratify a new program. As of 2016, there were 326 approved occupations qualified for delivery under the dual VET model of training (Federal Institute for Vocational Education and Training, 2018, p. 36).

Another important participant in the dual VET system are the regional chambers of commerce and industry, which represent a group of firms from similar industry
sectors. They are responsible for supervising the vocational training process and validating the exams (German Federal Ministry of Education and Research, 2003). The chambers establish vocational training committees comprising an equal number of employer and employee representatives who are responsible for assessing a firm’s ability to provide training (i.e., appropriate equipment and trainers).

These vocational training committees ensure that firms comply with training regulations and deliver the prescribed curriculum (German Federal Ministry of Education and Research, 2003). The committees will request appropriate action in the event of violation of the rules and may report a noncompliant firm to the chamber who may stop the contract and prevent the firm from signing up new apprentices (German Federal Ministry of Education and Research, 2003).

Students in the dual VET program must qualify in three types of assessment: a national standardized exam, an assessment by the firm’s trainer, and an assessment by the vocational training school (German Federal Ministry of Education and Research, 2003). Each assessment has its own objectives but together the process confirms that an individual has the qualifications required for a particular occupation.

**Financing the costs of the German dual VET system**

The German dual studies VET system is jointly funded by the 16 state governments and training firms (Hippach-Schneider & Huismann, 2016, p. 7). The Länder provide the school-based component of training to students free of charge. Employers who provide apprenticeship positions, which in reality are the majority of large firms (those with more than 500 employees), fund the workplace training (German Federal Ministry of Education and Research, 2003). Employers pay for equipment and qualified training personnel to supervise the apprentice during their on-the-job training. Employers also pay wages to the apprentice. Over the years, Germany has considered charging non-training firms for a share of vocational training costs, but this concept has never been implemented (Tremblay & LeBot, 2003).

The average training cost for training an apprentice over a three-year program is €46,608 (approximately $69,100 CAD; Wolter & Ryan, 2011). The training cost is offset by approximately €24,024 ($35,600 CAD) in benefits that accrue to the training firm
(Wolter & Ryan, 2011). The benefit to the firm arises from the firm paying lower wages to the apprentice than it would to unskilled labour for doing the same job. The net cost absorbed by the firm is €22,584 ($33,500; Wolter & Ryan, 2011).

Trainee wages are negotiated between employers and unions in each industry sector; as such, wages vary by industry sector and occupation and reflect supply and demand for trainees in each sector (Wolter & Ryan, 2011). It is interesting to note that Swiss firms receive a net financial benefit of €2,739 ($4,000 CAD) from employing apprentices (Wolter & Ryan, 2011).

**Section 2F: Criticisms of the German Dual Studies VET System**

Solga, Protsch, Ebner, and Brzinsky-Fay (2014) offered the following criticisms of the dual studies model as delivered in Germany:

- The apprenticeship system cannot transition from its industrial base towards a knowledge-based service society.

- It is known for channeling working-class students to apprenticeship and diverting them from higher education (tertiary level), thereby fostering inequality across generations in Germany.

- Although the high level of standardization in German apprenticeship training facilitates across firm mobility, the highly structured occupational training of the system limits mobility across occupations. This creates a higher risk of unemployment for those workers with only a VET certificate.

As in Canada, the German system has suffered from the traditional divide between VET and purely academic education (Powell & Solga, 2010). Powell and Solga (2010) claimed Germany is among the most segregated school systems in Europe, which means only 45% of graduates (as of 2008) hold the Abitur, a requirement for entry into the university system. The German dual studies model is delivered through the upper secondary education system and although graduates of the VET system (minimum of three years) are now able to enter university through the alternative pathway, only 2% of all German students enter university this way (Powell & Solga, 2010).
Students are increasingly recognizing that they cannot rely on a VET qualification alone or on a university degree in alone. In fact, having both qualifications is advantageous to the student who completes those (Solga et al., 2014). An interesting fact is that 25% of German university students holding the abitur certificate (which means they could have entered university directly after high school) chose to complete an apprenticeship program before going to university (Solga et al., 2014, p. 21). This fact also mitigates the criticism that the dual studies models lack of mobility across occupations. Young adults can use the apprenticeship-training model to facilitate early entry into the workforce but a university education may help further their careers later in life (Hanushek, 2017).

Some researchers are strongly opposed to the expansion of worksite experience into a young adult’s educational experience (Kijinski, 2018; Taylor, 2016). German critics of the dual studies VET system have stated that it is slow and cumbersome, maintains strong social structuring according to previous general education, and is unable to supply sufficient training position (Baethge & Wolter, 2015); yet, despite its flaws, many young adults prefer the dual studies VET system over entering the tertiary education system (Powell & Solga, 2010).

Due to the historical segregation between VET and tertiary education, it has been extremely challenging for graduates of the German VET system to enter into university-level studies. Efforts to achieve educational integration are ongoing in Germany to broaden opportunities for higher education later in life, but they have had limited success thus far (Wolter & Kerst, 2015). This factor has likely limited opportunities for the further education of vocationally trained workers after their initial training, especially if higher education was provided at the university level. Workers with a general university education background would not be expected to face barriers to higher education and training.

The European qualifications framework, adopted in 2008 (European Centre for the Development of Vocational Training, 2012), has the goal of bridging the divide between higher education and vocational training and provides a framework that includes lifelong learning. In most countries throughout the world, qualifications have traditionally been ranked according to “learning inputs” (European Centre for the Development of Vocational Training, 2012, p. 4), namely the institution awarding them
and how long the studies took. European countries have moved toward national qualifications framework (NQF), which introduced “learning outcomes” (European Centre for the Development of Vocational Training, 2012, p. 1) as the main principle for deciding the level of qualifications. The “NQF levels reflect what the holder of a certificate or diploma is expected to know, understand and be able to do” (European Centre for the Development of Vocational Training, 2012, p. 1). The European qualifications framework “addresses all levels and types of qualifications (general, vocational and higher education and training)” (European Centre for the Development of Vocational Training, 2012, p. 1).

The European qualifications framework translates each individual country’s NQF systems and their levels by linking (referencing) NQFs to the European qualifications framework (European Centre for the Development of Vocational Training, 2012). Students and employers will be able to compare the levels of qualifications awarded at home and in other countries, providing greater transparency for what qualifications mean (European Centre for the Development of Vocational Training, 2012). This framework makes it easier for individuals and employers to use the qualification system for both employment (by further enabling employment mobility between European countries) and lifelong learning.

Another criticism of the dual studies VET model is the perception that hands-on work experience training is of lesser quality than what is attainable in a traditional education setting at a college or university. Taylor (2016) argued that employers are unlikely to offer a quality workplace experience and such employment may lead to the exploitation of students. She acknowledged that this might be a problem of inadequate supervision by schools (Taylor, 2016). This can certainly be true when the firm-based training is not part of an overall training framework with defined training designed to meet the standards of a particular occupation, and when there is no external reviews or certification as there is in the German dual VET model. There are also no special teacher education requirements for workplace supervisors outside of the apprenticeship system. In the apprenticeship system, supervisors must either hold a journeyperson certification or have their trade qualifications approved by ITA (BCITA, n.d.-i); however, they do not require a teaching diploma or any teaching experience. This is the same for any individual in the workplace who might be training or otherwise supervising a co-op or
With no standards for workplace trainers, the quality of the student experience varies significantly.

Among the arguments in favour of workplace-based training is that there are valuable learning opportunities that can only be gained by being in the workplace (situated learning); for example, coming in to work on time, applying diligence to one’s work, and working in teams (Lave & Wenger, 1991; Vygotsky, 1987). Furthermore, with rapidly changing technology affecting so many work sites and skills, it is unlikely that today’s graduates will be doing the same jobs for the rest of their working lives.

The German dual studies model as well as other alternating training models such as the French Alternance training system, has tried to address this shortcoming of the VET system by including academic subjects and civic education into the curriculum. As such, the curriculum is not solely job related (Fuller, 2015). The academic component of dual studies education is typically delivered at a vocational school away from the apprentice’s employer. In addition, the social partners (schools, BIBB, and local chambers of commerce) play a role in developing the German VET curriculum; therefore, the company-based training is broader than what a specific company may want or need (Fuller, 2015).

Taylor (2016) instead advocated for all students to participate in a range of experiential learning opportunities, including project-based learning in communities. Community-based projects have the potential to expose youth to real-world problems and solutions (Taylor, 2016). The author asserted that this kind of education could break down the divisions between theory and practice, school, and workplace (Taylor, 2016). Kijinski (2018), on the other hand, argued against students having workplace experience during studies, especially if these opportunities are provided at the expense of learning difficult intellectual skills within a traditional academic setting. He did not deny the value of workplace learning as a short-term leg up in students’ careers; rather, he asserted choices must be made due to time constraints (Kijinski, 2018). This author asserted most students may never again have an opportunity to be exposed to “what the best minds have discovered and developed within our various disciplines” (Kijinski, 2018, para. 12); therefore, students should make the most of their post-secondary academic pursuits.
Social acceptance of VET in Germany

Social acceptance of the VET is very high in Germany, and for generations has been more popular than higher education. In 2008, one-third of school leavers holding a university entrance qualification did not plan to participate (ever) in a higher education program but rather chose a VET program (Powell & Solga, 2010). According to Powell and Solga (2010), there are many reasons for the preference of VET over Higher Education in Germany:

- risk avoidance—the VET system meets the expectations and aspirations of working-class families;
- financial rewards—Germany has the lowest net wage premium paid to higher education graduates among a group of 21 European and North American countries;
- impermeability of the VET and higher education systems. Many children are directed into vocational education pathways at an early age. Is it difficult to move into the academic pathway from VET; and
- strong cultural preference for becoming a (well-paid) “skilled worker or Facharbeiter.”

Although there have been recent efforts to reduce the impermeability between the two systems by creating pathways between the VET and higher education, they have had limited success. As such, VET graduates, even at the master’s level, are considered non-traditional students, and pathways for them are limited to distance or online learning (Wolter & Kerst, 2015). Returning to school full time as an adult has serious economic considerations (e.g., family commitments) and encompasses risk as there is no guaranteed pathway to a better paying job with a university education (Wolter and Kerst, 2015).

Recent developments in the German dual studies VET

Whereas the traditional dual VET program combined practical on-the-job training with part-time vocational education at the secondary level, German Universities of Applied Sciences (Fachhochschule) are now combining higher education leading to a bachelor’s degree (academic education) alternating with practical training phases in a business or company (Wolter & Kerst, 2015). The dual studies VET students in the tertiary system have an apprenticeship contract with a training company and receive an
apprenticeship-level salary, an identical arrangement to that of apprentices in the traditional VET model. In 2011, approximately three-quarters of all tertiary dual students were enrolled at only 12 higher education institutions, of which 11 are private (Wolter & Kerst, 2015).

According to Wolter and Kerst (2015), universities have less than 10% of dual students because they have a strong orientation towards academic standards and excellence, which seems to be incompatible with the somewhat more practical character of dual studies programs (p. 520). Another issue is that the university programs do not align well with company occupations.

Tertiary-level dual programs have been growing rapidly and have tripled from 500 in 2004 to 1,500 in 2014 (Wolter & Kerst, 2015, p. 520). These programs fall under two main categories: (a) training integrated (ausbildungintegrierend)—the graduate of these programs receives a bachelor’s degree awarded by the higher education institution and an apprenticeship qualification according to the legal framework recognized by a Chamber of Commerce or a Chamber of Crafts and (b) practice integrated (praxisintegrierend)—this type of program combines practical in company training with academic education but graduates of this program receive only the academic degree.

The advantage of the training-integrated degree is that the student does not need to choose between an academic or vocational pathway because they receive education and training in both (Wolter & Kerst, 2015). The practice-integrated degrees have been criticized for only providing a loose connection between the practical and academic learning components (Wolter & Kerst, 2015).

Section 2G: Can the German dual studies VET system be exported?

As noted in the introduction to this chapter, research into the transfer of the German VET system to other countries has evolved and is now in the third transfer phase. In this phase, it is critical to consider the key elements or components of the system, which together constitute the philosophy or spirit of the dual system that must be
adapted to the specific conditions of the countries taking on the system (Hummelsheim & Baur 2014).

There are two comparable lists of the key components of the German system for importing countries to consider. The German Office for International Cooperation in Vocational Education and Training, (GOVET) identified five key elements as a broad consensus between ministries and political stakeholders about ways to transfer the system. These elements are 1) close cooperation between the state and the private sector, 2) on-the-job learning, 3) societal acceptance of standards, 4) training of vocational trainers, and 5) institutionalised research and career guidance (Hummelsheim & Baur 2014, P. 287).

The Bertelsmann-Stiftung Foundation commissioned a report titled Germany’s Dual Vocational Training System: A Model for Other Countries authored by Professor Dieter Euler (2013). In this report Euler identified 11 elements of the German dual studies VET system that are needed for the successful implementation of a dual studies vocational training system in another country similar to the one found in Germany. Euler (2013) expanded the five key components described above into 11 essential elements.

1. Vocational training is a means of achieving economic, social and individual goals.
2. The main objective of vocational training is to produce skilled workers with flexible qualifications who are mobile and capable of working in their chosen fields.
3. Alternating learning situations are implemented in accordance with the dual principle.
4. Vocational training is a task to be carried out in partnership between government and the business community.
5. Vocational training is jointly funded by government and business.
6. Complementary programs are run by schools or non-business entities.
7. Quality standards are codified.
8. Teachers and training personnel are appropriately qualified.
9. The VET system strikes a balance between standardization and flexibility.
10. There is adequate research, data and funding to create a solid basis for decisions about and design of the VET system.

11. There is broad based societal support for vocational training.

Euler (2013) explored whether the essential elements could be seen in the VET systems of several countries: Switzerland and Austria, the Netherlands, Denmark and Norway, Luxembourg, and the United Kingdom (UK). In his analysis, he indicates which of the 11 elements appear to have the most significance for their VET systems. For example, in the case of the UK, he suggests that the second, fourth and seventh elements (from the list above) are particularly significant to the UK. Each of these elements had a place in the historical development of the UK’s VET system. Euler concludes,

It therefore follows that the components of a (vocational training) system are neither relevant nor useless in and of themselves; they can only ever be classified as such in light of the prevailing conditions in the potential importing country. Accordingly, components of systems can in principle serve as a model if they can be integrated into the framework of the importing country (P. 13).

Chapter Summary

Businesses promote the concept of a skills mismatch as being a significant problem for the economy in BC and Canada (see Section 2B). Since most young Canadians prefer a university education, graduates will not likely obtain work experience during their studies unless it is through some form of WIL experience (see Section 2D). Given the degree to which they vary, WIL programs may not improve a graduate’s ability to find work post-graduation. Many options for improving job readiness of graduates in tertiary education in Canada were identified in Section 2D and include an expansion of the co-operative model of education or providing support for young entrepreneurs.

Section 2F reviewed the criticisms of expanded workplace education and training in Canada such as that offered under the dual model (see Section 2F). German education policymakers are becoming critical of their own highly successful VET system because of the fear that their economy requires more tertiary-level graduates to thrive in the future (Powell & Solga, 2010; Teichler, 2015). In Germany, young people have expressed their reluctance to enter tertiary education, as they prefer the security that VET provides (Powell & Solga, 2010).
Chapter 3: A Field Study of Operational Apprenticeship Programs

Study Context – Research Questions

As noted in Chapter 1, this thesis asks whether elements of the German dual studies model of VET could be effectively applied to enhance the BC VET. The general question was extended by three specific questions. The third question asks:

*What does a BC-based field study of different approaches to apprenticeships add to the knowledge base about the province’s VET system and suggest as directions for further research?*

Chapter 2 provided a critical review of relevant and current scholarship that examined the strengths and weaknesses of the Canadian VET and German dual studies VET with a particular focus on apprenticeship. Smith (2006) noted that there is a general lack of research on the experiences of apprentices during training.

The purpose of this chapter is to describe the design and methods employed in a small-scale field-based research study of operational apprenticeship programs offered by a BC Community College and by a large private business. This field-based qualitative study was designed to provide information about a number of issues about apprenticeship in BC from persons directly involved in apprenticeship - in other words, to extend the theory through an inquiry into the realities of practice. The results from the study are described and discussed in Chapter 4, Section B.

General Background to the Field Study

According to businesses and their associations as well as students themselves, the BC post-secondary system (and the Canadian system as a whole) does not do enough to prepare students for the labour market (Bergevin, 2013; Coates, 2015; MacLaine, 2015; Sullivan, 2017). Some academics have asserted that it is not the purpose of these institutions to prepare students for the job market but rather to provide a broad-based general education. They argue that a general education actually prepares
students for the training they will receive on the job (Kijinski, 2018). Unfortunately, there is disagreement among businesses concerning the purpose of university education. Many businesses will not hire new graduates, preferring applicants with previous work experience or those graduates with more specialized degrees such as Engineering or Law. This leaves some new graduates without a way to obtain relevant job experience and results in some new graduates floundering in a succession of temporary jobs that do not lead to careers.

In an effort to address this problem, some colleges and universities arrange WIL placements such as practicums, internships, or cooperative opportunities for students while they are primarily in full-time studies (e.g., SFU, n.d.-a; UBC, n.d.). WIL placements provide exposure to the workplace but may not be related to students’ academic studies. While co-ops and internships are helpful to students, as evidenced in the Canadian Alliance of Student Associations (2018) study in which 79% of graduates stated that work placements offered valuable training for their current jobs, these positions are not available to the majority of students. Employers make these job placements available to students on a voluntary basis, and there are simply not enough available opportunities to meet the demand (Stirling et al., 2014). They are also not part of an overarching general vocational framework, as seen in the apprenticeship system. The standards and contents of co-op and internship programs vary considerably by province and by institution (Stirling et al., 2014, p. 2).

Apprenticeship models present high likelihoods of students obtaining jobs upon program completion because the students have been trained on the job in a specific trade or occupation (Schuetze, 2003), with many apprentices being subsequently hired by their training employers because they clearly have the skills needed for that business. However, as discussed in Chapter 2, in Canada there is no overarching national policy framework; as such, standards and practices vary considerably among provinces and institutions.

**Methodological Approach**

This field study is a qualitative interview study with an interpretivist approach. Interpretivist traditions are concerned with understanding a situation or finding truth (Farquhar, 2012b). An interview study utilizes conversations to gather information. It is
an appropriate research method when there is a need to collect in-depth information on people’s opinions, thoughts, experiences, and feelings (Easwaramoorthy & Zarinpoush, 2006).

Studies such as this are subjective and may encompass the researcher’s own views. In order to provide transparency, it is necessary to declare my research bias. In addition to being strongly influenced and inspired by my son’s experience with the French VET system, I have worked as a senior administrator in the BC post-secondary education system for the past seven years. I have developed strong opinions and beliefs about post-secondary education and training. I believe that education and training is an investment in human capital. Employees are an important business input because they undertake a variety of the essential tasks of production or services of any business. Businesses that invest in their employees develop more highly skilled people that are more productive and effective and can improve the outputs of production potentially making those businesses more competitive and more profitable. In my 30-year professional career, I have also been also a policy maker looking for ways to improve systems and create efficiencies in all of my employment positions. My previous positions included being the CFO of a mid-sized school district in BC’s Lower Mainland and BC Housing. Prior to that, I worked in various provincial government roles for approximately 15 years in BC and in Manitoba.

Study participants

The field study relied on data sourced from two main groups of study participants. The first group was composed of students recruited from the Professional Cook 3 apprenticeship program delivered by VCC and separately from students recruited from the Professional Cook 3 delivered by a large corporation, Alice’s Restaurant. (Alice’s Restaurant is a pseudonym intended to protect the identities of the interview participants) Students’ experiences in the two different programs were gathered to identify perceived advantages and disadvantages to the students and other aspects of their experiences.

The second data source was derived from interviews conducted with individuals responsible for the implementation and administration of Professional Cook training programs at VCC and Alice’s Restaurant. The data was supplemented by the data from
a single interview with a public official involved in the policy development and administration of the provincial apprenticeship system (BCITA).

The two data sources can be considered as enabling four different perspectives: 1) the experience of students in the VCC program structured in a block-release pattern; 2) the experience of students apprenticing at Alice’s Restaurant, a program structured in a day-release format; 3) the experience of each training institution’s representatives, and, finally, 4) the perspective of an official from the provincial agency responsible for oversight of BC’s apprenticeship system. These data sources provided insight into question 3.

It was not possible to do any form of meaningful quantitative study to compare the two program delivery models because there are few Canadian examples of companies using the day-release model of training. My aim in the design of this study was to gather data that would portray the overall training experience from a variety of perspectives within the context of the Professional Cook training and add knowledge to the subject of apprenticeship. In this case, I strove to find the truth about the phenomenon of a dual studies vocational training model as used by a single restaurant chain in Western Canada.

Research ethics

This field study part of the thesis research was conducted with human participants and required ethics approval from the SFU Research Ethics Department and VCC’s Research Ethics Board. These permission letters were granted and viewed at the SFU Library. Participant invitation letters and interview questions were also vetted by both the SFU Research Ethics Department and the VCC Research Ethics Board and may be viewed in the SFU Library. In addition, Alice’s Restaurant’s Human Resources Department provided permission to interview their students. This permission letter can be viewed in Appendix A.

In advance of the interviews, all participants were advised about the purpose of the research, interview format and process, and protocols for the protection of their personal privacy. As documented in the participant invitation letter, I confirmed with participants prior to the interview that their data would be known only to me, as the
principal investigator, and my research supervisor. The participant invitation letters documented in detail how the participant’s privacy would be protected throughout the research process by using of pseudonyms. All data were stored on a password-protected computer. I reiterated in advance of the actual interviews with all interviewees that their participation in the study was voluntary. The interviews would have no impact on their grades in the case of students (see invitation letters in Appendices C, F) or employment in the case of Alice’s corporate trainer, VCC’s Interim Dean and the BCITA senior official (see invitation letter in Appendices J, K, and L).

The original plan for the interviews of Alice’s students was that the interviews would be done individually and privately. There was a last-minute change just before the interview appointments requested by Chef Bob to conduct the interviews in pairs to save time. That meant that I was unable to protect the privacy of each student from the other student in the pair. To meet SFU’s ethics requirements, I needed an amendment to my original ethical approval for that portion of the study. The SFU Research Ethics Department approved the amendment in May 2017 and requested that I meet with each of Alice’s students, explain the issue, provide them with a copy of the transcript and ask them for their consent to use their data (see the revised Alice’s Student Consent Form in Appendix E).

I requested permission from each participant to audio record the interview for the purposes of accuracy. I explained that the interview transcript would be provided to each participant after the interview for the interviewee’s review.

Study methods

An interview study approach using open ended questions was the main method of data gathering used to examine the student experiences with the Professional Cook 3 program at Alice’s Restaurant and at VCC. Qualitative researchers have a long history of using instruments such as open-ended questions (Creswell, 2011). Interview study research is based on conversations with the researcher asking questions and listening to the respondent’s answers to derive interpretations and not necessarily facts or laws (Warren, 2001). It is well suited for answering questions of how, who, and why (Farquhar, 2012a, p. 5). The interview questions were semi-structured and designed to generate a conversation rather than answer specific questions.
Data analysis

After transcribing the audio recordings of the interviews, I printed the transcripts, reread them several times and highlighted the text that I thought was interesting in terms of the overall project context. The highlighted sections of text were reviewed and coded. A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language based or visual data (Saldana, 2009, p.3). The data collected from these open-ended questions were reviewed, interpreted and made sense of by organizing the information into themes though the use of inductive and deductive logic (Creswell, 2012).

Although each conversation was different, I was able to identify common themes, as well as unique perspectives in the experiences of the respective programs. My aim was to view the two training models from a variety of perspectives, to assess the institutional and corporate advantages and disadvantages of the two delivery models and add general knowledge to the subject of apprenticeship. A similar data analysis process was used for the interview with the Interim Dean of VCC, Alice’s Corporate Chef and the BCITA official.

There were some procedural differences in the two groups of student interviews, the respective student interviews are described separately below for each study site and participant group.

Sample size

As a small-scale field study, the sample sizes for each case were too small for any kind of meaningful quantitative study and might even be considered small for an interview study. However, because the interviews were in depth, there was value in identifying the common themes, unique observations and insights. The classes from which the students were recruited were also small. The VCC class had 14 students while Alice’s Restaurant class had 16 students. Two women from Alice’s Restaurant volunteered but no women volunteered from the VCC class, it should be noted however, that there were only three women in the entire 14-student VCC block-release class.
Classes for trades training programs tend to be relatively small (i.e., most are capped at 16 individuals). The class of VCC’s Professional Cook 3 apprentices had only 14 apprentices, of which three volunteered to be interviewed after repeated efforts to encourage more apprentices to come forward were unsuccessful. The class of Alice’s Professional Cook 3 program numbered 16; however, Alice’s Restaurant’s management allowed only the apprentices from the corporate stores to be interviewed. The majority of apprentices in this cohort were from franchise stores and required the franchise store’s owner’s permission to interview their apprentices. The franchise stores are independently owned and operated under the Alice’s Restaurant’s banner.

The additional interview candidates, Alice’s Corporate Chef, VCC’s Interim Dean, and a senior official from the BCITA, selected to answer the system-wide questions had experience with both the block- and day-release models. Since Alice’s Restaurant offers the only day-release delivery model at the Professional Cook 3 level in BC, there were few individuals to choose from who had knowledge of both models.

Student Interviews at Alice’s Restaurant

Alice’s Restaurant

You can get anything you want at Alice’s Restaurant.
You can get anything you want at Alice’s Restaurant
Walk right in, it’s around the back
Just a half a mile from the railroad track
You can get anything you want at Alice’s Restaurant. (Guthrie, as cited in AZ Lyrics, n.d., para. 1; see also Guthrie, 1967)

In this study, Alice’s Restaurant is a pseudonym used to protect the identity of the Western Canadian restaurant chain that participated in the research project and described in this thesis. Similarly, pseudonyms have been used for all interview participants. Alice’s Restaurant was founded in 1928 at a single location in a large city in Western Canada and has been operating continuously ever since. They have also been actively expanding their operations to multiple other locations. The chain now serves 17 million patrons annually at 127 locations operated as franchises and corporate restaurants. It has the highest average employee tenure of any restaurant chain in
Canada and is committed to continuous culinary development. It is the only hospitality company formally accredited as an industry-training provider.2

In 2008, Alice’s Restaurant developed the day-release training program to upgrade the credentials of their professional chefs to the Red Seal level in partnership with a Western Canadian community college (other than VCC). By 2011, Alice’s Restaurant built a training kitchen at their corporate offices and started training cooks at the beginner and intermediate levels (Professional Cook Levels 1 and 2). The Professional Cook training program (three levels in total) prepares students to write the Red Seal examination and work at the highest level of skill recognized in Canada. The curriculum and outcomes of the Professional Cook training program as offered by Alice’s Restaurant are regulated in BC by the BCITA. The BCITA ensures that Alice’s standards are identical to those offered by the public colleges and other private career-training institutions. In BC, the provincial regulatory agency is called the BCITA. The BCITA regularly reviews private training facilities and their programs to ensure they meet appropriate standards (Government of BC, n.d.-f).

In the spring of 2016 (about five years after building their training kitchen), Alice’s Restaurant was provincially authorized to offer the advanced level of training (Professional Cook 3) to train students to the highest level of professional cooking skills as well as prepare them for their Red Seal examinations. Alice’s Restaurant was now both delivering and effectively paying for the school-based part of training. Only a few of the largest companies in Germany and other European countries provide their own private training facilities. In Germany, employers pay for all company-based training, including the apprentice’s salary. The German vocational schools are fully funded by the local state government and do not charge tuition fees to the students.

To explore the day-release delivery model, I interviewed four students who were in the third month of their nine-month training program. The students at Alice’s Restaurant Corporation attend school at the company training facility every Monday. They spend the next four days of the week at work with their employer sponsor. Their employer sponsor might be a corporate store or a franchise store. The Professional Cook 3 program was nine months in duration because the day-release model spreads

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2 This information was retrieved from the company website and has been kept confidential to protect the business’s identity.
out school-based training over a longer time-period, as students only attend the training kitchen one day per week.

The senior management of Alice’s Restaurant requested that the interviews be conducted in pairs to save time and allow the students to return to classes more quickly. The interviews were conducted in the afternoon between 2:30 and 4:30 p.m. Since classes finish at 5:00 p.m., the students whose interview started at 3:30 p.m. needed to return to their stations to clean up from the day’s classes and receive their homework assignment for the following week.

**Interview structure and protocols**

The four selected Alice’s students were interviewed in pairs in a private boardroom at the company’s training kitchen facility. Each interview conducted took approximately one hour and involved semi-structured open-ended questions that were developed in advance of the interview (see Appendix B). Except for those questions aimed at obtaining some basic demographic information from the students, the questions were non-specific, and were designed to generate a conversation rather than to draw answers to specific questions. I used the same questions for each interview. I obtained permission from each participant to audio record the interview (see Appendix C). I used my iPad and iPhone in some cases to record the interviews. Although I also took notes during the interview, the audio recordings were essential to capture the main themes that surfaced during the discussion.

In order to fulfill SFU’s amended ethics approval resulting from the last-minute request from Chef Bob to interview the four Alice’s apprentices in pairs rather than individually, I met again with each apprentice whom I had originally interviewed in November 2016. I met with each student individually at their store, explained the concern regarding the protection of their privacy during the first interview, gave them an opportunity to review their transcript and requested permission to use their data. Each student reviewed the transcript, did not flag any errors or concerns in the transcript, and signed a revised consent form (see Appendix D).

There was very little discussion between the students during the interviews. The first of the Alice’s interviews was with Kevin and Rose. In effect, I interviewed Kevin separately even though Rose was in the room at the time. She added three comments.
during this discussion to confirm statements that Kevin had made. These comments did not add anything to the themes that were later identified by the researcher. Kevin then left the interview and I was able to interview Rose separately.

The second interview pair was John and Leanne. John was usually first in responding to my questions in this interview. Leanne’s answers tended to be short and several times I prompted her to answer my questions. On the text elements that were coded, and ultimately formed a theme in this study, I did have her separate answer. I also have her confirmation over a year later in a completely private interview that she was comfortable that the transcript reflected her own views and comments.

**VCC student interviews**

As a comprehensive community college, VCC has operated in the City of Vancouver for over 50 years. VCC offers university transfer programs as well as a variety of certificates and diplomas, English as a Second Language programs, and a variety of trades training programs delivered through the apprenticeship delivery model (Block-release) or through Foundation programs such as the 11-month Professional Cook 1 program. These Foundation programs are available to provide basic training for students who were unable to secure a sponsor or employer. I had been the Chief Financial Officer at VCC for nearly four years when I chose VCC as the location for my research. The VCC Research Ethics Board granted approval for the research in February 2016 and the SFU Ethics Board did the same in March 2016.

For this second group of interviews exploring the student experiences in VCC’s Block-release delivery model, I interviewed three VCC Professional Cook 3 students after they had completed their program. It was not possible to interview them during their studies as the Professional Cook 3 program is only five weeks in length and they did not have the time to participate while in active studies. The VCC students volunteered based upon a request for participants that I made to the whole cohort that had commenced the program in January 2016. The interviews took place in April and May 2016.

**Interview structure and protocols**

I arranged for all interviews to be one hour in length, at the convenience of the students, and conducted at VCC or near where the student lived; one interview was
completed by telephone. The interviews were semi-structured with open-ended
questions based upon questions I had developed in advance of the interview. The
questions were non-specific and designed to generate a conversation rather than
answer definitive questions. I used the same questions as I had used for the Alice’s
interviews (See Appendix D).

As was the case with the participants from the Alice’s Restaurant program, I
obtained permission from each participant to audio-record the interview (see Appendix
F). I used my iPad or iPhone to record the interviews. Although I also took notes during
the interview, I found the audio-recordings to be essential in capturing the main themes
that surfaced during the discussion. I transcribed each interview afterwards using
Express Scribe™ software (NCH Software, n.d.).

**Interviews with Company, Institution, and BCITA Personnel**

Interviews were conducted with Chef Bob, the Executive Chef and Corporate
Trainer, the founder of the Day-release professional cook delivery model at Alice’s
Restaurant, the Interim Dean of VCC’s Trades Training Program, and a senior official at
the BCITA. I had selected Chef Bob for an interview because, according to my contacts
at VCC, he was the founder and driving force behind of the implementation of Alice’s
Day-release training model. At the time of the interview, Chef Bob had been with Alice’s
Restaurant for 10 years. I started with semi-structured open-ended questions (see
Appendix G). As the conversation continued, I asked more specific questions such as
how the Day-release program began, why it expanded, and why the company continues
to use it. It was very important to get those answers because they are the only
restaurant chain in Western Canada using the Day-release model with their own training
kitchen.

I selected Sam, VCC’s Acting Dean of Trades (see Appendix I) in 2014 because
he had worked with Alice’s Restaurant to establish the Professional Cook 3 day-release
training model at VCC before Alice’s Restaurant took over the training themselves.
Coincidentally, he was also Dean of Trades at another Canadian college that had
worked with Alice’s Restaurant to use the Day-release format to upgrade all of their
chefs to the Red Seal credential. He was able to corroborate some of the data provided
by Alice’s Restaurant Corporate Chef.
The interview with Barry, a senior official with the BCITA was conducted in July 2018 (see Appendix K). Barry had been with the BCITA for many years and had been a tradesperson himself early in his career. The interview elicited insights into Barry’s perspective on the challenges and the changes that would have to be made to the BC system to enable more business sectors to provide training under an apprenticeship model. He was able to comment on the current state of apprenticeship in BC and in Canada as well as on future directions and challenges facing the training system.

**Interview structure and protocols**

All three of these interviews were approximately one hour in length and took place between January 2017 and July 2018. All interviews were conducted in a private office at or near the offices of the participants for their convenience. I used a slightly different set of questions for each interview participant because my focus and the information I was attempting to elicit from each participant was different. In the case of Chef Bob, Alice’s Executive Director and Corporate Trainer and Sam, the Interim Dean of Trades Training at VCC, I was attempting to determine the reasons that Alice’s Restaurant uses the Day-release training model for the Professional Cook Training Program (see Appendices G and H). In the interview with Barry, the senior BCITA official I wanted to understand the logic behind the BCITA’s reasons for supporting the different training models, whether they were open to new training models and what they were doing to improve the current apprenticeship system in BC (see Appendix I).

As with the student interviews, I obtained permission to record the interviews using my iPad or iPhone (see Appendices J, K, and L). After completing these interviews, I subsequently transcribed and analyzed the data, and the results are summarized in Chapter 4, Section B.
Chapter 4: Data and Findings

Overview and Chapter Organization

This chapter is structured to present and discuss the data that addresses each of the thesis research questions. The following general research question frames the entire chapter.

Scholarly research has identified key elements of the German dual studies VET model as being of critical importance to the success of the implementation and development of VET systems. As a frame for a critical review of BC’s current VET system, can the key elements of the dual studies model of VET be used to identify potential revisions and innovations to BC’s VET system?

This chapter is presented in two sections addressing three specific research questions. Section 4A addresses the first two questions:

Questions

1. What are the similarities and differences between the BC system of VET and the German dual studies model of VET?
2. What challenges need to be considered by the province’s policy makers in applying key elements of the German dual studies model of VET to the current VET system in BC?

Section 4B summarizes the results from the field study of operational apprenticeship programs comparing and contrasting two different delivery models of Professional Cook 3 apprenticeship training and addresses the third question:

3. What does a BC-based field study of different approaches to apprenticeships add to the knowledge base about the province’s VET system and suggest as directions for further research?

The main purpose of Section 4A is to complete a critical review of BC’s VET system by applying Euler’s (2013) concept of the 11 key components essential to the successful operation of a VET system. The review process documented in Section 4A will address research Questions 1 and 2 although in presenting the results of the field
study of operational apprenticeship programs documented in Section 4B, I will also refer to some of Euler's ideas about the dual principle. Euler takes a clear position that he does not propose the German model as a blueprint or template to be rigidly followed by other countries or regions. He notes, “Exporting a training system from one country to another is not merely a matter of copying the original system, but much more a process of selection and adaptation by the potential importing country.” (2013, p.12). Section 4A is informed by the results of the literature review presented in Chapter 2 with supplementary information from active government, BCITA and other websites. I have also drawn from my personal experience from 30 years of government policy development and departmental operations management, 14 of which were directly involved in Education.

Conceptual Framework – Sequential Multi-Paradigm Inquiry

A paradigm consists of the assumptions, practices, and agreements that guide a scholarly community (Lewis and Grimes, 1999). Paradigms reflect world views or how we see and interpret the world. Paradigms also guide choices of theoretical perspectives and methodological approaches (for example, quantitative versus qualitative) to research (Bess and Dee, 2012). Positivists believe there is only one reality that exists independently from an observer’s perspective. Interpretivists believe there is no objective reality and that it is constructed on the basis of their own experience and beliefs.

Researchers have typically viewed paradigms as distinct and incommensurable domains and choose the best research approach based upon their own world view. Positivists tend to choose a quantitative research approach while interpretivists are more likely to choose a qualitative approach. Due to the inherent complexity of organizations and in particular an apprenticeship system that relies on the sound functioning of many organizations working together, using multiple paradigms enhances the descriptive and analytical capacities of organizational theories. Multi-paradigm inquiry is the intentional use of two or more paradigms in the same study to guide each element of the research process (Kezar and Dee, 2011). In the sequential multi-paradigm strategy, a researcher begins the study from the perspective of one paradigm, and then switches to another paradigm to extend the initial findings (Bess and Dee, 2012, p.78).
In this study, both approaches have been used. I started with a systems review by using Euler’s framework to complete a critical assessment of the BC VET system. This approach is governed by a positivist approach because it assumes that all organizational phenomena are verifiable and that everything that happens in organizations is linked. With reliable measurement tools, we can assess organizational conditions and make decisions based on objective data (Bess and Dee, 2012, p.54). The field study of operational apprenticeship programs was a qualitative study guided by an interpretivist approach (See Chapter 3, Methodology). This study was used to extend the findings of the systems review.

Section 4A: A Comparison of the German Dual Studies VET with the BC VET

A General Comparison of Two Models

Although the German VET system has deep cultural roots based in the Middle Ages and craft guilds, proactive legislation passed by the German Federal government over the past 50 years has been the key to modernizing the system and transforming it into the modern dual studies VET system (Chapter 2, Section 2E). The Vocational Training Act of 1969 clearly defined the scope and purposes of the apprenticeship system and the role and responsibilities of the national government in VET. Further, the German government is supported by a national agency the Federal Ministry of Education and Research (BMBF), which is responsible for general VET policy issues and has a coordinating and steering role for all training occupations in cooperation with the respective ministries. The BMBF also works closely with the Federal Institute for Vocational Education and Training (BIBB), which conducts research and advises the Federal Government and VET providers. The existence of the national legislation and supporting administrative agencies has led to clarity around the roles and rights of the various state-level governments. In Canada, the federal government devolved its role in a strong national VET system by delegating responsibility for the delivery of VET to the provinces. As a result, Canada has 13 different VET and apprenticeship systems.

In BC, multiple government agencies have responsibility for VET systems including the Ministry of Advanced Education and Skills Training, the Ministry of Education (youth apprenticeship), the Ministry of Jobs, Trade and Technology and the
BCITA. Each of these ministries is governed by multiple pieces of legislation, although the *Industry Training Authority Training Act* (SBC 2003) is the major legislation governing the apprenticeship system. The BCITA has no role to play in the rest of BC’s VET system because a vast majority of the VET system is led by the 25 public, 19 private degree-granting institutions and about 485 private training providers (Government of BC n.d.–b). The public and private degree granting institutions are in turn governed by their own Boards of Governors or Trustees and other pieces of legislation. The private training institutions are overseen by the private training institutions branch (PTIB) of the Ministry of Advanced Education and Skills Training. There is no overarching legislation in BC or in Canada similar to Germany’s *Vocational Training Act* (1969) to coordinate all the separate institutions and players, involved in the complex system to create an effective BC VET system.

One of the central features of the German VET is that it is constructed and operates in an environment of cooperation and collaboration among significant elements of German society: “employers, vocational schools, chambers of commerce, governmental agencies and labour unions.” Further, there is general agreement among the parties about the purposes of the system. “The dual system seeks to provide the labour market with the skilled workforce it requires and to equip young apprentices with market-relevant skills for their future professional lives.” (Wieland and Lezcano, 2016, p.2). Scholars have argued that apprenticeship in Canada “can only be understood against the background of the highly decentralized and adversarial system of labour relations” in this country, which in many ways precludes the kind of collaboration observed abroad (Schuetze & Sweet, 2003, p. 83; Lehmann, 2005).

A major difference between the two systems is that Germany’s VET system is part of the secondary (high school) school system whereas in Canada, with a few exceptions, it is an integral part of the tertiary (post-secondary) system of education. The BC K-12 system provides students with a comprehensive education that prepares them to enter university after completing their secondary (high school) education. This fact has several implications. First, the school-based component of technical education and training in Germany is free to apprentices (although in Germany post-secondary education is also by and large free to students). The small youth in trades training program that is offered by high schools in BC is also free. Unfortunately, the majority of the school-based component of technical training in BC delivered through the
apprenticeship system at various public community colleges and private training institutions requires tuition fees paid for by the student.

In BC (and throughout Canada) apprenticeships are largely associated with traditional trades in heavy industry, construction, and manufacturing. Nearly half of all Canadian apprentices are in one of four occupations: automotive service technician, carpenter, electrician, and plumber (including pipefitter and steamfitter). Germany lists 356 recognized and regulated occupations that include so-called “white collar” occupations like bank manager, computer programmer and tax accountant. In my opinion, widening the number of and types of registered trades might make the idea of apprenticeship training more culturally acceptable and attractive to students as an alternative to university and college academic programs.

Another difference between the two systems is the age of the apprentices. Again because the German dual studies VET system starts in the secondary school system, apprentices tend to be younger usually between the ages of 16 and 20. On the other hand the average age of a BC apprentice is age 27.7 (Refling and Dion, 2015). This was confirmed by the VCC block release students who were an average of 27 years of age. Alice’s day release students were on average 21 years of age (excluding one outlier) as described in Section 4B. The average BC apprentice has likely already had other jobs, other post-secondary education, be married and have dependents before entering the apprenticeship pathway. Taken together, these factors may contribute to lower apprenticeship completion rates in BC.

**Essential Elements of the German Dual Studies System**

The major purpose of Section 4A is to attempt to apply Euler’s (2013) concepts of the essential elements for the operation of a successful VET system (see Chapter 2, Section 2G) to a critical review of the BC VET system. Euler stated, “For the purposes of export, a vocational training system should be viewed not as a single entity, but rather in terms of its various components.” (Euler 2013, P.7). Euler went on to describe the 11 VET system elements (components) that were essential to the successful operation of the German VET system and how those elements could be adapted to conditions in the importing country, in this case in BC.
Euler asserted that although direct transfer of the German system with its unique political and cultural context is not possible, other countries with different political and historical contexts can improve their VET systems by partially or fully adopting (if possible) all or most of these 11 elements. Euler recognized that it is not necessary to replicate these elements to achieve positive change in the importing country’s VET system. The 11 elements provide a useful framework against which the apprenticeship system in BC can be compared to identify where changes must be made to facilitate implementation of a comparable dual VET system model. The following sections describe and discuss each of the 11 elements.

At the end of each element I provide a ranking of between one and 10 that is my assessment of how close the respective BC VET system component or element is to Euler’s element. The rankings ranged from between two and nine. A rating of five means that the BC VET system has achieved most of the spirit of Euler’s element but could benefit from some improvement. The closer a ranking above five was to 10 (there were no perfect scores) was a measure of how close the BC element was to the spirit of Euler’s element and is in effect a proxy for the challenge of achieving the whole spirit of Euler’s element.

Two was the lowest ranking I gave, reflecting the fact that BC’s VET system does have an apprenticeship program and therefore has all of the essential elements, even if some fall seriously short of the spirit of Euler’s element in an ideal state. In fact, three elements (government and business partnership, joint funding and social acceptance) were identified as so severely lacking in BC’s VET system that they will be extremely challenging to ever overcome in this province.

Element 1. Broad objective: vocational training as a means of achieving economic, social and individual goals

The first essential element proposed by Euler (2013) requires a government to consider the broad objectives of vocational training policy as a means of achieving economic, social, and individual goals (Euler, 2013). The three main goals stated for the German dual studies VET system are 1) economic productivity, 2) social integration, and 3) individual development (Euler 2013, P 19). The first goal supports the Germany’s
economic growth while balancing the needs of the stakeholders including young people, their parents and the business community.

**Does the BC VET system have clearly stated goals that include economic, social and individual outcomes?**

Since this thesis compares a national training system (the German dual studies model) with a provincial system (BC) that essentially does not have a tightly focussed VET system, multiple government sources were reviewed to assess whether these objectives existed in BC. The province’s current NDP government established three main priorities for their government, and each government department or agency must demonstrate how those priorities apply to their department or agency. The ITA (2018a) has prioritized the overall government goals:

1. “Make life more affordable” (p. 5) for families by ensuring the trades training system is efficient and innovative and ensuring apprentices benefit from the training system.

2. “Deliver the services people count on” (p. 5) by ensuring the best training experience and outcomes for apprentices and by providing quality programs that meet the needs of the apprentices and industry.

3. “Build a strong, sustainable economy” (p. 5) by ensuring the training system has the capacity to meet the needs of apprentices and employers.

The ITA (2018a) goals and strategies are strongly focussed on the experience of the apprentice and ensuring the apprentice has a positive experience in an efficient system. I believe these goals strongly focus on the aim of individual development, Germany’s third objective of the VET system. Employers are mentioned in the BCITA’s *Service Plan* (ITA, 2018a), and the ITA recognizes they are important to the system but mainly as an input to the goal of the apprentice’s experience and success. After reviewing the entire plan, I was unable to find any goals or objectives linking the apprenticeship system to the overall success of the BC economy.

The BC Ministry of AEST oversees the province’s entire post-secondary education and training system including the BCITA’s apprenticeship training system (Government of BC, n.d.-c). The ministry’s *Annual Service Plan* (Government of BC, Ministry of AEST, 2018) varies somewhat from the 2017 plan (Government of BC, Ministry of AEST, 2017), which was developed by the previous BC government under
the Liberal party and reflects the education and training approach of the new provincial government.

The Government of BC, Ministry of AEST (2018) plan includes the following intended goals and outcomes:

2. “Learners are supported to achieve their full potential with accessible, affordable and equitable education and training opportunities” (p. 9).
3. “Ensure a high quality and relevant post-secondary education and skill training system that provides the services people count on for good-paying jobs and opportunities to reach their full potential” (p. 11).

The goals in the above document reference social inclusion and individual development, two of Germany’s VET system objectives but do not reference Germany’s first goal of the VET system as a means to achieving economic prosperity. I subsequently found that the 2018 Annual Service Plan for the Government of BC, Ministry of Jobs, Trades and Technology listed the following goals:

1. “The British Columbia economy is prosperous, sustainable and shared” (p. 8).
2. “Investment potential in each of British Columbia’s regions and communities is ready to be realized” (p. 10). This goal relates to attracting business investment.
3. “British Columbia has the international workforce needed to support economic growth and innovation” (p. 12). This is a recognition that BC needs to accommodate international immigration to meet specific labour market needs.
4. “International trade opportunities will contribute to BC’s shared prosperity throughout the province” (p. 14).
5. “A growing small business sector that contributes to as strong provincial economy” (p. 15).

As reflected in Euler’s first element, the first goal of the German model supports economic growth while balancing the needs of all the stakeholders including the government, young people, their parents, and the business community. In comparison, all of the goals of the Government of the BC, Ministry of Jobs, Trades and Technology (2018) are about creating and supporting a prosperous economy. The BC ministry’s third
goal goes further by stating that BC needs skilled immigrants to support growth and innovation (Government of BC, Ministry of Jobs, Trades and Technology, 2018). This goal acknowledges that BC cannot provide the skilled workforce it needs solely through training an existing domestic workforce.

The first goal of the Government of BC, Ministry of AEST (2018) is all about fostering inclusion and success for Indigenous peoples in the post-secondary education system. The second goal further supports social inclusion by making education more affordable. These efforts include a 2% annual cap on tuition fee increases and the reduction of the interest cost of student loads (Government of BC, Ministry of AEST, 2018). The goal recognizes that cost is a barrier to post-secondary education and training for many young people. Many strategies under this goal relate to tactics to improve access for the disabled, women, and Indigenous peoples. The Student Outcome Surveys for BC found that women make up 61% of baccalaureate graduates, 63% of Associate degree, diploma and Certificate students, but only 8% of Apprenticeship students. Women are particularly underrepresented in the construction, heavy machinery, and fabrication trade groups. There is a need for careful research and consultation with employer groups and educational institutions to discover how VET careers are presented to women. It will be interesting to monitor how this top AEST goal will influence future inclusion strategies for both women in trades and indigenous peoples in all areas of post-secondary education.

Germany’s second goal of social integration, according to Euler (2013), is mainly focussed on integrating young people into the workplace and society at large, and the reason is to prevent social marginalization of young people. Given the employment challenges faced by many women, the disabled, and Indigenous peoples regardless of age, the BC Ministry of AEST’s goal of social inclusion has the same purpose as that of Germany; the BC government has simply defined the groups that need this assistance.

Germany’s third goal of supporting individual development (Euler, 2013) is consistent with the third goal of the Government of BC, Ministry of AEST (2018), of maintaining a high-quality, relevant post-secondary education and training system. Strategies supporting this goal include supporting a wide range of co-op and work experience programs for undergraduate students and increasing work experience opportunities for youth apprentices (i.e., those still in high school).
In BC, there is definitely a gap in recognizing the province’s VET system as being an important factor in creating a strong economy. All of the goals and objectives identified in the 2018 Service Plans of the Ministry of AEST and the ITA (2018a) are focused on social inclusion and individual development. The Ministry of Jobs, Training and Technology does not directly link a strong local BC VET system as an important strategy of achieving economic success. Rather, the ministry has fallen back on the historical practice of using the immigration system to provide the skilled workforce to strengthen the BC economy. The Business Council of BC has questioned whether BC has an “integrated human capital strategy to attract, retain, educate and develop the talent it will require to compete in the next twenty years and beyond.” (Jothen, 2017, p.1). The Business Council’s top tenet in their report on “Growing the Province’s Economy and Potential through Talent” is that human capital is a driver and not simply supportive of economic growth in BC.

In their review of apprenticeship activity and institutional attributes, Wolter and Ryan (2011) confirmed the importance of a nation-level statutory framework in influencing a VET system. They noted that countries such as Germany, Switzerland, and France that have overarching legislation also have reasonably strong apprenticeship programs, whereas neither Sweden nor South Korea have governing legislation and have no apprenticeship programs. Wolter and Ryan argued that the function of enabling legislation is to mobilize information about training needs and methods among particular occupations, sectors, and employers. Legislation also provides for the public definition of training occupations, minimum training standards, and external regulation of the content of workplace training.

In BC, the provincial government has legislative authority over apprenticeships through the Industry Training Authority Act (2003), the Act governing the BCITA. The most recent 2016 amendments have strengthened the ITA’s legislative authority. The 2016 amendments were designed to set out the purpose for the BCITA, confirm its role in the BC trades training system and require the BCITA to engage with stakeholders.

The legislative framework could be stronger if the government of the day had wished to expand the BCITA’s mandate. It could also choose to do that through policy. Compared to the previous government’s plan (under the leadership of the Liberal Party) as released in 2016 (Government of BC, Ministry of AEST, 2016), the current BC
The provincial government (elected in 2017) has strengthened its role over labour market training as documented in its 2018 Government of BC, Ministry of AEST Annual Service Plan. The current plan recognizes the value of experiential learning as a labour market strategy and promotes youth apprenticeships in high school (Government of BC, Ministry of AEST, 2018). I have ranked this element as an eight out of 10 because although BC has all of the goals identified in Element 1, the BC apprenticeship system is not directly linked to a successful BC economy. Immigration of a trained workforce into BC is linked to BC’s economic growth but there must also be recognition of the need for an excellent VET system to secure BC’s competitive position in world trade.

**Element 2 – skilled mobile workers**

Euler’s second essential element states that a vocational training system should produce skilled workers with flexible qualifications who are mobile, capable of working in their chosen fields, and who possess skills that are applicable to a wide range of settings within their fields. This element should be supported by an agency responsible for assessing a trainee’s skills and ensuring that the teacher and examiner are different. Attainment of these goals will allow individuals to be employed in a variety of businesses that extend beyond the needs of a single business.

Germany has created over 326 occupations each with a standard skills profile (Federal Institute for Vocational Training, 2018, p. 36), while Denmark has 301 occupational categories (Rolls, 2012). This creates substantial mobility within each respective country. The European Union is further enhancing mobility through harmonization of these profiles within each individual member country (European Centre for the Development of Vocational Training, 2012).

*Does the BC VET system support the development of skilled workers who are capable of working in their chosen fields?*

**Skilled workforce**

As described in Chapter 2, vocational education and training in BC, with the exception of apprenticeable trades is primarily delivered through the post-secondary system of colleges, institutes and universities. These programs tend to have relatively weaker linkages to employers than apprenticeship programs although the colleges engage with businesses through their program advisory committees (PACs). The
strength of these connections varies by program. The vocational programs offered at community colleges and private training institutions have very good employment outcomes as evidenced by college websites such as that of VCC, which boasts that 95% of graduates are employed (VCC, 2017). These programs generally do not provide apprenticeship or internship opportunities, although some programs may provide a co-op term or practicum placement. All programs benefit from a strong PAC because the employers who hire graduates sit on the most successful PACs and, therefore, provide valuable direction to the college on the curriculum. Such involvement is in the interests of employers, since their own future hiring ability can be impacted by the kind of training these students receive at their college.

At the university level, professional programs such as nursing, medicine, education, engineering, law and accounting have long been structured to support students in making the transition from the classrooms to the intended workplace through practicums while the student is still primarily engaged in studies (i.e. education and nursing). Engineering and science students have opportunities for co-op placements during their studies while accounting, law and medicine all require a period of practical work experience after students complete their studies. All other university and college programs offer only a limited number of unstructured WIL opportunities that vary widely in terms of quality of the learning experience provided at the work site, pay and instructional effectiveness (Chapter 2, Section 2D). Nevertheless, demand for WIL opportunities by both students and employers is increasing.

Given the weak connections between many Canadian university programs and the labour market (as represented by business’s lack of direct engagement with the design or delivery of university programs), it is not surprising that there is a skills mismatch, and the problem of jobs without people and people without jobs continues (Miner, 2014). In the British Columbia Labour Market Outlook: 2018 Edition, the Government of BC (2018) has tried to provide information about in-demand fields, specific occupations and where they are located, as well as the type of education or training those jobs require, but it is not known how widely this document is distributed or how many students (or their parents) are influenced by it.

Apprenticeship programs tend to have the best employment outcomes because of the strong employer involvement (employers provide about 80% of the training at their
workplaces), well-defined learning objectives (such as those developed by the ITA, colleges, and business representatives), and a verified career path. The Red Seal occupations are well established and there is a continuing need for these skilled positions in the labour force. Due to the regular reviews completed by the ITA in partnership with their industry sector advisory committee, occupations that are no longer in demand are suspended.

**Mobility**

Within the BC apprenticeship system, the BCITA has established an effective training system with 100 designated trades that qualify the holders of the certification to work in their fields anywhere in the province (BCITA, n.d.-i). This system could be enhanced through government directive or policy to expand the definition of occupations that qualify for training through the apprenticeship model. This action would further enhance worker mobility within BC.

The constitutional arrangement for education in Germany is similar to Canada in that the individual states or Länder have responsibility for education, whereas the national government has responsibility for labour market training (Euler, 2013; Tremblay & LeBot, 2003). The difference is that the German national government took control of labour market training by enacting the 1969 *Vocational Training Act* (as cited in Tremblay & LeBot, 2003; see also German Federal Ministry of Training and Research, n.d.). The 1969 *Vocational Training Act* was the beginning of Germany’s modern dual studies VET system. To improve Canada’s competitiveness in global trade, the federal government should consider passing similar legislation to strengthen training in Canada, enhancing interprovincial mobility, and creating a modern training system.

The only inter-provincially recognized credential in Canada with the level of mobility envisioned in Element 2 of Euler’s (2013) report is the Red Seal credential that is available for 56 trades (CCDA, 2016). Each province is responsible for creating its own skilled trades profiles and the Province of BC has approximately 100 trades programs including the 56 Red Seal trades (BCITA, n.d.-i). The CCDA is a voluntary organization operated by the federal, provincial, and territorial governments that oversees the harmonization of more Red Seal trades. However, it should be noted that since 2014, only three new trades have been added to the Red Seal certification program (CCDA, 2016). The work of expanding these standardized occupations will
continue at a snail’s pace unless and until the federal government steps up and takes a stronger leadership position to actively promote further harmonization.

Over the years, the federal government has devolved its role in developing and supporting a national training system. It has limited its responsibility for labour market training into the areas of research and reporting on labour market data (through Statistics Canada, the CAF, and Employment and Social Development Canada), supporting the CCDA and to the retraining of unemployed persons through Labour Market Development funds used to purchase training from various post-secondary institutions to retrain unemployed persons (Government of Canada, 2017b). Taking back responsibility for labour market training from the provinces will be difficult and cause dissension between the federal government and the provinces.

Each province offers additional trades certification through the Certificate of Qualification designation; however, these trades are not standardized amongst the provinces and may be reassessed in the province where the journeyperson wishes to work, depending upon other agreements that may in place between provinces (BCITA, n.d.-f). The BCITA has the jurisdiction to offer both new trades and occupations to expand the number of programs eligible for apprenticeship and leading to a Certificate of Qualification. Section 8(1) of the Industry Training Authority Act (2003) describes the powers of authority respecting training programs and permits the authority to:

a) Designate a training program, including a training program for a trade or an occupation, as a recognized program;

b) Recommend to the minister that a training program, including a training program for a trade or an occupation, be designated as an accredited program; and

c) Develop programs of training and apprenticeship and program standards for the purposes of paragraphs (a) and (b). (para. 2–4)

Barry, the senior BCITA official interviewed for this study (See Section 4(B), confirmed that although the BCITA receives requests to expand the number of training programs they offer, they focus on skilled trades rather than skilled occupations. He gave the example of having been approached by the Trucking Association; they wanted to designate the professional truck driver as a trade but the BCITA determined that it was a skilled occupation rather than a trade. Barry confirmed that there is no legal definition of a trade governing the occupations or trades designated as trades, and he
did not provide any guidelines as to the difference, suggesting that the BCITA decides about designating programs on a case-by-case basis.

It is not clear why Barry made the distinction between the BCITA being responsible for trades and not occupations when the legislation clearly provides for both trades and occupations. One possible explanation is that it may be operating practice or even policy at the ITA to focus on trades. Barry advised that since there was no legal definition that would prevent adding new occupations or trades beyond the current industrial trades, it would be possible to add newly defined trades for delivery under an apprenticeship model. He advised, however, that the request would have to come from employers and the post-secondary institution currently delivering the academic program. Again, the ITA has the authority to decide how new programs come into being, and there is nothing in legislation to require that they follow a particular process.

Barry also stated that it was not a part of the BCITA’s mandate to broaden awareness of apprenticeship as a model of learning. The mandate of BCITA was limited to broadening awareness of existing apprenticeship opportunities, particularly to underrepresented groups such as women and Indigenous people. This response explains why growth in new programs is slow in BC and why there has been no movement towards modernizing the system by adding occupations.

Overall, I assess BC’s VET system at a five out of 10 because the overall education quality is high at both the colleges and universities and at the workplace in the case of apprenticeship training. Workforce mobility could be improved through an expansion of the apprenticeship system to include occupations rather than just trades. The CCDA needs to be more proactive in designating more trades and occupations, as Red Seal and the federal government should play a stronger role in strengthening the CCDA’s mandate.

Element 3 – alternating learning sites

The third essential element of the German dual studies VET model is the alternation of learning situations, in which theoretical and technical skills are taught in classroom settings while practical skills are developed at the workplaces. The dual principle can be implemented using various combinations of locations with varying
amounts of time spent at each location. Ideally, there should be some overlap, in that the workplace can provide some theory and the school some practical knowledge, and each setting should combine theory and practice, reflection and action, thinking and doing, as well as case-by-case and systemic learning. According to Euler’s (2013) report, “The business setting is essential for learning since it is the only place where learning can occur under real-life conditions” (p. 8). The trainees learn in real-life situations and become part of the business or industry and its working culture.

The skills must, however, be sufficiently broad to ensure they are applicable to a wide range of businesses and employers, not just that particular business undertaking the apprentice’s training. This system element recognizes that the apprentice’s training is not solely for the benefit of the training employer but must also benefit the apprentice, giving him or her options if the apprentice chooses to leave the training company (potentially impacting mobility as described in Element 2).

Does the VET system offer both workplace training and classroom technical education and policies and processes that enable apprentices to move between the alternating training sites?

In the BC apprenticeship system, the block-release model of alternation training is predominant. A recent CAF (2018a) study noted that only 7.5% of survey respondents were in a day-release training mode, however it is not known whether this model is increasing or decreasing in popularity. Training alternates between the classroom and the workplace in both models; however, due to long gaps between classroom learning sessions under the block-release model (many years in some cases) the integration of learning can be fragmented. Employers can be reluctant to release employees to undertake their higher levels of technical training (which can last from three to ten weeks) due to workplace requirements. These divided expectations interfere with training completion. In 2014, there were almost 290,000 registered continuing apprentices across Canada, an increase of 165,000 over a 20-year period, although the annual completion rate has remained constant at under 30,000 per year (CCDA, 2016; see Figure 7).
Practicums, co-ops, internships, and other forms of WIL offered by colleges and universities provide greater or lesser degrees of exposure to real-life work experiences but do not provide them in the integrated manner as envisioned under Germany’s dual principle. The typical Canadian WIL experience are limited in duration (anywhere from one day to eight months) and resemble the block-release format because the co-op covers a single semester and may be open to students only once during their programs—depending upon the institution and the employers involved. For example, students at SFU can apply for up to three co-op placements during their study programs.

Further, in WIL placements, the opportunity for a student to become part of a company and its working culture is limited since the students may be engaged to work on special projects and do not become part of the business’s normal production or operational processes. Canada has witnessed some very public cases in which students were required to do menial work that was completely unrelated to their program of studies such as conducting phone surveys and electronic market research for 12 hours a day (Tomlinson, 2013). Once a student completes the co-op and returns to school, there is no opportunity to apply the next level of learning to the workplace unless they are fortunate enough to obtain another co-op opportunity with the same employer. The second co-op may not be with the same company and, therefore, the advantage of real-
life learning integrated with theoretical and conceptual learning is lacking. Educators might argue that a variety of workplace experiences provide the student with a broader learning experience. Employers tend to value work experience and certainty that an employee knows a particular job well, a process that can take many years depending upon the position and the student.

The dual principle is clearly evident in the BC apprenticeship system and to some degree within the overall VET system as the popularity of other forms of work-integrated learning strategies continues to grow at colleges and universities. Euler notes however that how well the learning site is utilized and the degree of cooperation at that site is of significant importance to the quality of the learning experience. Unfortunately, there is very little research on the quality of the learning experiences for trainees and their supervisors (Smith 2006; 2010).

Overall, I rank BC’s use of alternating learning sites and use of the dual principle at a seven out of 10. While the apprenticeship system uses alternation effectively, VET delivered at colleges and universities could be improved if businesses provided more paid WIL placements for students during full time studies. WIL placements should ideally be integrated into the educational program to maximize the benefits of the alternating learning sites.

**Element 4 – government and business partnership**

The fourth element considered important for the successful implementation of the German dual studies VET model asserts, “Vocational training as a task to be carried out in partnership between the government and the business community” (Euler, 2013, p. 36). Cooperation can take many forms ranging from codified agreements to informal arrangements. In Germany, employers’ associations play a key role in the design, development, operations, and sustainability of the dual studies system. They also place informal pressure on businesses to minimize poaching practices as an alternative to investments in training Partnerships are key for sustaining the dual studies model but are important to other forms of VET that include a component of work-integrated learning.
In a study of the institutional attributes of countries that have successful apprenticeship programs, Wolter and Ryan (2011) found the evidence to support the need for strong employers’ associations to be weak. For example, Switzerland has a larger apprenticeship system than Germany and relatively low density of employer association membership (Wolter & Ryan, 2011). While employer engagement in the system is important for acceptance and labour market relevance, this goal can be achieved in other ways.

*Merriam-Webster* offers the following definition for the term partnership:

a legal relation existing between two or more persons contractually associated as joint principals in a business, … [or as] a relationship resembling a legal partnership and usually involving close cooperation between parties having specified and joint rights and responsibilities. ("Partnership," n.d., para. 2–4)

Using this definition, I have attempted to determine whether in BC the relationship between business and government is characteristic of a partnership when it comes to apprenticeship training.

**Does an active partnership exist between government, the business community and educational institutions in BC?**

In BC, the ITA is a provincial Crown corporation, wholly owned by the government and controlled through legislation as well as through appointments to the board of directors. In BC, the post-secondary education and training policies of government that were in place from 2001 to 2017 were strongly influenced by business, as evidenced by its almost exclusive appointments of business representatives and employer association representatives to the BCITA board of directors (ITA, 2016). There was only one labour representative who was *ex-officio* and did not have voting rights on board decisions. These individuals are all recruited through the Crown Agencies and Board Resourcing Office (Government of BC, n.d.-a). Strategic alliance with government priorities and initiatives is critical to the success of public sector organizations, and, therefore, board appointments are philosophically aligned with government. The Liberal Party of BC refers to itself as the free enterprise party and, therefore, takes the opinion of BC businesses into account in its policy decisions.
After the 2017 BC provincial election, the NDP party formed the government (Shaw, 2017), and they have now appointed new representatives to the ITA Board of Directors. The new BCITA board is more balanced than before and includes three labour representatives, three business representatives, and two educator representatives as well as the Chair, who had a long career in government in both Manitoba and BC (BCITA, n.d.-b). In a report on the review of BC’s apprenticeship system, the BC Federation of Labour recommended a more representative board (BC Federation of Labour, 2017). Based upon my review and a comparison of the two different plans, it appears that the new NDP-appointed ITA board is signalling a change in direction from that of the previous Liberal government.

The first ITA (2018a) 2018/19 – 2020/21 Service Plan under the new NDP provincial government presented the following goals:

1. “Make apprentices successful” (p. 7)—strategies include promoting trades as a career option, especially youth still in high school, encouraging apprenticeship completions, and improving safety and mental health of trades' workers.

2. “Enable more employers to provide an excellent apprenticeship experience” (p. 9)—encourage more employers to become sponsors and better prepare employer sponsors for requirements of work-based training.

3. “Collaborate with training partners to ensure the best training experience for apprentices” (p. 10)—strategies include updating the mandate and memberships of Sector Advisory Groups and review whether or not compulsory trade designation could be used to improve worker health and safety and consumer protection.

4. “Deliver innovation for effective apprenticeships” (p. 12)—strategies include assessing how innovation and technology can be used to make training more accessible and effective.

Goal 2 under the newest plan includes a strategy to better prepare employer sponsors for the requirements of work-based training, to identify potential mentors for current apprentices, and to remain connected with journeypersons directly to share information (ITA, 2018a, p. 9). In my opinion, this strategy means that the ITA recognizes the importance of the quality of the workplace training, which is overseen and may be delivered by the employers' designated journeyperson. Workplace training comprises between 80–90% of the training and must be effective to have value for the apprentice (Euler, 2013; ITA, 2018a). There are currently no particular teaching or
educator qualifications required of a journeyperson in BC, only that they hold a Certificate of Qualification/Red Seal credential. Some journeypersons may be natural educators, while others may find it challenging, and this will directly impact apprentices’ experiences and quality of their training. Goal 2 appears to be an effort to provide support to journeypersons who have become trainers.

Another interesting change of approach in the new ITA (2018a) Service Plan is the Goal-3 strategy to review compulsory trade designations. This recognizes the important role of government in protecting workers and consumers from potentially dangerous and risky practices. Reinstating compulsory certification was the top recommendation of the BC Federation of Labour’s (2017) report of their review of the BC apprenticeship training system.

The strong influence of businesses and sector powers impacts the apprenticeship system, but not in the way envisioned in this key element. I argue that business has had too much influence on the system and is simply perpetuating a weak market-based apprenticeship system. The system is not growing either in the numbers of apprenticeable trades or in the number of participating employers. In BC, there are no compulsory trades (BC Federation of Labour, 2017), a situation that potentially affects both worker and public safety. The number of completions through Red Seal or Certificates of Qualification is stagnant (CCDA, 2016), affecting the quality of the BC workforce. The public interest is not being met because the government has left all of these important decisions in the hands of business.

A small number of businesses employ apprentices, and they sustain the system, but there has been no movement by employers or employer associations as a whole to strengthen the system by expanding the number of designated programs or securing more employers to support the system by providing more placements. It should be noted that employer participation in BC’s training system is limited to employers from the trades who hire apprentices, employers who hire co-op students, and employers’ representatives who participate in advisory committees (i.e., PACs) at the college level or the BCITA sector committees. A further number of employers participate by providing volunteer and project experience to students, but the data relating to that have not been effectively tracked in Canada. I contend that the advisory level functions of PACs at the
college or polytechnic level cannot reasonably be defined as an active partnership with the colleges, the BCITA, or the government.

Many businesses view training as an expense that must be minimized. A 2011 CAF survey found that the top three reasons cited by businesses that had stopped employing apprentices two years before the survey were business slowdown, apprentices leaving after being trained, the high cost of training, and the time required to train. Businesses with a human capital perspective consider training to be an investment in human resources and as part of the company’s long-term strategy. Alice’s Restaurant (as described in Chapter 3) has a human capital view of training. The company’s culture supports training investment in their employees. It has found apprenticeship to be an effective method to achieve their corporate goals.

There are no legal obligations placed upon BC employers to participate in training and moral suasion of the kind that exists in Germany is not nearly as prevalent in Canada. The BC training system, as in other provinces, is primarily driven by market considerations and the good will of a relatively small number of members of the business community, an attitude that varies widely across BC and throughout Canada. The responsibility for the vocational training system, therefore, rests almost entirely with the provincial government. The kind of functional partnership that exists between employers (and their associations), trade unions, and Chambers of Commerce in Germany is nonexistent in BC. This raises a question of whether this factor is so essential as to be a showstopper or whether there are other ways to encourage employers to assume a greater partnership role with government.

A recent development has been the recommendation of the Business Higher Education Roundtable, an employers’ association (2018) to launch a “National Work-Integrated Learning (WIL) Strategy” (p. 1). In a 2018 letter to the federal Minister of Finance, the Business Higher Education Roundtable, supported by a number of provincial and private sector employers’ associations (Chambers, business councils, and construction associations), student associations, and post-secondary associations (such as Colleges and Institutes Canada and Universities Canada) recommended that the federal government take the lead on developing a national WIL strategy and increase funding support for small- and medium-sized businesses to offer “meaningful WIL placements” (p. 2). This letter is a very positive indication of growing employer
engagement for WIL (including apprenticeship) in Canada, which is an essential element for a successful dual studies VET system (Business Higher Education Roundtable, 2018). While this call for a WIL strategy is a positive step in recognizing the workplace as an important learning site, and the dual principle, it does not call for an expansion of the apprenticeship system. The apprenticeship-training model is essentially a structured form of WIL that enforces training standards and quality.

Usher (2018b) noted, however, that calling for Canada to develop a national WIL strategy was not appropriate since it requires a change of education curriculum, which is a provincial jurisdiction, and claimed that the Government of Canada would not do a good job. According to Usher (2018b), “The development of national strategies, in Ottawa, are at least as often a substitute for action as they are a prelude to it” (para. 1) This may be true, but it depends upon how such a strategy was implemented. While I believe the focus of WIL should be on job training (rather than a pure curriculum focus) and, therefore, is a national responsibility, I agree that it is a big job for the Canadian government to undertake given that they delegated job training to the provinces many years ago. It would be very challenging for the federal government to reassert responsibility for this area. Provincial leadership for WIL would provide faster and more effective results with the federal government providing coordination support similar to the harmonization initiatives of the CCDA.

After considering whether a partnership between business and government exists in BC for purposes of the VET system, I rate this element at a two out of ten. The BC government is well known for being polarized between being pro-business for long stretches and pro-labour for short periods in between. BC business has not accepted their vital role in the VET system and pushed the responsibility onto government. The relevant question is whether the BC government could do more to encourage partnerships among business, labour and other stakeholders.

**Element 5 – joint funding**

The fifth element described by Euler (2013) as essential to the successful implementation of a German dual studies VET system is joint funding of vocational training by government and employers. In Germany, the public sector (including federal, state, and local governments) paid 56% of the cost of vocational training in 2013 while
the private sector paid 44% (Müller, Wenzelmann, & Jansen, n.d.). This reflects the fact that the German government pays for the costs of the apprentices’ school-based training. This training is provided to the apprentice at no personal cost. The employer, on the other hand, pays for the apprentices’ on-the-job training and the apprentices’ wages, regardless of whether the apprentice is at work or attending school-based training. Vocational training in certain occupations can result in net income for the business involved and can serve as an investment in a business’s recruitment strategy (Euler 2013, P. 38). “The financial involvement of the business community makes it possible to keep government expenditures for VET at a relatively low level” (Euler 2013, P. 38).

**Is the BC VET system jointly funded by government and the business community?**

In BC, businesses that employ apprentices provide a journeyman supervisor or someone with considerable work experience in their particular trade if approved by the ITA (BCITA, n.d.-i) and pay the wages of the apprentice while they are working. Employers hardly ever pay the wages of apprentices who are attending school-based training. Due to government grant freezes, publicly funded colleges and institutions charge tuition fees to students for their school-based training. In addition, employers rarely pay for their apprentices’ tuition fees or other expenses incurred while attending their school-based training. The contribution of businesses to the school-based component of the VET system is limited to the general taxes they pay to government.

In BC, many potential trades’ students are unable to find sponsors who can provide a training position. These students enter the alternate training system at community colleges, programs that are funded by government grants and student tuition fees. The colleges provide training at the foundation level (usually only the beginner or intermediate levels) at instructor-led college enterprises such as VCC’s hair salon, cafeteria, or automotive shop. Students are required to work in their fields before, during, and after training in the hopes that they will eventually find a sponsor who will provide the final level of training to enable them to complete their program and achieve a recognized credential.

Whether in Germany or Canada, many businesses that offer apprenticeship positions, benefit from apprentices’ productive contribution to the business because the trainee receives below-market wages. Given that some firms pay more in annual training
costs than the benefit received, there are clearly other reasons for providing training. It is interesting to note that Germany does not legally require businesses to provide training spaces nor is there a tax on non-training companies (as is the case in France) or mandatory contribution to a training fund (as in Denmark) required by companies that do not provide training. In Germany, there are either non-quantifiable benefits available to training companies, social reasons that compel these companies to provide training positions, or they consider the training to be a long-term investment.

Both the Canadian and BC governments provide financial incentives for employers to hire apprentices. The ITA summarized the financial support to employers and apprentices in their ITA (2017d) publication entitled *Financial Supports for Apprentices and Employers in BC*: (a) $2,000 annual refundable tax credit is directed at employers that hire Red Seal apprentices; (b) BC Basic Tax Credit for non-Red Seal programs pays up to 20% of the apprentices’ wages to a maximum of $4,000; (c) the Canada BC Job Grant provides up to two-thirds of the training cost provided the employer contributes one third (to a maximum of $10,000; and (d) the BC Completion Tax Credit for employers when their apprentices complete the highest level of technical training, complete their work-based training hours, or receive a certificate for their trade.

Many businesses in Canada do not provide any apprenticeship or training opportunities to employees, preferring to poach skilled workers trained elsewhere. In BC, the BCITA senior official who was interviewed for this study (Section 4B) claimed that there are insufficient numbers of training positions to meet the needs of apprentices in BC. This would suggest that the financial incentives are too small to be effective in creating an adequate supply of apprenticeship opportunities.

Without a formal structure that requires all employers to participate in training in some way, a free rider effect can occur in that some employers will try to avoid the cost of training and poach their employees from those firms that provide training. In 2016, in all of Canada, only 21,223 apprentices received their Red Seal endorsements, of which 3,381 were awarded in BC (CCDA, 2016, p. 7). In Canada, another 5,641 received their Red Seal through the Trade Qualifier process (see the “Glossary” section in the prefatory pages of this thesis for the definition) of which 1,395 were awarded in BC (CCDA, 2016). Individuals who have worked in a trade for many years but have never been certified in Canada may challenge the certification by writing the final exam and
proving their work experience to the satisfaction of the BCITA. Overall, the data indicate that only between 40–50% of individuals starting the Red Seal process actually complete it (Red Seal, 2014).

The BC apprenticeship system is jointly funded between government and business in a way similar to the German dual VET model with a few variations discussed above. In BC apprentices contribute to the cost of the system through tuition fee payments to the public or private training provider. In addition, BC apprentices take unpaid leave during their school-based training and must therefore find ways to pay for their living costs while in school. The German dual VET system does not require the apprentice to pay tuition fees (Müller et al., n.d.) and are paid wages by their employer during school-based training.

In BC and throughout Canada, the apprenticeship system is a very small part of the vocational training system. The majority of vocational training in BC is delivered through the colleges, special-purpose teaching universities (Kwantlen Polytechnic University, Vancouver Island University, and Thompson Rivers University), institutes (BCIT and the Nicola Valley Institute of Technology), and 485 private training facilities (Government of BC, n.d. - b,- e). The business sector contributes very little to the cost of vocational training at colleges, special-purpose teaching universities or institutes except through general taxation although a small number of businesses provide WIL positions for students.

While joint business and government funding exists in the small BC apprenticeship system (employer pays for up to 90% of training at the workplace), it does not exist in BC’s vocational training system overall. The government has chosen to absorb almost the entire cost of the BC vocational training system, rather than sharing the cost with the business sector. It is possible for government to impose some portion of the cost of training to the business sector through a taxation scheme or legislative requirement. This would take substantial political will and would not be favoured by employers in BC.

In Québec, the provincial government has taken a different view and passed the Act to Promote Workforce Skills Development and Recognition (2007), which obliges businesses to allocate 1% of their salary budget to employee training (Presse
Canadienne, 2017). Businesses that spend less on employee training than the minimum determined under the Act pay the difference into the Workforce Skills Development and Recognition Fund through the Minister of Revenue (Act to Promote Workforce Skills Development and Recognition, 2007). The purpose of the Act is to improve the qualifications and skills of the present and future workforce through investment in training. By doing so, the Act seeks to promote employment, labour adjustment, employment integration and workforce mobility (Act to Promote Workforce Skills Development and Recognition, 2007, Chapter 1, Preliminary Provisions section, para. 1)

The Act to Promote Workforce Skills Development and Recognition (2007) essentially forces employer financial participation in training their own workforce; however, according to the Fédération des cégeps’ President and CEO Bernard Tremblay, the allowable training is quite broadly defined (Presse Canadienne, 2017). The Federation is advocating for training that is more occupationally focused and for the Québec Government to mandate employers’ use of general and vocational colleges, universities, and school boards to deliver those training programs.

The BC Federation of Labour has made a number of public policy recommendations intended to encourage greater participation in apprenticeships by employers. These include establishing a training levy to create meaningful incentives for employers to train apprentices, and by mandating the inclusion of skills training plans in submissions from contractors bidding in response to government contracts (BC Federation of Labour, n.d., P.12).

Overall, I rank this element at a two out of 10. Employers need to accept more responsibility for creating training positions whether in the existing apprenticeship system, an enhanced apprenticeship system with more designated occupations or by providing structured and paid WIL placements. While it is important to continue educating employers about the benefits of apprenticeship especially to their bottom line, the BC government could use policy, legislative and taxation tools to expand and improve the BC VET system. The modern German dual studies VET system was also largely created through legislation starting with the Vocational Training Act (1969) and BC could do the same.
Element 6 – complementary training programs to supplement workplace programs

According to Euler (2013), the sixth component of a successful VET system is to ensure government-funded complementary training programs are available to make up for the insufficient number of training positions provided by businesses. Barry, the senior official from the BCITA who I had interviewed for this research (see Section 4B of this chapter) confirmed that there were insufficient training positions available to meet the demand in most the designated trades. In response, the BCITA employed apprentice advisors to encourage BC businesses to hire apprentices. A CAF (2011) study found that only 19% of Canadian employers in four sectors offered apprenticeship positions. “Because the dual system is dependent on the creation of company-based training positions, the government must also provide or encourage the development of subsidiary training programs run by schools or private non-business entities.” (P. 45)

Does the BC VET system offer complementary training opportunities when businesses do not offer enough apprenticeship positions?

As a result of the shortage of training places, BC colleges offer a variety of complementary workplace training programs through their instructor-led college-operated business enterprises. For example, VCC has a cafeteria, a fine dining restaurant, a hair salon, a dental clinic, and an auto repair shop. These college-operated business enterprises provide practical hands-on experience to non-apprenticeship students enrolled in the professional cook, hairdressing, dental hygiene, and auto-body repair programs. These college business enterprises provide foundational training to young people in the hopes that they will acquire sufficient skills to eventually support their hiring by bona fide businesses.

As the former Chief Financial Officer at VCC, I noted that these college-operated business enterprises were an expensive form of training and the operations themselves frequently exceeded their annual budgets. A bona fide business cannot operate indefinitely without making a profit and, therefore, college business enterprises may not be credible substitutes for workplace training. As Euler (2013) noted, “The business setting is essential for learning since it is the only place where learning can occur under real-life conditions” (p. 8). It would be interesting to assess whether the number of college business enterprises could be reduced (saving money for government) if more
employers provided firm-based training. This would not be possible without a corresponding increase in the number of apprenticeship positions. Germany and other European countries that utilize the dual studies VET model must also provide full-time school-based training, but only as supplements to firm-based training and a means to smooth out business cycle fluctuations in apprenticeship demand (Euler, 2013), not as a total alternative.

I rank this element at a six out of 10 because complementary training provided by college business enterprises in lieu of apprenticeships exist at the college level BC’s apprenticeship system. In my opinion, BC relies upon this complementary system much more than Germany’s system. With more financial incentives or the requirement to pay a training levy, BC employers might be willing to provide more apprenticeship opportunities in the future, making the college business enterprises a truly complementary system rather than the primary option. The one major shortcoming in the BC VET system is that there are no complementary programs available to VET students at colleges and universities. There are insufficient WIL placement opportunities for most students and there are no substitutes available.

**Element 7 – codified quality standards**

The seventh essential element credited as supporting the German dual studies VET model is the codifying of quality standards. The German Vocational Training Act (as cited in Euler, 2013) includes the following:

- “curricular standards for recognized training-based occupations” (p. 50);
- “standards concerning the subject matter and [examination] procedures” (p. 50);
- “rights and duties of the parties to a training contract” (p. 50);
- “suitability [requirements for] … training centres and training staff” (p. 50); and
- “descriptions of the “duties of the agencies responsible for monitoring training” (p. 50). Training at either the workplace or a designated training centre must be checked to ensure quality of the training being delivered meets standards. In Germany, these reviews are carried out by local chambers of commerce.
An important benefit from the process of codifying quality standards is the development of transparency regarding the level of skills acquired by trainees and better approaches to the evaluation of job applicants (P. 48).

**Are there clear standards regarding training curricula, expected outcomes, quality of instructional settings, and qualifications of instructors in BC?**

**Are there processes for ensuring that the BC VET standards are being met?**

The first step in developing quality standards is to have an inventory of occupation descriptions for positions eligible for apprenticeship training that is continually updated by business, government, and educators. Germany has over 326 such occupations and Switzerland around 200, whereas Canada has only 56, Red Seal designated trades (Federal Institute for Vocational Education and Training, 2018). Germany and Switzerland’s occupation list includes traditional craft trades but their system has expanded and thus they use occupation as the umbrella term. BC has an additional 45 trades eligible for the Certificate of Quality designation (BCITA, n.d.-i) eligible for apprenticeship training.

The Government of Canada (2016, 2018) in partnership with Statistics Canada manages the National Occupational Classification (NOC) system, which serves as an authoritative resource on occupational information in Canada. The NOC provides standard occupational definitions as well as the framework for labour market information. They have gathered and defined more than 30,000 occupational titles in 500-unit groups, organized according to skill levels and skill types (Government of Canada, 2008).

Ongoing research and updates to the NOC ensure that it continues to reflect occupational changes in the labour market. Students, workers, employers, career and vocational counsellors, as well as educational and training organizations all rely on the NOC system to support career and vocational decisions. This system also supports policy development and program design and administration as well as service delivery. The provinces tend to rely on the NOC codes, which are used by colleges, teaching universities, and polytechnics to develop the curriculum of those occupations. The NOC codes could be used by BC as the basis for a quality standard if the province chose to expand the apprenticeship system to include occupations beyond the trades.
Regarding standards concerning the subject matter and examination procedures of ITA trades and vocational education delivered at BC Colleges or in the workplace, both the BCITA and the BC public post-secondary institutions involved in apprenticeship training have a role in determining the subject matter delivered for a particular occupational code. Apprenticeships that fall under the jurisdiction of the BCITA require apprentices and their sponsors to register with the ITA. The registration forms outline the rights and duties of each party to the contract as documented in Section 4A of this chapter. Students engaged in WIL placements for gaining practical workplace experience may not have formal contracts. The use of contracts and the formality of the work placements are largely dependent upon the post-secondary institution.

Many businesses provide short-term training opportunities to college and university students though WIL opportunities such as co-ops, practicums, and internships. There is no relevant national data to track exactly how many students participate in WIL opportunities, or the kinds of learning opportunities they participated in (Business Higher Education Roundtable, 2016). The Business Higher Education Roundtable (2016) made a rough estimate based upon limited data that were available from student surveys and found that about half of university students take part in some form of WIL during their post-secondary studies and between 65–70% of college and polytechnic students enrol in WIL opportunities defined as co-op, work experience, practicum service learning and volunteering. The Business Higher Education Roundtable (2016) noted that it had been reported that as many as three dozen activities could be considered WIL and range from mock interviews and roleplaying to volunteering, vacation work and one-day site visits. Opportunities for structured work experience such as co-ops and internships are only available to a fraction of students. A Statistics Canada (2014) survey of 2,010 colleges, university, and polytechnic graduates found that 22% of college students completed a co-op program and 12% of university students had completed co-op programs. A 2015 student survey of 36 universities reported that 14% of graduating students participated in co-op, with 7% having participated in a paid co-op and 9% having participated in an unpaid co-op (Business Higher Education Roundtable, 2016, p. 60).

While co-ops and internships are more likely to be considered solid WIL experiences, activities can vary widely from special projects to clerical work. Few such positions are integrated into the academic program in which the student is enrolled.
Many firms may not even pay the wages of a student in a co-op or internship position, and there are no legal requirements or standards for employers to follow. Without government intervention in terms of setting standards to ensure that students receive training that relates to their program or study and receive some form of pay, there is a huge potential for businesses to take advantage of these young people.

Standards for the suitability of training centres and staff apply to private training schools operated by employers or other private parties. These private schools fall under the oversight of the Private Training Institutions Branch (PTIB), a department of the BC Ministry of AEST (Government of BC, n.d.-d). The PTIB is charged with ensuring the quality of all trades and non-trades programming in BC-based private training schools. They require expert panel visits to the school for any new program offered. The review is handled by industry through a panel of industry experts (subject matter experts) selected by the PTIB (Government of BC, n.d.-f). The oversight of PTIB is, however, limited to the technical training component delivered by the private training institution as part of its school-based program. PTIB’s oversight does not extend to training delivered at the workplace. Private institutions must follow the same rules for work-based placements in trades as do public colleges, which is that they must be supervised by a journeyperson.

Overall, I rank this element at a four out of 10 because there is no quality control over training at the workplace and this is a major shortcoming of the apprenticeship system as well as the VET system as a whole. In BC, there is no competent body comparable to the German Chambers of Commerce to provide oversight, quality assurance over appropriateness of the equipment, and regulation for the quality of the training programs provided at the workplace. This training is largely based upon an honour system, and the individual reputation of the employer and the journeyperson trainer. It is not entirely clear whether in BC this particular function is necessary for a well-functioning VET system. According to the 2015 National Apprenticeship Survey, approximately 80% of all apprentices reported that their work experiences had prepared them well for an exam associated with a trade (Frank & Jovic, 2015). However, quantitative survey research into the quality of work experiences may not offer a complete picture useful for program development and assessment.

Quality control over workplace training sites that offer co-ops, internships, or practicums for college or university students are very dependent upon the institution that
the student is attending. As noted in a report of the Ontario Higher Education Quality Council report (Stirling et al., 2014), there is a lack of consistency or standards and oversight governing these kinds of placements in Ontario and in all other provinces including BC.

**Element 8 – qualified teachers and training personnel**

According to Euler (2013), the eighth element required for the successful implementation and operation of a German-style dual studies VET model is the availability of qualified teachers and training personnel. The German VET system places specific education and skill requirements on teachers in vocational schools and on training personnel in companies. Teacher training for VET schools comes under the jurisdiction of the Länder (European Centre for the Development of Vocational Training, n.d., p. 26), and these schools typically employ two types of teachers. Those who teach job-related theory and general education subjects must be university graduates with a master’s degree in a specific technical field and who have studied education theory and a second subject. They also require a period of practical training at the vocational school and in a company. Teachers in charge of VET practice in school facilities, such as workshops or kitchens, must be master crafts persons or technicians, hold a European Qualification Framework Level 6 credential and have experience in business or industry (this experience would be attained during their own apprenticeship and master training). These teachers must also have successfully completed training in pedagogy. Company trainers in the dual studies VET system who teach apprentices as a part of their own jobs can be skilled workers, journeypersons, or forepersons. Few of these trainers have had preparatory training or are formally qualified for this activity. Full-time trainers hold the Master Craftsperson qualification and must have passed the trainer aptitude exam administered by the local Chamber of Commerce. Companies usually have at least one trainer who has passed the aptitude exam and oversees the training for the company. In small companies, the trainer is often the owner.

*Are the instructors appropriately qualified and certified for their roles in the BC VET system? Are instructor qualifications regularly upgraded or revised to meet changing conditions and demands?*

In BC and throughout Canada, public post-secondary institutions and many private colleges and training institutions require university-educated teachers.
Teachers of vocational education in the BC public sector must hold a Red Seal designation or Certificate of Qualification and may be required to hold a Provincial Instructor Diploma (institution specific) as well as have experience in the area in which they will be expected to teach (Government of BC, WorkBC, n.d.). In this policy area, the BC system has requirements similar to those of Germany for technical trade requirements of vocational school teachers who teach at public post-secondary institutions. The main difference is that BC does not have the equivalent of a “Master Craftsperson” overseeing the company-based training and training plans at the work site. The training for anyone who wishes to become a master craftsperson does not exist in Canada.

The BCITA (n.d.-i) requires that an apprentice must be supervised by a person holding a journeyman qualification or has substantial industry experienced and is approved by the ITA). This is the only workplace trainer requirement in BC that ensures quality of training. There is no formal requirement that workplace trainers have formal teacher education, the Provincial Instructor Diploma, or other training background or certification. Some journeypersons may be natural educators, while others may find it challenging. This issue directly impacts the apprentices’ experiences and quality of their training. Given the challenges of not having enough apprentice placements under the existing system, employers and their journeypersons may not support the need for the training journeyperson to obtain additional education in pedagogy before their journeyperson is able to train apprentices.

The significant challenge for public post-secondary institutions is that there is no systemic way of ensuring that teachers at public colleges, institutes, and teaching universities stay current in their vocational areas. Although college teachers have professional development funds available to them, they have a great deal of flexibility in how to use them. For example, there is no requirement for college teachers to spend time at a workplace to refresh their applied skills. This is less of an issue for apprentices because they gain their practical real-life experience at their workplaces and not during their school-based training. However, students in full-time foundation programs that are taught at the complementary college-run business enterprises such as VCC’s Automotive Shop or Hair Salon do not receive real-life learning experiences until they secure an apprenticeship for the higher training levels or find a job in industry.
While there are some minor concerns about the provision of qualified personnel teaching in the BC VET system discussed above, they are relatively minor and overall I rate this element at a nine out of 10. The one area of concern that should be addressed especially as WIL placements continue to grow in use is the quality of trainers supervising WIL placements. There is no objective standard to assess the qualifications of the WIL supervisors, which will result in a significant variation in quality of WIL placements.

**Element 9 – balance between standardization and flexibility**

The ninth component required for the successful implementation and operation of the German dual studies VET system is the need for the training system to strike a balance between standardization and flexibility in developing training standards (Euler, 2013, P. 55). This allows flexibility for businesses of different sizes and in different industries. A balance between standardization and flexibility enables quality control while allowing for diversity of approaches and innovation.

*In BC, are the standards applied to the assessment of training outcomes appropriate and are they enforced with measurements and assessments?*

The BC apprenticeship system is quite flexible in that between 80–90% of training is completed at the workplace under the supervision of the business’s journeyperson (CEWIL Canada, n.d.-b). In addition to the workplace safety requirements, the employer is required to commit to ensuring that the apprentice receives training in the competencies of the specific trades. This becomes the responsibility of the supervising journeyperson who must sign off certifying that the apprentice has received training in all of the required competencies in the way that the supervisor sees fit (BCITA, n.d.-i). Thus, the integrity of the system is based mainly on the professionalism of the training journeyperson. This is comparable to the German VET system.

The one area in which it could be argued that the BC apprenticeship system is too flexible is that of training completion. In BC, there are no compulsory trades (BC Federation of Labour, 2017), which means there is no systematized way to ensure or at least encourage apprentices to complete the Red Seal or Certification of Qualification designations. During his interview, Barry, the senior BCITA official whom I interviewed
for this study (Section 4B) explained that in BC completions are higher for trades that are riskier. He claimed that if the employer were not concerned about apprenticeship completion, then it would not be important to the apprentice. In Germany, training completion is mandatory in all occupations eligible for dual studies.

In Canada, provincial governments decide whether a trade is compulsory or not. BC is currently the only province that has not designated any trades as compulsory, and the decision whether to employ a journeyperson, or someone unqualified or partially qualified, is left up to the individual businesses (BC Federation of Labour, 2017). Businesses make this decision on a risk basis (see the “Interview with BC Industry Training Authority Senior Official” section in Section 4B of this chapter for a more detailed explanation of the risk analysis).

A compulsory trade only allows those holders of a recognized trade certificate or registered apprentices working under the supervision of a certified journeyperson to work in that trade. According to Alberta’s Trade Secrets website (Government of Alberta, n.d.-b), compulsory certification trades usually involve work in which public and worker safety needs to be closely monitored. In Alberta, the compulsory trades include plumbers, welders, ironworkers, and electricians. The Province of BC has consistently shown higher rates of lost time due to workplace injuries in National Occupation Codes 72 and 73 (maintenance and equipment operations trades and industrial, electrical, and construction trades) than the Canadian average (BC Federation of Labour, 2017).

In comparison to the German system, I argue that the BC apprenticeship system and VET system as a whole lean too much toward flexibility rather than standardization. This may be suitable to meet training needs in BC’s apprenticeship system; however, the problem is that BC has no standards or competencies required for WIL placements that are available for college and university students making it far too flexible for business. Overall, I rate this element as an eight out of 10.

**Element 10 – research mechanism**

The tenth element claimed as essential to support a German-style dual studies model is the need for a systemic research mechanism to support planning and decision making (Euler, 2013, P. 58). This is necessary to ensure that the dual VET system is
functioning well and meeting all of its objectives. The German system is constantly evolving to ensure it stays relevant. According to Van Buer and Kell (2000), 346 research units at 74 universities and 130 non-university institutions in Germany are working on problems in vocational education. This is in addition to the Federal Institute for VET (i.e., BIBB), which was specifically established to set VET policy and collect statistics to inform policy decisions.

**Does the BC VET have a formalized process for regularly gathering information about the outcomes and performance of the system to support planning and decision making for continuous improvement of the system?**

**Is targeted funding available to support for research?**

Canada has an extensive network of research universities that have the talent to research vocational education and training. Unfortunately, as I discovered during my research for the literature review for this thesis (see Chapter 2), very little scholarly research has been completed on the apprenticeship system in Canada. Most research is done by a variety of government and independent policy agencies, such as CAF (2009, 2011, 2018a, 2018b, 2018c), Canadian Council of Directors of Apprenticeship (2016), the Conference Board of Canada (2015; see also Grant, 2016), and the Higher Education Quality Council of Ontario (2009, 2014). Since these agencies are funded by specific groups, it is unclear whether the research they undertake is impartial.

In the 2018 *Service Plan*, the BC Ministry of AEST identified the following objective: “Empower learners, educators, industry and government to make informed decisions” (p. 13). Strategies to support this goal included ensuring accurate and timely labour market information to align skills training priorities with labour market is disseminated in innovative ways and continuing collaboration with the federal government to support detailed labour market analysis.

The BCITA in cooperation with the Canadian Council of Directors of Apprenticeship collects statistics for making policy decisions. In addition, BC Statistics and Statistics Canada also collect statistics for labour market purposes.

Overall, I rate this element at an eight out of 10. While research on VET systems is available from various organizations such as CAF, it would be helpful if the federal government allocated a certain number of research grants to start the process of encouraging scholarly research in the field of apprenticeship. Endowing a Chair at one
or more of BC’s research universities might give apprenticeship research a higher profile. In BC, UBC, SFU, University of Victoria, Thompson Rivers University, and the University of Northern British Columbia all have academic talent that could be directed at this research task if the government indicated a desire for such research. Grant funding would ensure that such research takes place.

Element 11 – social acceptance of VET

The final element that Euler (2013) identified as essential to the effective operation of a dual studies model of VET is social acceptance of vocational training. I have defined social acceptance as employer engagement and student willingness to be trained under an apprenticeship model. The VET system is socially accepted in countries like Germany and Switzerland that have had dual training models for many years and where it is regarded as a worthwhile alternative to full-time college or university education (Powell & Solga, 2010, Euler 2013, P 62). Social acceptance of vocational training is necessary to ensure that vocational training obtains and retains political support and funding where necessary. In Germany, the stakeholders include the social partners (employers’ associations, trade unions, and local chambers of commerce) as well as training companies and potential applicants into the system (Euler, 2013).

Is information about the VET system and its benefits available to learners, business partners, and society in general?

Historically, in Canada, apprenticeship training has been closely associated with careers in trades in the construction, manufacturing, mining, and transportation sectors (CAF, 2011). Trades have been marginalized in Canadian society and have long been associated with a lower socioeconomic status than that associated with university degrees. Many parents and young people incorrectly assume that trades are seasonal, dirty, and dangerous, do not require a high degree of skill or intelligence, and have less job stability (LaPorte & Mueller, 2011). Negative attitudes such as these persist when teachers, guidance counsellors, and employment advisors lack knowledge of the benefits of apprenticeships. Canadians associate trades with people getting their hands dirty or with people who are unable to be successful in an academic education (Buck, 2014). A short motion picture recently produced by the National Film Board exemplifies the image that many people have of trades and the fact that trades can best be learned
by doing through apprenticeship (Snider, n.d.). Unfortunately, negative opinions of trades are often conflated with opinions on apprenticeship training.

Until recently, the primary focus of BC high schools has been academic preparation for a university education. This is changing. Youth participation in trades has increased from 4,795 in 2016/17 to 5,303 in 2017/18, an increase of nearly 11% (ITA, 2018b); however, these youth remain a small fraction (about 1%) of the total number of high school graduates. Barry suggested that both students and their parents have begun to realize that a university education is no longer a guarantee of career and financial success. University graduates are increasingly required to assume substantial debt as grant funding has not kept up with university costs. Trades training through apprenticeship can minimize student debt because students are earning wages during a substantial part of their training.

Apprenticeship is an ancient form of training in human society and is effective for any number of occupations. The terms co-op, internship, articling, residency, and practicum are all WIL terms that are frequently used as part of the curriculum for teachers, doctors, lawyers, engineers and accountants. The hands-on practical learning component of a doctor’s or lawyer’s education does not attract stigma. These facts lead me to conclude that the stigma related to apprenticeship is primarily associated with the manual or craft trades and is not an overarching general opinion regarding apprenticeships as a training model.

The challenge for BC and for Canada is that apprenticeship is an excellent training model for a variety of occupations, not just for manual or craft trades. This has been true not just for Germany but also for Australia and Ireland, countries that have expanded the number of occupations eligible for apprenticeship training well beyond the trades. The public’s opinions of VET could improve if, for example, apprenticeship training was offered for computer programmers or bank managers (which it is in Germany and other parts of Europe).

Overall, I rank this element in BC at a two out of 10 because of the strong negativity towards vocational training and a built-in bias towards academically oriented education that begins at an early age for students in the BC K-12 system. It is certainly
difficult to challenge cultural biases and alter long-held stereotypes, however, it is important to make the effort. As Euler writes,

If there is a lack of acceptance, then from a vocational training perspective there is a risk of a self-reinforcing downward trend: there are no stakeholders with political power; the political decision makers see no need to promote vocational training since there is no lobby pressure; and vocational training is neglected, causing its acceptance to decrease further. (P.62).

See Appendix M for a summary of all of Euler’s (2013) essential elements and how well the respective BC VET system’s elements compare to Euler’s elements.

Section 4B: Results of the Field Study of Two Operational Apprenticeship Programs

This section of the chapter addresses the third question:

What does a BC-based field study of different approaches to apprenticeships add to the knowledge base about the province’s VET system and suggest as directions for further research?

The major data sources for this section were the interviews conducted with student apprentices enrolled in the Professional Cook Level 3 apprenticeship programs that used two different approaches: the Day-release training delivery model as used by Alice’s Restaurant and the Block-release training delivery model at VCC. The results of the interviews with the program administrators of two programs and a senior official at the BCITA are also discussed in this section. See Chapter 3 for a discussion of the research methods used in this Field Study.

In BC as in the rest of Canada, apprenticeship programs mainly utilize the Block-release delivery model. In the Block-release model, students alternate between school-based training, usually conducted at a community college and working with their sponsoring employer. The school-based training block is anywhere between three to 10 weeks in length (Frank & Jovic, 2015), depending upon the program and provides the

3 The Professional Cook program has three levels, and they must be taken in sequence with apprentices working in between levels to accumulate their workplace training hours.
technical training for a particular trade. Students obtain on-the-job, applied experience and training at their sponsoring employer's workplace. In fact, in any given program on average 80% - 90% of training is completed at the workplace. During this time, the students accumulate the mandatory hours of work experience that are required by the BCITA program rules before they can write the Red Seal exam and complete the program. There is no requirement to write the Red Seal exam since there are no compulsory trades in BC. The decision to hire a Red Seal certified cook or someone who is well experienced but has not received the Red Seal credential is the employer’s decision.

In the Block-release model of the Professional Cook program, the work-based training component is a minimum of 3,000 hours for the entire program and is identical to the workplace hours required for the day-release model. In reality however, it can be of unlimited duration until an apprentice completes all three levels of their technical school-based training hours. Some students cannot afford to take a leave of absence from their job or find their employer is unwilling or unable to give them the time off to attend their school-based training. These students become stuck between training levels and may take years to graduate.

Ongoing work is dependent upon an employers’ continued need for the apprentice working at that level. An apprentice cannot move to the higher level of training without completing the lower levels of school-based training. The timing for taking the next level of training depends upon when a college offers it and when the employee can obtain the employer’s permission to leave work for the next school-based training block.
### Table 3  Highlights of Day-release and Block-release Delivery Models

<table>
<thead>
<tr>
<th>Description of Training</th>
<th>Block-release (VCC)</th>
<th>Day-release (Alice’s Restaurant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-based training</td>
<td>5 weeks consecutively</td>
<td>Every Monday for 9 months</td>
</tr>
<tr>
<td>Workplace-based training</td>
<td>18–24 months (weekly hours vary by employer)</td>
<td>Tuesday to Friday for 9 months (1,000 hours)</td>
</tr>
<tr>
<td>Total Training Time – 2 years in duration until all hours completed</td>
<td>180 hours technical training</td>
<td>180 hours technical training. Completion of 2,000 hours (in addition to 1,000 hours completed during training program)</td>
</tr>
<tr>
<td></td>
<td>3,000 hours work-based training</td>
<td>3,000 hours work-based training</td>
</tr>
</tbody>
</table>

Note. Based upon data from ITA (2017c).

VCC offers the Professional Cook program on a Block-release basis. After students complete Professional Cook Levels 1 and 2, they can commence the Professional Cook Level 3 program. Each block of the school-based apprenticeship training component at VCC (at all three levels) runs five days per week for seven hours each day for a total duration of five weeks. During this component of block training, the apprentices are expected to focus on their schooling and not work with their employer at all. The training period is deliberately compressed and demanding in an effort to minimize the apprentice’s time away from work.

In contrast, Alice’s Restaurant uses the Day-release model of apprenticeship training. This delivery model resembles the German dual studies VET model because school-based and workplace training alternate weekly. The students at Alice’s Restaurant Corporation attend school at the company’s training facility every Monday. They spend the next four days of the week at work with their employer/sponsor. Their employer/sponsor might be a corporate or franchise store. The franchise stores are independently owned but operate under the Alice’s Restaurant Corporate banner. At Alice’s Restaurant, the Professional Cook 3 program was nine months in duration because the Day-release model spreads out school-based training over a longer period, as students only attend the training kitchen one day per week.
**Student Interviews**

The Professional Cook 3 curriculum has been a well-established part of the Red Seal Professional Cook program throughout Canada since 1964 (Red Seal Program, 2018b). Every Canadian province has an agency or department of government responsible for overseeing program delivery, whether in the public or private sector. In BC, the agency having oversight is a Crown corporation called the BCITA (n.d.-g) while in Alberta this agency is known as Trade Secrets (Government of Alberta, n.d.-b). I expected that the delivery of both programs would be of equivalent high quality because of the calibre of the institutions (VCC and Alice’s Restaurant), the abilities of instructors, and the facilities and because both are subject to provincial oversight. In this study, I sought out actual and perceived differences in the students’ experiences between the two forms of delivery, Block-release and Day-release.

As noted in Chapter 3, I interviewed three apprentices from VCC and four apprentices from Alice’s Restaurant, all enrolled in the Professional Cook Level 3 programs. All of the apprentices were registered with the BCITA and had progressed through the professional cook program that led them to subsequently graduate with the Red Seal certification. The average age of the VCC apprentices was 27 and all three were male. After completing the VCC Professional Cook 3 program, JJ was employed by the Hard Rock Café, Ben by the Westin Bayshore Hotel, and Paul by the Fairmont Hotel. All of these apprentices were with their second employer at the time they were completing the Professional Cook 3 program. The age of Alice’s students ranged from 20 to 32 with an average age of 25 years. Two students were female and two students were male. Each student had been employed at Alice’s Restaurant between one and 10 years at the time of the interview in November 2016.

All of the interviewed apprentices confirmed that they had studied a broad range of topics, reported having had opportunities to see food prepared through demonstrations, and had opportunities to practise what they learned. All apprentice participants felt that they were well prepared to work as professional cooks in a variety of settings (even fine dining) because of the training they had received. All the apprentices felt well prepared to take the Red Seal exam and indicated they had either already passed the exam or intended to write the exam after they completed Professional Cook Level 3 training. Four themes emerged from the interviews with the apprentices: student
finances, the pace of the program, curriculum differences, and employer sponsorship challenges.

Theme: student finances

At VCC, the Block-release model of Professional Cook 3 under the BCITA's Apprenticeship Training standards required students to commit to five weeks of full-time training (five days per week for seven hours per day) The VCC students who were interviewed studied under this schedule (ITA, 2017c; VCC, n.d.). The ITA requires that 180 hours of technical training be provided and is not concerned with the particular delivery model. Of the three VCC apprentices who were interviewed, only one indicated that his sponsoring employer paid his tuition fees and made a $100 contribution towards the cost of his books. None of the VCC students’ employers paid their wages or in any way contributed to their living costs, uniforms, or other incidentals while they were attending the school-based phase of training at VCC. This meant that the VCC students had to manage their living expenses without their regular wages during the school-based training.

Even though the VCC block-release training is compressed and is designed to be delivered full time, two of the apprentices attempted to work in the evenings or on weekends while attending VCC. All the interviewed VCC block-release apprentices found the pace of the program to be intense, and those who had jobs chose to give them up while they were completing their training. Participant JJ described the intensity of the program as being “like boot camp.” Participant Rose, a former VCC Foundation student (Professional Cook Level 1 is offered full time at VCC for students who are unable to find an employer sponsor) who later joined the Alice’s Restaurant Corporation, had tried working for the first few months of the 11-month College Foundation program. She also gave up her job while enrolled at VCC because it was too difficult for her to work and attend school at the same time in such a demanding program.

All of the VCC Block-release apprentices interviewed described creating a financial plan for their time at school while completing the Professional Cook 3 program. They knew in advance that if they wanted to complete the full Red Seal program, they would need money while attending school. They either saved enough funds while they were working prior to entering the Professional Cook 3 program to cover their anticipated living costs while working or used accumulated vacation time from their employers or
received Employment Insurance funding. Only one of the VCC Block-release students, however, had received Employment Insurance funding, which he used in addition to his savings in order to pay living expenses while he was attending the VCC technical training. None of these students indicated asking for financial assistance from their parents.

Student loans were available for the VCC Professional Cook 3 apprentices at the time of their training but none of the interviewed apprentices chose to utilize the loan program. They believed that if students planned and were committed to their future training and education, then they could take care of their own finances. Finances were an important consideration for these apprentices and the main reason that the apprentices stated for choosing VCC’s program. According to the students, tuition at VCC was substantially lower than at other institutions—$8,000 compared to $20,000 at the Pacific Institute of Culinary Arts on Granville Island, a private school.

When told that the Day-release training model offered ongoing paid salary to the apprentices while in school, the VCC apprentices stated they were not interested. They did not believe there was any particular financial advantage to the Day-release model. Their views may reflect the fact that, by the time of the interviews, they had successfully completed the entire cook program and passed their Red Seal exam using their own ingenuity and resources to finance their expenses. The VCC students may have also believed that Alice’s Day-release program would be just as intense as the Block-release program but was much longer in duration (nine months compared to five weeks). Regardless, the VCC students did not view the financial benefits of the Day-release model as appealing.

In contrast, the apprentices in the Day-release model at Alice’s training program were paid their regular wages, regardless of whether they were at work or at their school-based training. In addition, Alice’s Restaurant paid for all their uniforms, study materials, knives, and other equipment, and even provided them with a store budget. The store budget gave them the funds to pay for ingredients not available at their home store (restaurant) so that they could practice recipes that were assigned to them as part of the program or simply to try a recipe on their own. The Alice’s apprentices stated that they were all financially comfortable and none had required student loans. They also
stated that if they had needed to pay all of their own costs and had not had their wages paid by their employer; they would not have been in the training program.

Alice’s apprentices claimed that parental assistance had not been possible or was very limited because their parents either did not have the resources to be able to help their children or because they were unwilling to assist. For example, apprentice Kevin stated that his parents would not contribute to his education on the principle that he was an adult. Kevin said his parents told him, “You are grown up, so you have to do it by yourself now.” My interview with Kevin took place when he was in the middle of the Professional Cook 3 program. He claimed not only to be financially independent, but that he was actually helping his parents out by contributing to their mortgage payments. He said, “The school [Alice’s Restaurant] definitely helped me out with my financials. It’s definitely not a struggle when you’re going through [Alice’s Restaurant].”

**Theme: pace of the program**

All the interviewed Alice’s apprentices were quite relaxed about the program and felt the pace was comfortable. They all agreed that there was time to study topics during the week between classes, complete their assignments, the online tests (using Totara, n.d., an online tutorial program), and even to practice new recipes at their home stores (workplaces). Alice’s students confirmed that Chef Bob encouraged his students to spend an hour every day to study and practice their skills. Each store has a red seal budget that apprentices can use to buy ingredients they need to practice basic cooking techniques, new techniques or new recipes. This enables students to practice anything learned at their Monday class when that product is not on Alice’s menu later that week. In response to the question of whether the training is mainly focused on ensuring Alice’s menu is learned, participants Kevin and Rose confirmed they were discouraged from copying the menu even with minor items such as garnishes that might be in Alice’s store inventory. They reiterated that Chef Bob tells them to “Be creative and don’t copy anything from Alice’s Restaurant”. Students noted that while every class has a particular topic such how to make geoduck or octopus (the protein) and students make the item themselves after the demonstration; Chef Bob requires them to add a vegetable and a starch to make a complete dinner. This requires students to think about what complementary products contribute to a healthy and tasty dinner.
Participant John made the following remark about Alice’s program:

I find it's perfect for me because once per week, I know what to expect. It’s always about coming in and knowing what to expect. We get a week’s notice of tests. So we can study it after work and we have our schedules up. So it’s really helpful when everything is planned out for you and all you have to do is follow the curriculum.

Participant Rose had been in VCC’s 11-month Foundation program for Professional Cook 1 program before Alice’s Restaurant hired her. When asked to compare the pace of the two delivery models she stated:

I do find that with having one class a week, compared to the five classes per week with VCC, I have way more time now even with work full time to study and do research and try recipes and just anything I need.

At VCC, the Block-release program model presented a new topic every day. For example, a whole day might be devoted to cooking fish. The only exception was baking and charcuterie, as 2 days were devoted to each of these topics. Only a few in-class cooking demonstrations were given by the Chef Instructor. Apprentices in Level 3 were expected to have enough knowledge and experience to cook virtually anything, so the program was focussed on practical hands-on cooking. The school day was only six or seven hours long (varying by day and by instructor), with a one-hour lecture, one hour of clean-up, and then maybe an added one-hour demonstration. This routine left only three or four hours to complete required hands-on assignments in class in order to get the marks needed for the class. The prepared food product completed in class was graded and it was therefore important to make the food product as described by the instructor. There were no opportunities for experimentation in class as it might have reduced the student’s grade. Given the intensity of the class and how much information was delivered in the short program, the VCC students all advised that they focused on studying theoretical concepts and completing written assignments after class rather than trying out recipe variations after class.

The interviewed VCC Block-release apprentices all described feeling rushed and indicated that the program should be at least one or even three weeks longer (six or eight weeks instead of just five). Participant JJ believed a longer program would be beneficial to apprentices to reduce the pressure and stress. He stated,
Physically and mentally you have to be prepared, because once you start
the course itself, it’s like you have to study all of the time. You are always
cramming. Like you are always in a rush already.

JJ even confessed to having fainted one day in class due to the stress from the program:

You are studying consistently and go down to the kitchen to do your stuff
and then you go home. So you pretty much don’t have a break. Almost
every day you have to do that and then that’s pretty much your life for five
weeks.

Participant Paul wanted the program to be longer in order to get more hands-on
experience in a number of topic areas. He explained,

For example, fish, you are just learning how to cook it one way during a 5-
week program, but in an eight-week program, you could do many things
with fish to learn different techniques and deal with different types of fish.

Paul did not believe increasing the daily hours in the program (for example, from seven
to nine hours per day) would address the concern and indicated that the issue would be
best addressed by increasing the number of weeks in the program.

Participant Ben also felt VCC’s Professional Cook 3 program was very rushed
and believed that the instructor was unprepared, a view that contributed to his feeling
that the program was too rushed. He noted that the turnaround time for assignments
was often only a single day because the program was so short. Ben believed that a
contributing problem was lack of experience on the part of the instructor who thus
tended to give away the answers rather than help students learn on their own. As a
result, Ben felt pressured to learn on his own using VCC’s Moodle (n.d.) site, Totara
(n.d.) online, (on-line learning management software), the textbook and other resources
he could find on his own. Without strong instructor support, he felt that he needed to look
everything up himself and that added to the feeling that the program was too short and
rushed.

Overall, however, all of the VCC apprentices believed the Block-release delivery
model was the right approach because it allowed them to focus on school and nothing
else. JJ noted, “You just study, study, study. It’s a good thing, and then, yes, you
eventually pass that exam.” Although JJ had never been a part of the Day-release
program, he believed that it would be confusing to alternate between work and school.
He was more interested in concentrating on his studies and worried about work
distracting him from his studies if he was alternating between work and school regularly. The VCC apprentices may have assumed that the pace of the Day-release technical training would be just as demanding as the Block-release model but much longer in duration.

**Theme: curriculum differences**

In response to my interview questions about whether the students wished to share anything good bad or funny about their program that had not already been covered, participant JJ mentioned that although he was satisfied with the basic cooking skills he received at VCC, he felt there should be more focus on the business side of running a restaurant. He believed that food costing, task delegation, and time management were important skills missing from VCC’s curriculum. JJ claimed that a Level 3 graduate is considered a potential supervisor at their place of work and would benefit from that knowledge. JJ was personally interested in someday running his own restaurant business, and he wanted to be prepared. As he said, “Because, at the end of the day, it's all about business—it's money.”

Alice’s apprentices confirmed that they had been taught food costing, labour costing, and other management skills during the Professional Cook program. They believed these skills were necessary to avoid wasting food and were essential to running a kitchen. In addition, once the apprentices graduated, they were offered seats in Alice’s Restaurant Management Development Program (MDP). The MDP provided more in-depth management training and was a prerequisite for a promotion into management.

**Theme: employer sponsorship challenges**

Although all three of the VCC Block-release apprentices found a way to complete the Professional Cook program, they described challenges in obtaining sponsorships. Participant Paul mentioned that he had had trouble obtaining formal sponsorship from his employer for Professional Cook Levels 2 and 3. He eventually advised the employer that all he wanted was the time off and did not require tuition reimbursement. The employer granted the time off but did call Paul in for work once or twice per week. During midterms and during the final few weeks of course work, he asked for and was granted time off from all work. It was clear to Paul that time off for school was conditional upon staying available for at least some work shifts.
Participant Ben a VCC Block-release apprentice, had been sponsored by a well-known Vancouver restaurant. However, after completing Level 1, Ben subsequently moved to another restaurant and was unable get his new employer to sponsor him for Level 2. In spite of this, Ben stayed with his new employer and was eventually sponsored for Level 2 by Go2HR (n.d.), a private Vancouver company that provides programs and services to support the hospitality and tourism industry. The agency advised him that they provide this service to apprentices when chefs are unable to act as sponsors (because they do not have the correct qualifications) or when they are unwilling to serve as sponsors. Ben was not able to confirm whether his chef supervisor had been unable or unwilling to serve as a sponsor.

Employer support and sponsorship was never an issue for Alice’s apprentices because they had all been recruited from the ranks of current employees for the express purpose of training as professional Red Seal Chefs. Part of the talent strategy at Alice’s Restaurant was to ensure there was at least one Red Seal Chef at every store. Alice’s Restaurant also made a commitment to their apprentices to help and encourage them to complete their training. In turn, the apprentices made a commitment to complete the Red Seal training to the best of their ability and to work at Alice’s Restaurant for one year after graduating.

All apprentices (including both VCC’s Block-release and Alice’s Day-release apprentices) must register with the BCITA or the responsible local provincial agency. In BC, the apprentice and his or her employer/sponsor must complete a registration form (ITA, 2017b), which is kept on file at the BCITA. The sponsor agrees to the following responsibilities:

1. Ensure the Apprentice receives training and related practical experience under the direction of a qualified individual (Certified Tradesperson or other(s) specified in the Industry Training Program Profile, or holder of an ITA-issued letter authorizing supervision and sign-off of apprentices in the trade), in a work environment conducive to learning tasks, activities, and functions that form the Industry Training Program in which the Apprentice is registered;

2. Enable the Apprentice to regularly attend Technical Training that is required under the Apprentice’s Industry Training Program;
3. Submit all forms and documents required by the Industry Training Authority to verify completion of the established standards for the Industry Training Program; and

4. Recommend the Apprentice for certification when the Apprentice has met the established standards for that program and in the view of the sponsor and qualified individual is performing at the level of a Certified Tradesperson in the trade. (ITA, 2017b, p. 2)

Despite the fact that all of the sponsoring employers specifically agreed to enable the apprentice to regularly attend technical training, VCC’s Block-release students all encountered difficulties in obtaining their employers’ permission to attend the five weeks of technical training at VCC. Employers would hesitate to release their apprentices in situations in which replacements are difficult to hire such as during the peak of a business cycle, and the apprentices were unlikely to complain for fear of losing their jobs. The ITA does not have an enforcement mechanism to ensure employers comply with their commitments to facilitate the apprentices’ technical training needs.

**A closing comment – a student’s perspective**

Participant Rose’s closing interview comment provided an excellent summary comparison of the two delivery models from an apprentice’s perspective. Rose was the only apprentice in this study who had experienced training under both the block- and day-release models of training. I asked her how she would respond, theoretically, were I an apprentice who had been accepted at both VCC and Alice’s Restaurant Corporation and asked her advice on which program I should choose. She recommended Alice’s Restaurant for the following reasons:

Because it’s a lot more relaxed here [at Alice’s Restaurant] and you get the same quality of education and also you get paid for it. And you still get your hours as well while you are working and schooling at the same time. And they won’t have such a difficult time trying to find time to study outside of work and school as well.

**Company, institution, and BCITA interviews**

*Interview with Alice’s Restaurant’s corporate chef (Head Trainer)*

I had originally become interested in Alice’s Restaurant’s use of the Day-release model of training delivery because it resembled the German dual studies model. Chef Bob, Alice’s Restaurant Corporate Chef and Head Trainer, explained that the concept
was based upon the European model of dual studies, which he personally believed to be successful. He had been the chair of the Cook Trade Advisory Committee of the BCITA, the provincial agency mandated with overseeing trades. As Chair of the Cook Trade Advisory Committee, he had been pushing for the past 15 to 20 years for the implementation of the Day-release model. Although he claimed that chefs in the sector loved the idea, no one was prepared to commit to it. When Bob had the opportunity to build the Day-release model at Alice’s Restaurant, he went ahead and implemented it.

When I asked Chef Bob why no one else in the sector would commit to the model, he said that he believed economics was the main concern, as the restaurant business is a very low-margin industry. In the Day-release model, the students are paid for 5 days of work, even though they are in school-based training 1 day each week, a day lost to their normal roles in the restaurant’s operations, so the additional cost of that training was a factor. In addition, Alice’s Restaurant pays for the students’ uniforms, equipment, and learning materials. After receiving provincial certification as a private training facility and assuming responsibility for the apprentices’ technical training, Alice’s Restaurant incurred the capital cost of building the training kitchen as well as the annual costs of maintaining the kitchen and paying instructors’ salaries.

In response to why Alice’s Restaurant chose the Day-release model over the Block-release model, Bob claimed that they were seeking better, higher level training for their chefs. He believed it was essential to have at least one Red Seal chef at each location. Bob wanted the Red Seal chefs to be trained to prepare any kind of meal, not just those on the current menu. Approximately 10 years ago, Alice’s Restaurant had tried a pilot project with another Western Canadian college to upgrade the skills of their chefs to the Red Seal designation. The upgrading program was delivered on a Day-release format and had been very successful. Bob claimed that they saw three tangible benefits: (a) a reduction of food costs, (b) improved food quality, and (c) the stabilization of cook retention rates, and ultimately an actual improvement in overall staff retention rates.

Chef Bob further pointed out that beyond those three benefits, the program has allowed Alice’s Restaurant to grow and foster a level of kitchen managers and management. He emphasized that the current program was not implemented for altruistic reasons and stated, “There has to be a bottom-line reason for it,” although it is also so much more effective for students. “They come in and are not inundated with
learning. They have a whole week to understand the lessons.” Bob stated, “It is just on so many levels, I think, better.”

I mentioned to Bob that the VCC Block-release students were asked to share their thoughts on the Day-release model. All of them responded that they were not interested because the Block-release model they experienced at VCC was so intense and stressful, they may have assumed that the Day-release model would be worse. Bob responded that it was in fact the other way around, as he had designed Alice’s Restaurant’s program to be delivered at a comfortable pace. As an example, he noted that for the session on sauces, the apprentices have the whole week to do their reading and practice.

Chef Bob also noted that his apprentices are highly motivated to learn because the training is an integral part of the job and, because it is a workday, they are paid for their time. Further, Alice’s Restaurant recruits their apprentices from their current employees. Their decision to offer an apprenticeship to an employee is based upon their apparent motivation and an assessment of their maturity level to ensure they are a good fit for the restaurant over the long term. Other criteria include Grade 10 completion, because that is a provincial government requirement. However, Alice’s Restaurant does not look at high school marks, as long as the student has basic math skills. Chef Bob advised, “I don’t want to deny them an opportunity because they were a lousy student.”

It is interesting to note that all employers have an opportunity to assess their potential apprentices before agreeing to sponsor them. All students who wish to enter Professional Cook Level 1 through the apprenticeship pathway must have a job with a sponsoring employer before they can apply to VCC’s Block-release program.¹ Employers can pick and choose whom they wish to sponsor as an apprentice from among their employees and when they wish to sponsor that apprentice. In this way, they are just like Alice’s Restaurant.

Chef Bob stated that Red Seal graduates are offered management training through Alice’s Restaurant MDP. Those who express interest will then be trained to become kitchen managers. The program consists of a combination of hands-on practical

¹ Students can apply for institutional entry through VCC’s 11-month foundation program and receive 840 hours credit out of a total of 1,000 required hours to complete Level 1.
training through rotations in different positions at both front and back of the house. The trainees are taken to different stores and exposed to every facet of the business. The training is reinforced with an intensive online course that consists of a series of videos, mini lectures, some literature, and then a series of online tests.

When asked whether the Day-release model could be replicated in any other industry, Bob responded affirmatively, noting that it had previously been successful for some of the large equipment operator groups. “I think there has to be a concerted effort to show people that there is value in terms of the bottom line,” Bob stated. He also noted that the Block-release model is particularly challenging for the small independent operator of any business. In any given restaurant, there might only be three cooks, so the business cannot afford to lose a cook to a block of school-based training. As a result, many chefs are stuck at the Professional Cook 2 level. They never complete their Red Seal designations, because their employers cannot afford to give them the time off.

If a restaurant is given the option of sending that same cook to training one day per week, the business might be able to accommodate the training time. Bob advised me that employers needed to “buy into the reality that it can make you money.” The way to do that is by preparing a cost benefit analysis. Bob further added,

“It’s no different than adding another server on, so yes it’s going to cost you four hours or six hours of labour for that extra server, but you are going to sell that much more food at that many more tables and you are making money by spending that extra….That’s not always easy to get people to understand in any field.”

When asked if he supported other employers’ establishing their own independent or private training schools as Alice’s Restaurant has done, he advised that VCC is a good school and does a great job and there is no need for others to have an expensive in-house kitchen. There is, however, a thirst for innovative programming, and the Day-release delivery model is considered innovative in North America while in Europe, the Day-release delivery model is standard practice. It is possible that if the benefits of the Day-release model were more widely known it might be adopted by other employers. Chef Bob concluded our interview by stating that it would be nice to see this (Day-release model) mainstreamed.
Interview with the Interim Dean of Trades at VCC

For this part of the research project, I interviewed Sam, Interim Dean of Trades at VCC. In 2014, Sam was responsible for the VCC Professional Cook program, the largest culinary program in Western Canada. Sam was Interim Dean of Trades at the time VCC started delivering the school-based component of day-release training for Professional Cook Levels 2 and 3. This approach was intended to accommodate the needs of Alice’s Restaurant, which had decided that the Day-release model was their preferred training model. The two levels of Professional Cook Day-release training offered by VCC included a few other restaurant clients; however, Alice’s Restaurant was the driving force. By 2016, Alice’s Restaurant had received provincial certification as a training facility for all levels of Professional Cook training, and, shortly afterwards, VCC stopped delivering the Day-release model, as it could not be sustained by their other corporate clients.

Alice’s Restaurant had originally approached Sam in 2007 when he was Dean of Trades at another Canadian college (which I have named Western College to protect its identity). Alice’s Restaurant planned to complete a major upgrade of their chefs to Red Seal status but could not afford to release their students for a five to six-week training session under the Block-release model (up to 180 hours of training) at a time and the Block-release model was the only option available at the time.

In 2007, Sam and Alice’s Restaurant’s Corporate Chef Bob agreed that the Day-release model would be more effective for Alice’s Restaurant and Sam agreed to this arrangement for Western College. Alice’s Restaurant released their employees from work every Monday for six months to do their school-based training at the Western College kitchen and then returned to work back at their own stores for the remaining four days of the week. The apprentices were very satisfied with this arrangement because they received their Red Seal credential at a reasonable pace without losing pay and disrupting their lifestyles. Alice’s Restaurant was very pleased with the model and not only agreed to pay the tuition fees for their apprentices’ school-based training but also continued to pay their wages. According to Dean Sam, apprentices usually pay their own tuition fees for the school-based portion of their training and do not receive wages from their sponsoring employer while in school-based training.
Further, Interim Dean Sam reported the program completion rate was 100% for the day-release model. He believed this was because the students were paid for their attendance at school (which was considered work). They also had the incentive of receiving a pay raise upon completion of the Red Seal credential. Sam also claimed that instructor satisfaction was higher when teaching the day-release apprentices because the day-release apprentices were a highly motivated and engaged group. He believed that the dissatisfaction of block-release apprentices was related to having insufficient funds to pay tuition and living costs while attending their school-based training. Block-release apprentices are never paid by their sponsoring employer during their school-based training period and have to pay for their own tuition fees, textbooks, supplies, and uniforms.

Although Block-release apprentices are eligible for Employment Insurance benefits (a federal government wage replacement program offered while apprentices are not working), they had to contend with the processing wait time before receiving their payments. In addition, the Employment Insurance payments are substantially lower than their actual wages. Sam believed this contributed to the student frustration, which in turn affected their engagement with training. At the time of this pilot project at Western College, apprentices were not eligible to apply for student loans to cover costs incurred during their school-based training. The federal government finally introduced student loans as a financing option for apprentices in January 2015.

When Sam joined VCC as interim Dean of Trades, he realized that several Lower Mainland employers were interested in the Day-release delivery model but no one had tried it. At that time, VCC had initiated the Day-release model for Professional Cook 2 with Alice’s Restaurant and another major restaurant. Later, several other employers also sent their chefs to VCC for the Day-release model of training at both Levels 2 and 3; however, Alice’s Restaurant was VCC’s main client. Once Alice’s Restaurant’s in-house training kitchen was certified to deliver all three levels of Professional Cook training, they no longer needed VCC’s program. As a result, VCC could no longer sustain the Day-release training program because they could not meet the BCITA’s minimum class size requirement and returned to the Block-release training model.

While at Western College, Sam had explored an expansion of the Day-release training model to other sectors but there was no industry interest. Sam believed
educational institutions working cooperatively with apprentice advisors could expand the Day-release model. Apprentice advisors would educate small businesses and let them know that this training configuration could be helpful. During his 15 years in vocational training, Sam claims he heard consistently from small businesses that they simply could not release their employees for five or six weeks at a time. For some trades, such as electrical, the release time required is 10 weeks, and they found that to be extremely disruptive.

Sam discussed the Day-release training model with the BCITA, which he claimed was supportive of that model. He claimed that the BCITA was looking for creative ways to improve the rates of retention and completion of their apprenticeship programs. He believes the BCITA would be open to expanding the model to other industries but has not assigned any of their staff to the task of promoting it. The industry demand for apprenticeship training is cyclical. Companies arrange for a number of their employees to be trained at the same time and then the demand drops off. Sam recommended that the Day-release model be a permanent and regular part of the training options offered at BC colleges.

Sam also stated that diverse education beyond traditional academic subjects, with pathways at all ages and positive role modelling from elementary school on up to university would be important to encourage more young people to be interested in the trades. He claimed that it would also be beneficial for students who may have actually earned a university degree but had not found employment to know that they could take an apprenticeship and get a job. Sam noted, "A student could have earned a business degree and then take a carpentry apprenticeship," adding, "later on, he or she could start their own contracting business or move into the management of a construction company." According to Sam, in Canada people still associate apprenticeship with getting their hands dirty. As Australia has done, expanding the number of occupations eligible for apprenticeship would likely broaden the appeal of apprenticeship and would improve the social status of apprenticeships.

Interview with a BC Industry Training Authority Senior Official

For this interview, I interviewed Barry (a pseudonym), a senior official at the BCITA. Barry was very familiar with the Block-release training model and was generally familiar with the Day-release training model, although he did not have the specific
knowledge of the Alice's Restaurant version of Day-release training. He noted that the Block-release model had features that were attractive to both employers and students. Barry claimed, for employers, the objective of the Block-release training model was to minimize the apprentices' time away from work for school-based training as much as possible. Barry stated,

“For apprentices, the goal is for them is to have a concentrated learning experience ranging from between five and 10 weeks depending upon the trade. That works well for most apprentices because it forces that longer term, you know, several-week learning thing, and it is more like a university- or college-style setting, so it's a different style of learning than it is on the job.”

Barry claimed that the BCITA is always seeking innovative ways to deliver technical training that will minimize apprentices' time away from their jobs. For example, blended learning with a portion of the curriculum being delivered online has had some success, although that format is challenging for trades that require lab work such as cook or electrician. However, Go2HR (n.d.)—a private company supporting BC's Hospitality and Tourism sector—has created an online cook curriculum that covers some of the technical elements of cooking, which are then followed up with both practical tests and assessments.

Barry agreed that Red Seal completion rates have been a concern to the BCITA, as they were quite low, at 33%, just four years ago. The BCITA measures completion based on an expected six-year schedule. However, BCITA has taken steps to address the low completion rates and, as a result, the completions have increased to 47%. Barry attributed the increase in completions to a Completions Team that was established by the BCITA about three and a half years ago. Through specific personalized training offered to these apprentices, the Completions Team has helped about 4,500 apprentices cross the finish line.

Another factor contributing to the relatively low completion rates for apprenticeships in BC is the lack of trades designated as compulsory. According to Barry, in BC the decision to use a journeyperson is up to the individual business taking into account the risk. For example, businesses involved in building high-rise condominiums in Downtown Vancouver are very likely to hire only journeyperson qualified construction electricians. Since the employer values the credential, the
apprentice will also value it, and that translates into higher completion rates for the construction electrician trade. On the other hand, completion rates for carpenters are very low, at only 24%, because it is relatively easy to find work without certification, and companies assess the risks of not employing a journeyperson qualified carpenter as being low. Barry commented, “At the end of the day, if it’s not important to the employer, then how important is it to the apprentice? And who is responsible for your career? At the end of the day, you are.”

In BC, as in Germany and most other countries that use an apprenticeship system, the biggest issue of concern is an insufficient number of sponsored positions. Barry noted, “Across Canada, of every five employers who employ skilled tradespeople, only one of those also employs apprentices. The rest poach. And that’s a non-sustainable thing.” Eventually, with the wave of retirements yet to come, poaching (hiring experienced and trained employees from other companies) will become more and more difficult, as demand outstrips supply. “The number-one problem employers are having is finding people,” Barry added.

When asked whether financial incentives for employers would help encourage more employers to come forward, Barry stated that there are already incentives available for both the employers and the apprentices (see Chapter 4, Section A – Element 5 for details). Barry acknowledged that the available financial incentives was insufficient to achieve the necessary results. Barry also advised that, of the employers who come forward as sponsors, most have either been through the system themselves or someone in their leadership team has had that experience. These employers recognize that apprenticeship is the best way to learn a trade and to understand the business. They also may feel a duty to give back because someone took the time to train them, and they may feel an obligation to take the time to train somebody else. According to Barry, “That is why apprenticeship has been around since Babylonian times —because it’s a tried and true model—it works.”

Barry confirmed that although the BCITA does receive requests to expand the number of recognized training programs they offer; they focus on skilled trades rather than skilled occupations. He gave the example of having been approached by the Trucking Association; they wanted to designate the professional truck driver as a trade but the BCITA determined that it was a skilled occupation rather than a trade. Barry
confirmed that there is no legal definition of a trade governing the occupations or trades designated as trades, and he did not provide any guidelines as to the difference, suggesting that the BCITA decides about designating programs on a case-by-case basis.

Barry gave the example of Mechatronics and Robotics, a program that is currently delivered by BCIT (n.d.) as a two-year diploma. If a group of employers and BCIT approached the BCITA with a proposal to offer the diploma as an apprenticeship, the BCITA would consider it. Barry noted this is “because ITA is ultimately here to serve industry to make sure that they have the skilled trades that they need going forward to replace and grow their businesses.” I asked Barry whether an average person, especially someone outside of industries that traditionally do not use apprenticeship as a model of learning would know enough about the benefits of apprenticeship to ask about creating one. He advised that they would not and noted that it was not a part of the BCITA’s mandate to broaden awareness of apprenticeship as a model of learning. The mandate of BCITA was limited to broadening awareness of existing apprenticeship opportunities, particularly to underrepresented groups such as women and Indigenous people.

In response to the question of whether the issue of social stigma toward the trades was still a factor in attracting young people into trades and therefore into apprenticeships, Barry felt that the stigma was lessening over time. He noted that a university degree was once considered the ticket to a financially successful career, whereas in his opinion it is becoming clearer today that the trades often present a more financially viable career pathway. He attributed this to the fact that many if not most university students will accumulate substantial debt to pay for their degree, whereas a student studying for a skilled trade under an apprenticeship model may not need to incur any debt at all.

Summary of the Field Study

As described in this chapter, the Professional Cook training program was organized at Vancouver Community College on the Block-release model of apprenticeship and the program at the Alice’s Restaurant was structured around the
Day-release approach to apprenticeship. Both programs are based on the dual principle even though their delivery approach differed.

A key finding of the study is that the employer’s view and attitude towards training is paramount to a successful apprenticeship system. Alice’s Restaurant has a human capital view of training and therefore views training as an investment. The two models vary by far more than the form of alternation used to deliver the training. Alice’s Restaurant designed the program from the students’ perspective to minimize the students’ costs and maximize the learning experience. Alice’s believed that control over the training experience was so important that they absorbed the additional cost of building their own training kitchen even though they had complete access to VCC’s facilities when VCC offered the Day-release model.

Small to mid-size employers are often reluctant to allow their apprentices to return to school for the next level of training under the Block-release model because they could require anywhere from three to 12 weeks leave from the workplace (CAF, 2018a, p. 3). The employer may experience challenges in finding a replacement for this leave period and, therefore, deny the leave (Lopata et al., 2015, p. 6). This field study confirms prior research finding and provides reasons why employers are challenged.

Alice’s Restaurant delivers the Day-release model of training at additional cost and despite the lack of institutional structures and cooperation seen in the German dual studies model of VET. This suggests that the complex institutional structures established in Germany are mainly necessary for the quality control of employers who do not participate voluntarily with the best interests of the student at heart. This is consistent in BC where the majority of employers view training as a cost to be minimized and may not have a human capital view of training. Westhorp (2014) captures the essence of the implications of the field study phase of this thesis when he writes,

...transfer of these intentional good practices to different local contexts is quite problematic, making it necessary to understand how different designs of dual apprenticeship programs interact with the social and economic contexts in which they are implemented...the main challenge...is to make dual apprenticeships attractive to both employers and students.

Barry, the BCITA senior official interviewed for this study was not able to provide the depth of understanding of the two approaches to apprenticeship that I was seeking
however, he did provide useful information that supported the role the BCITA could play if the provincial government were interesting in applying Euler’s principles to the BC VET system. He confirmed that the BCITA support innovative projects such as the Day-release apprenticeship model because it would be advantageous to employers. He also claimed that the number of trades eligible for apprenticeship training could be expanded under the BCITA’s mandate if there were demand from employers.

Chapter Conclusions

Based upon the above review, I can support a claim that BC has seven of Euler’s (2013) essential elements of the German dual VET model of education, and with some modifications could more fully adopt another three of the essential elements. I discuss these claims further in Chapter 5. With some modifications, the existing apprenticeship system could support a made-in-BC dual model of vocational training. However, in BC, the key elements that are completely inadequate are employer engagement in the apprenticeship system and a lack of widespread support for an apprenticeship-based VET system (social acceptance). In Chapter 5, I analyze the implications of these issues and offer options for addressing them.

Student participants in both apprenticeship programs felt that they had received adequate training to obtain their Red Seal credential. This result is consistent with the data from a 2017 BC Student Outcomes report, which surveyed 2,433 students from all BC apprentice programs and found that 46% were very satisfied and 48% were satisfied with their In-school training (p.13). The survey also found that 39% of the apprentices were very satisfied with their Workplace Training and 52% were satisfied with the workplace phase of their experience (p.14) (BC Stats. BC Student Outcomes: the 2017 Highlights).

The field study discovered important differences in student perceptions of the two delivery models. The Block-release students were challenged to obtain the necessary time away from work to complete their school-based training. It required financial planning and persistence to complete the final level of training that would enable them to write the Red Seal exam. Alice’s Restaurant expected their Day-release students to complete the program and obtain their Red Seal credential.
Chef Bob modelled Alice’s Restaurant Day-release program on the European dual VET program because he believed it was educationally more effective and it was good for the company’s bottom line because it reduced food costs, improved food quality, and improved employee retention rates. He advised that it was far easier for employers to release an apprentice for a single day per week over a longer period with the Professional Cook Day-release model being approximately nine months in duration, rather than for the five-week block-release model of Professional Cook 3.

While the Day-release model is superior to students and employers on many levels, Alice’s particular approach to program delivery is potentially open to criticism since they deliver both the work-based training and the technical school-based training. Euler’s second element specifically states that the VET system should develop a skilled mobile workforce that can move freely to other businesses and sectors beyond the training employers’ workplace and the training employer should not just train apprentices to work in the training business. I asked each of the four Alice’s students interviewed whether they were being taught anything other than Alice’s menu. All confirmed that Chef Bob actively discouraged them from making anything on Alice’s menu. At the time of the interviews, the apprentices were learning how to make French cuisine. It appears that there was enough structure within the company’s training plan to ensure students received a broad-based education. The students also confirmed that they felt comfortable working anywhere after their training concluded including cooking on a cruise ship or at a high-end hotel thanks to the skills learned at Alice’s Restaurant.

While the BC apprenticeship system under the Block-release model follows the alternating sites principle in Euler’s second element, the study supports the need to consider the Day-release model as superior.
Chapter 5: Analysis and Conclusions

Introduction – Purpose of the Research

As presented in Chapter 1, the general research question asked whether elements of the German dual studies VET system could be applied to the BC context and whether the application of those elements would enhance the provincial system of VET. Questions 1 and 2 invite a critical examination of BC’s current policies and approaches to VET through a comparison of the German dual studies VET model policies and approaches. My ultimate research goal is to inform BC policymakers about what they need to know if they wish to implement a dual studies apprenticeship program and to explicate the challenges and dilemmas they may face when doing so.

Despite having the most highly educated population in the world, with 55% of Canadian adults aged 25 to 64 having completed tertiary education (OECD, 2016), various reports (see Section 2B of Chapter 2 for a summary) are published annually criticizing government and post-secondary institutions for not producing job-ready graduates (e.g., Coates, 2015; Sullivan, 2017). Recommendations put forward to help students become job-ready during their school years include expanding various WIL opportunities such cooperative, practicum, and internship opportunities for university and college students during their full-time studies (Business Higher Education Roundtable, 2016).

Germany, which has a strong export-based economy and low unemployment rates, has a comprehensive VET system to support its economy, and outsiders frequently view the German VET system as an exemplar (MacLaine, 2015; Lapoint, 2014). Germany’s proportion of students with tertiary education is 28%, however their youth unemployment rate in 2016 was 7.0% compared to the Canadian youth unemployment rate of 13.1%. Research from Europe suggests that the dual studies VET model provides better matching of workforce skills training to labour market needs (European Centre for the Development of Vocational Training, 2014). However, previous research suggests that adoption of this model of education and training cannot be successful in countries that have an LME, do not have strong cooperation among social partners, and lack a complex institutional structure to support an apprenticeship system
Euler (2013) noted that for purposes of export to another country, the German dual studies VET model should not be viewed as a single entity but rather in terms of its various components or elements. Euler proposed that each of the 11 elements can be examined in regard to their potential for applicability to other VET systems. Euler cautions that each of these components must take into account the cultural and economic contexts within the importing country or jurisdiction and there are many possible paths to take in realizing each component. (Euler and Wieland, 2015, p. 9).

In this thesis, I set out to answer the following general overall question:

Scholarly research has identified key elements of the German dual studies VET model as being of critical importance to the success of the implementation and development of VET systems. As a frame for a critical review of BC’s current VET system, can the key elements of the dual studies model of VET be used to identify potential revisions and innovations to BC’s VET system?

In addition, I have addressed the following three sub-questions:

1. What are the similarities and differences between the BC system of VET and the German dual studies model of VET?
2. What challenges need to be considered by the province’s policy makers in applying key elements of the German dual studies model of VET to the current VET system in BC?
3. What does a BC-based field study of different approaches to apprenticeship add to the knowledge base about the province’s VET system and suggest as directions for further research?

Lessons from the German Dual Studies VET System

The Dual Principle

The term dual-system approach is widely used in current writing about VET (MacLaine, 2015, Grant, 2016). In simple terms, the dualistic component of VET emphasizes developing the ability of students to transfer learning from one context to a different setting. The common elements in the transfer process are classroom-based learning linked to applied or workplace-based learning. Sometimes the two components
of the duality are theory vs practice. Learning environments that facilitate both theory and practice and that support students in making the transfer from context to context can be said to embody the dual principle. Euler (2013) has been clear in pointing out that there is no single best dual system or structure. There are many different ways of applying the dual principle to the design of curricula and learning experiences—many different dual processes for the transfer of learning (and skills and attitudes) from context to context.

In section A of Chapter 4, I reviewed the BC VET system using Euler’s (2013) 11 key elements as a framework to structure my inquiry. In this chapter, I focus on the five key elements of the BC system that were found to be weak in meeting the characteristics proposed by Euler. In undertaking this review, I also provide an assessment of the degree of difficulty required to strengthen a given element within BC. The elements discussed in this section are:

1. Element 2 – Skilled mobile workers,
2. Element 4 - Government and business partnership,
3. Element 5 – Joint funding,
4. Element 7 – Codified quality standards, and
5. Element 11 - Social acceptance of VET.

It is important to note that the individual elements interact together and must function as a unified VET system. In the following analysis, I will describe where each element fits into the VET system.

**Element 2 – Does the BC VET system support the development of skilled workers who are capable of working in their chosen fields?**

As described in Chapter 4, Section A, the BC VET system supports the development of skilled workers. Workforce mobility could, however, be improved for VET graduates from colleges and universities and for those with a COFQ designation. The only inter-provincially recognized credential in Canada with the level of mobility envisioned in this element is the Red Seal that is available for only 56 trades (CCDA, 2016). Within BC, workforce mobility is assured through the BCITA’s 100 designated
trades that qualify COFQ holders to work in their fields anywhere in the province (BCITA, n.d.-i).

The employability and mobility of graduates of college and university VET programs is dependent upon the quality and availability of WIL programs to students in full time studies. After graduation, individuals who have not had a WIL opportunity and do not find an employer willing to train them may spend several years floundering in various positions before finding stability and a career path (See Chapter 2, Figure 2).

Expanding the number of occupations eligible for apprenticeship training beyond the traditional trades (as in Germany) would not only improve the employability of graduates (since much of the student's training is under the control of their employer), it would increase the mobility of all new apprenticeable occupations with BC. The Industry Training Authority Act (2003) Section 8(1) permits the authority to designate a training program, including a training program for a trade or occupation, as a recognized program. Barry, the senior BCITA official interviewed for this study confirmed that it would be possible to add newly defined trades for delivery under an apprenticeship model. He advised however, that the request would have to come from employers and the post-secondary institution currently delivering the academic program. Again, the BCITA has the authority to decide how new programs come into being, and there is nothing in legislation to require that they follow this particular process. Since it already has the legislative authority to designate new trades and occupations, the BCITA could lead this initiative.

The federal government could further expand the mobility of skilled workers across Canada by taking a stronger position on labour market training. The federal government's recent call for proposals for the creation of a FutureSkills Lab (Advisory Council on Economic Growth, 2017; see Section 2D) seemed to be moving in that general direction but is unfortunately limiting the lab’s expanded role to promoting best practices in workforce training and developing better labour market data collection systems.

The federal government could significantly increase the number of Red Seal trades by strengthening the CCDA and giving it a legal mandate, funding, and timeframes. The CCDA already has the necessary framework with provincial
representation and a supporting secretariat; however, this would be a dramatic shift in intergovernmental relations. The provinces would likely object to the federal government becoming involved in an area they would likely argue is in their constitutional jurisdiction. At present, there is no serious political initiative on the part of the federal government to assert itself into the VET system at a national level by developing overarching Canadian VET legislation.

**Element 4 - Does an active partnership exist between government, the business community and educational institutions in BC?**

The German dual studies model of VET relies upon collaboration between business, vocational schools, labour unions, chambers of commerce and other levels of government as is common in cooperative market economies (see Chapter 2). German employers recognize the importance of a well-trained workforce and understand that they have a moral obligation to perpetuate the system by providing training places for young people. “The dual system seeks to provide the labour market with the skilled workforce it requires and to equip young apprentices with market relevant skills for their future professional lives.” (Weiland and Lezcano, 2016, P. 2). Scholars have argued that apprenticeship in Canada “can only be understood against the background of the highly decentralized and adversarial system of labour relations”, which in many ways precludes the kind of collaboration observed abroad (Schuetze, 2003, P. 83; Lehman 2005).

As noted in Chapter 2, Section 2E, German employees are represented at all levels of business decisions through their unions, Works Councils and membership on the boards of directors of large companies. These factors influence decisions to improve employees' working conditions. BC on the other hand has a turbulent history of labour relations between the unions, business and the government. During the Liberal party’s 16-year administration, the business sector had the strongest influence on the board of the BCITA, as evidenced by the business sector appointments made at the expense of labour. The current NDP administration is strongly influenced by BC’s unions and the current BCITA board appointments reflect stronger labour influence. The BC Federation of Labour, in briefs to the Labour Relations Board concerning revisions to the BC Labour Relations Code, recently stated that it’s time to restore fairness and balance after 16 years of the BC Liberals tilting the laws in favour of employers. (BC Fed, 2019).
There is no evidence of a level of cooperation between business, labour and government in BC that supports the kind of partnership envisioned by Euler (2013) for a high functioning VET system (Chapter 4, Section A). Such cooperation would require leadership by government but each successive BC government leans too heavily in favour of either business (for example, Liberal party rule for 16 years until the 2017 election) or toward labour (the current NDP government that is supported by unions). Neither party appears interested in forming the type of partnership required for the German dual studies model of VET. It might be possible for BC business organizations and employer associations to take leadership roles in this regard, as it is in the long-term interest of business to have a highly skilled workforce. The BC Business Council made 27 recommendations in response to the question of whether BC has an “integrated human capital strategy to attract, retain, educate and develop the talent it will require to compete in the next twenty years and beyond.” (Jothen, 2017, pps. iii – iv). Four of the most relevant recommendations related to business – government and stakeholder participation and cooperation are listed below:

1. Governments explicitly brand and promote work-integrated learning (WIL), including implementing a major strategy on increasing the quantity, quality and access to WIL and providing capacity building support and encouragement to businesses to participate in such learning, and including special effort directed at supporting small and medium-sized enterprises to contribute to and benefit from WIL.

2. The Government of BC provide the Industry Training Authority with the direction and mandate to innovate and move out of the traditional trades training ‘box’ in order to respond to the human capital needs of a broader array of industries and employers in BC.

3. Business and industry leaders promote the hiring and development of apprentices across industries in BC, including a major ongoing campaign on apprentice ‘sponsorship’ by all sizes of companies.

4. The Business Council of BC, in partnership with other major stakeholders, create a standing Human Capital Roundtable to promote human capital strategies that increase innovation, productivity and international competitiveness and to advise the business community, education and government on future human capital initiatives. The Roundtable’s first order of business should be to prioritize and follow up the recommendations of this report.

These four recommendations as well as the other 23 emphasize that the BC government must take a leadership role in the system but also that business cooperation
is essential in providing training opportunities whether through apprenticeships or WIL placements.

**Element 5 - Is the BC VET system jointly funded by government and the business community?**

An important difference between the German VET system and the BC VET system is the funding model. As noted in Chapter 4, Section A, the private sector contributes 44% towards the cost of the German dual studies VET system. I was unable to find any studies that quantified the private sector contribution to the BC VET system. BC apprenticeship sponsors provide a significant financial contribution because 80% to 90% of apprenticeship training occurs at the worksite and apprentices are paid wages, however, in Canada apprenticeship training comprises only 7% of completed postsecondary education (Red Seal Program, 2014a, p. 229). The majority of BC VET education and training is delivered through colleges and universities that are mainly funded by a combination of government grants (public sector only), student tuition fees and self-generated revenue (for example, fundraising). The business contribution towards the funding of colleges and universities is limited to general taxation paid by businesses to government.

Although more and more employers are providing WIL placements (i.e. internships, co-ops practicum or volunteer placements), and therefore assume the cost of the training or work supervision designed into these positions, the overall contribution is limited. Only small fractions of the students who fill these positions receive wages. Although CEWIL suggests standards for WIL positions, including a fair student wage, employers are under no legal obligation to follow the standards. These positions are often *ad hoc* and their value is dependent upon how active the sponsoring school is in providing supervision and working with employers to design a mutually beneficial work experience. In these situations, employers do contribute towards training in the form of mentoring or supervising the student; however, the majority of employers contribute little or nothing.

Many Canadian businesses appear to have concluded that training is an expense to be minimized and they seem to be overly concerned that trained employees will leave for better opportunities (CAF, 2011, Hays, 2019). Barry, the BCITA senior
official who was interviewed for the Field Study (Chapter 4, Section B), claimed that many employers are reluctant to train apprentices. This attitude may arise from bad personal experiences or because employers would prefer to poach fully trained journeypersons from other companies. The possibility of losing an employee in whom a company has invested time and money is a genuine barrier for many businesses. Evidence from Alice’s Restaurant, from a Case Western University study (Helper et al., 2016), and the Canadian Apprenticeship Forum (Arrowsmith, 2008) suggests that apprenticeship creates loyalty to the training firm. In the Field Study, Chef Bob stated that the Day-release apprenticeship training model reduced staff turnover at Alice’s Restaurant.

Although many employers do not contribute towards training, they still report that they are dissatisfied with the education and training outcomes of university and college programs. As long as businesses believe that the role of producing job-ready college and university graduates is mainly the responsibility of government, a jointly funded training VET system comparable to the one in Germany will not be likely to develop in BC. Industry should assume greater responsibility for on-the-job training because the business setting is the only place where learning can occur under real-life conditions (Euler, 2013).

Why does the provincial government (or for that matter the federal government), allow this situation to continue? Provincial governments have retained all of the responsibility for education and training and most of the cost of vocational training with the exception of labour market funding provided by the federal government to the provinces. Due to the increasing cost of university and college education and reductions in the ability of government to fund higher education, the cost of vocational training in BC is increasingly being carried by students. This approach does not resolve the mismatch of skilled workers and is burdening young people with a level of debt that will take them a decade or more to repay.

While there are financial incentives from both the Canadian federal government and the Province of BC (Chapter 4, Section A, Element 5) available to sponsors who hire apprentices, they are inadequate to draw the number of positions necessary for the current system. The incentives are completely inadequate to attract the number of employer sponsors in an expanded system that included more occupations. Quebec,
France and other jurisdictions throughout the world have taxed employers to create a training fund (*Act to Promote Workforce Skills Development and Recognition, 2007*, Brandt, 2015). Employers who choose to train their employees receive credit to offset the tax otherwise payable while employers who do not offer training pay the tax. This tax provides funding and an incentive for employers to train their employees to enhance the skills of their workforce. While BC businesses would object to any new tax regardless of the motive, it is unlikely they would entertain a voluntary system such as the one that exists in Germany. Increasing general taxation levels to provide greater financial incentives for employers would also not be popular but if BC want to improve the quality of training to compete effectively in the next 20 years and beyond, it may be an unavoidable cost.

**Element 7 - Are there clear standards regarding training curricula, expected outcomes, quality of instructional settings, and qualifications of instructors in BC? Are there processes for ensuring that the BC VET standards are being met?**

Quality standards exist in the BC VET system, and they are the most clearly defined by the BCITA, which also specifies the competencies required of apprentices upon completion of training (*ITA, 2017c*). The BCITA is responsible for establishing procedures and verifying that apprentices have completed the necessary steps prior to granting Certificates of Qualification (*Industry Training Authority Act, 2003, Part 3*). The BCITA does not however provide any meaningful supervision or oversight of the actual on-the-job training received by apprentices. The PTIB provides oversight to 485 private training facilities registered in BC (*Government of BC, n.d.-e*) and certifies all new certificates, diplomas, or other training programs (*Government of BC, n.d.-f*) but also does not have a role in oversight of work placements.

Both public and private colleges, institutes and universities fall under the responsibility of the Ministry of AEST but the institutions themselves are responsible for the quality of instruction on their campuses. Most public colleges and universities have Centres for Teaching and Learning with responsibility for professional development of faculty. Colleges, institutes, and universities offering VET programs follow the NOC system that profiles 30,000 occupations in 500 groups (*Government of Canada, 2008*).
There is no procedure or independent verification process to ensure program graduates meet the profile for a given occupation.

For BC, the major gap in quality control is the lack of an independent body comparable to the Chambers of Commerce found in Germany (Euler, 2013). In Germany, the function of the Chambers of Commerce is to monitor the work-based training at the workplace or at private training centres. The Chambers ensure that businesses have the correct equipment and technology required for the training and oversee apprenticeship contracts to ascertain that all parties are meeting their obligations. The most recent ITA (2018a) Service Plan has indicated a new strategic direction to better prepare sponsoring employers for the requirements of work-based training and to remain connected with journeypersons to share information. There is no agency or ministry responsible for official oversight of students in co-op, practicum, or internship placements. The responsibility for ensuring that students receive a quality workplace experience is left to individual institutions.

It is unlikely that the Greater Vancouver Board of Trade, the BC Chamber of Commerce, or any other municipal Chamber of Commerce will assume the responsibility for workplace training oversight in BC. One option for the provincial government to consider is to add this responsibility to the BCITA. The BCITA already has responsibility for workplace training since it is obligated “to ensure that the industry training and apprenticeship system referred to in paragraph (a) meets the province’s need for skilled workers” (Industry Training Authority Act, 2003, Part 2, Section 2.1, para. 2). It is not entirely clear whether this particular function is necessary for the apprenticeship system given that about 80% of all apprentices reported that their work experiences had prepared them well for an exam associated with a trade (Frank & Jovic, 2015). In order to ensure that quality standards are being met, there should be independence between the examiners, the exam developers, and those scoring the results.

The BC Government should set standards for currently unregulated co-ops, practicums, and internships to ensure students’ interests are considered and that they have contracts that clearly defines the duties of the student and the responsibilities of the employer. This will help to ensure that placements, even volunteer placements, meet the educational and training needs of students and to ensure that they are not taken
advantage of by employers. Furthermore, WIL placements should be paid contracts whenever possible.

**Element 11- Is information about the VET system and its benefits available to learners, business partners, and society in general?**

Social acceptance of VET is a critical element required to sustain a successful VET system. Social acceptance by employers ensures an ongoing supply of training positions. Social acceptance by students and their parents will fill those vacancies and create the demand for more opportunities. Supply and demand for training positions influences government decision makers to create policies that sustain the system.

Social acceptance of vocational training in Canada has historically been very weak (Buck, 2014; Snider, n.d.). Given the prevalence of residencies and articling in professional disciplines, weak acceptance of VET is likely because trades have low social acceptance rather than apprenticeship as a training model. Trades are the only occupations in BC's VET system that use formal apprenticeships for training purposes. Trades are still viewed by many people as a career path only for those who are not academically inclined.

Trades are considered by young people and their parents to be second-class career options with poor wages, unstable employment and little possibility for career advancement. The secondary education system also has an academic bias, such that it provides more encouragement and preparation for entry to university rather than apprenticeship. Trades are still viewed by many people as a career path only for those who are not academically inclined." (World Bank/ILO, 2013).

Barry, the BCITA senior official interviewed in the Field Study, asserted that trades training is now receiving greater interest in Canada. Young people are being exposed to the trades in school at a much younger age than ever before through the ITA’s most recent efforts to introduce elementary age students to trades and through strengthening the BC curriculum (Youth Industry Training Authority, n.d.). Additionally, the acceptance of trades is improving among both parents and children, as they see the challenges faced by many university graduates loaded with debt who struggle to obtain a stable career jobs. In 2014, BC had the fourth highest number of registered Red Seal trades of all the Canadian provinces and territories (CCDA, 2016), which suggests there is some level of social acceptance of the trades and that it may be growing.
I argue that apprenticeship is an excellent form of training for any number of occupations and should not be limited just to the trades. As noted above, professional disciplines such as law and medicine mandate supervised work experiences (residencies and articles), a process similar to any other apprenticeship. Clearly, if these highly paid and prestigious professions expect supervised on-the-job training as a key part of the education and training process, it seems logical that other occupations would also benefit. Widening the range of occupations for which an individual can become an apprentice to include so-called white-collar vocations such as bank managers, computer programmers, or opticians, as has been done in Germany and Australia, would elevate the prestige of all vocational occupations and enhance acceptance of the apprenticeship-training model.

Changing attitudes toward apprenticeship and VET generally will not be a simple task. It will require government initiatives to increase awareness of the range and benefits of apprenticeship to businesses as well as students and their parents. An important first step is to educate secondary school counsellors and teachers that VET as a career path is not inferior to academic programs at colleges and universities. The most important audience to educate however will be employers as they are the key to any apprenticeship system. Employer engagement in the system creates continuing supply in existing apprenticeable trades but they can also demand that new apprenticeable trades and occupations be created by the system. Sharp and Gibson (2005) concluded that “the market for apprenticeships is principally constrained by employer demand rather than by the supply of potential apprentices” (P.10).

Lessons from the Field Study of Operational Apprenticeship Programs

The third research question considers the meaning of the results of the Field Study that compared the perspectives of different participants involved in the Day-release and Block-release apprenticeship delivery formats. The Day-release model of apprenticeship used by Alice’s Restaurant has strong similarities to the German dual studies VET system while the VCC Block-release model is the most common form of apprenticeship training delivery in BC and throughout Canada.
From the students’ perspective, Alice’s Day-release model provided financial support that made program attendance possible for them. On average, the apprentices at Alice’s were younger than the VCC students and did not require the savings or financial skills to plan for gaps in their education because they were paid during both school-based and work-based training. The VCC students recounted challenges in completing their school-based technical studies program because of a lack of employer support for release time to attend the school-based training. The students all reported having changed employers when it was necessary during their studies to facilitate the completion of the program. In contrast, Alice’s students recounted the ongoing employer support and encouragement not just to complete the Professional Cook program but also to advance into further studies in Alice’s management program. One of Alice’s students quit the program for personal reasons but when he was ready to return to his studies, he was welcomed back to Alice’s Restaurant.

The Day-release model of training is superior to the Block-release model for facilitating Red Seal completions at a younger age. These are both important goals for the BC government and the BCITA necessary to improve the apprenticeship training model and increase Red Seal completion rates at all ages.

As noted in the literature review (Chapter 2) and according to Barry, the senior BCITA official, employers express two main but related concerns regarding apprenticeship. The first concern is the cost of training and the second is the loss of the trained apprentice after training is completed. Employers that view training as a net cost will try to minimize training costs by seeking ways to avoid or shift costs to other parties. This may include poaching trained employees from other businesses.

From the employers’ perspective, a downside of the Day-release model as delivered by Alice’s Restaurant is that the sponsoring employer absorbs the additional cost of wages and the cost of books, supplies, and possibly tuition. The CAF (2009) study of the ROI of apprenticeship training demonstrated a return of $1.47 for every dollar invested. This would suggest that the ROI is sufficient to absorb some additional training costs. As noted in the interview with Alice’s Chef Bob, each business has to perform its own cost–benefit analysis but the advantages to Alice’s Restaurant of using the Day-release model were improved staff retention rates, a reduction in food costs and better food quality.
The fear of their apprentices leaving to seek out employment elsewhere was not a concern for Alice’s Restaurant because they found staff retention rates improved after adopting the Day-release training model. Clearly, Alice’s Restaurant has as much or more to fear from trained chefs leaving for their competitors. Alice’s Restaurant spends more money on training than any other Western Canadian restaurant chain because they run their own training kitchen and pay their students during training and, therefore, have more to lose. The assumption that some employers appear to make is that any employee will leave his or her current employer for just a little more money. Alice’s Restaurant wages must be competitive in the sector because, as Chef Bob noted, restaurants are a low-margin business. This raises the question of what other factors an employee might take into consideration when deciding to stay at Alice’s Restaurant once their training is completed. Factors to consider could be loyalty, a positive working environment, future promotion opportunities, or a combination of all three factors.

Limitations of the Study

My study of the Alice’s Restaurant Day-release program focussed mainly on the advantages and disadvantages to students and the business community that employs professional chefs as compared to those in the Block-release model. By undertaking detailed interviews with the three students in the Block-release program and the four students in the Day-release program, I was able to identify common themes surrounding the student experience with each of the two delivery models, although the total numbers were small. I found it extremely difficult to obtain more student volunteers at VCC, even though I made presentations to several classes requesting their participation. The VCC students who I interviewed explained that it was such a demanding program that they did not have time to schedule their interview until after the program was completed. The experience of the Block-release students I interviewed very closely resembled the results of a broad-based survey of apprentices published by CAF in January 2018 (see Chapter 4) thereby suggesting that a larger sample would not have added much information.

At Alice’s I was conscious that the Day-release students had only one day in each weekly cycle in classroom-based training and that my interviews would have to be held near the training kitchen. As a result, when Chef Bob asked that I conduct my interviews in pairs rather than with each student individually, I felt obliged to agree. The
reason for only being able recruit a small subset of the total number of students was that most of the students were from franchise stores and that would have required another level of permission that I had not requested in advance.

Another study limitation is that I only interviewed one of the Alice’s Restaurant employees to obtain the business perspective about the Day-release model. This individual was Alice’s Executive Chef, who had created the program about 10 years earlier and was the driving force behind its expansion within the company. He could easily articulate why Alice’s Restaurant started the Day-release model and why they continued to use it. If the Day-release program had not been effective for Alice’s Restaurant business, their leadership would have dropped it, or at least limited the program by teaching only Professional Cook Levels 1 and 2. Instead, over a period of five years, their Day-release program has expanded to include Professional Cook 3. Further VCC’s Acting Dean of Trades was able to corroborate some of the information I received from Alice’s Restaurant’s Executive Chef and Chef Bob could speak as both employer and instructor. Although I was also unable to interview any of the sponsors who employed the VCC apprentices, there is adequate quantitative research into employer views of the Block-release model of training available from CAF (2011, 2018c).

Barry, the BCITA senior official interviewed for this study was not able to provide the depth of understanding of the two approaches to apprenticeship that I was seeking proved to be another limitation. He did provide however provide useful information that supported the role the BCITA could play if the provincial government were interested in applying Euler’s principles to the BC VET system. For example through designating new trades as being eligible for apprenticeship training.

It was not possible or necessary to interview participants who were directly involved in the German or other European dual studies models of VET because the published primary research on their systems is substantial. As such, it was possible for me to gather sufficient data on the German dual studies VET systems to facilitate comparisons to the BC apprenticeship system through a thorough review of the literature. I have previously discussed my view that scholarly research about VET as found in Canada is lacking. It would be valuable for university departments and faculty to encourage the development of such research.
Directions for Further Research

A further implication from this research is that it is clear that there is insufficient scholarly research on vocational training in Canada (e.g., Stewart, 2009; Stewart & Kerr, 2010). Most of the Canadian research that I have cited in this study was produced by a variety of government-funded agencies and several employer-funded associations (e.g., Coates, 2015; Sullivan, 2017). The BC and Canadian VET systems could benefit from the development of an independent knowledge base larger and more objective than that which currently exists. I recommend that independent research be conducted to complete more research on the different forms of apprenticeship programs that exist in Canada. Such research might systematically evaluate the relative advantages and disadvantages of various models of VET that involve alternation education and provide greater information for both students and employers.

Most of the research on apprenticeships takes the form of quantitative surveys generally sponsored by various organizations (CAF, 2011, 2018b and Red Seal Program 2014a). The system would benefit from more qualitative research such as conducted in this study. Although this study was focused on system-wide policy issues, valuable knowledge would be obtained by similar qualitative surveys that had larger samples and included discussions with current and former employers of the interviewed apprentices.

It would also be interesting to research the effectiveness of the two different models of apprenticeship against theoretical education models such as Kolb’s experiential learning cycle. Although the interviewed apprentices were pleased with the program outcomes since they all graduated with their Red Seal credential and were all gainfully employed at graduation, it might be useful to complete a longitudinal study to compare outcomes after five years.

Conclusions and Recommendations

The German dual studies system does not provide a blueprint to be copied in BC however, by examining its core principles and areas of success it is possible to use what is learned into a review of the BC VET system. That has been a significant goal of this thesis. The German system is built on the dual principle—the idea that learning is most effective and durable when learners are able to connect theory to practice and
application in an interaction that mutually informs both elements. The flow of learning is not one way, from school to workplace or vice versa from workplace to school—it is the interaction that empowers all. The principle can be adopted in a variety of ways. Germany’s main model VET model is apprenticeship but in BC WIL placements are the predominant form of VET for many college and university-based programs.

Having examined the key elements of the BC apprenticeship system and compared them to the German dual studies VET system (Euler, 2013), it is clear that despite the lack of cultural influences and history, BC has a small but robust apprenticeship system. It is however, limited exclusively to traditional crafts trades, as described in Chapter 2, Section 2D and Chapter 4, Section B. The examination of the core principles and key components of the German system demonstrated that it is possible to strengthen these same components of the BC VET system to improve the overall system.

As documented in Chapter 4, the BC VET system would benefit from improvements in three of 11 of Euler’s (2013) essential elements. Those three elements are workforce mobility, the improvement of training quality standards and shared funding of the VET between the business community and government. All of these elements could be addressed through government leadership in policy development or legislation (see Appendix M). However, priority must focus on two critical elements: the delivery of the BC VET through a partnership between business and government and the promotion of greater social acceptance of apprenticeship. Elements five and eleven will be extremely difficult to address because they will require substantial changes in long held cultural attitudes and stereotypes about trades and apprenticeships. The turbulent history of BC government and labour relations may be a factor in limiting future cooperation between business, labour and government.

A significant challenge for BC government policymakers is to find an effective way to increase employers’ engagement in training. The business community should ideally take the initiative to increase employer engagement and lead the process. If they fail to do so and criticize the government for not doing enough, the government should become more involved through legislative tools.
Employer education may help to increase apprenticeship opportunities to some extent, as many employers know very little about apprenticeship, even in industries that traditionally use apprenticeship as a model of training. Most employers are also unaware that they can implement their own version of this model the way that Alice’s Restaurant has chosen to do. Perhaps the greatest challenges in the education of employers as key contributors to a general system of VET. Employers must accept the concept that they have an essential role to play in the operation and continued development of a successful provincial VET system that is a driver of the economy. VET should not the exclusive responsibility of government and their respective colleges and universities.

Unfortunately, significant changes in the VET system are unlikely as long as both the federal and provincial governments continue to accept the message from the business community that government and publicly funded post-secondary education system must do a better job. Even if this problem could be solved through greater funding of post-secondary institutions, the provincial governments (who allocate funds to institutions) are unlikely to increase government grants given the demands of health care which consumes 37% of the total provincial budget (Government of BC, Ministry of Finance, 2018). Increasing general government funding for education will not solve the problem as long as employer engagement in workforce training is lacking. Employers must recognize that they have a social responsibility to invest in on-the-job training given that workplaces are major sites for fostering lifelong learning.

Taking into account the results from this thesis, I suggest several ways forward: (a) increase the level of employer education by explaining the benefits that apprenticeships can bring to their businesses, (b) provide more government funded financial incentives to encourage employers to provide more training opportunities, or (c) consider direct government intervention by legislating a training tax, similar to those tax schemes in Québec, France, and Denmark. A combination of these approaches would be most successful, as the educational process might make the tax more palatable. The tax would provide much-needed funding for workplace training. Québec, France, and Denmark all allow employers who train their own staff to deduct their training expenses from the tax otherwise payable and effectively eliminate the tax liability. The desire to reduce taxation will likely encourage some employers into offering apprenticeship training or even create WIL placements. Increased taxation in BC is
never a popular measure with business, and the government that introduces such a tax would require the courage of their convictions.

The BC government should direct the BCITA to expand the number of trades and occupations beyond traditional craft trades. A representative committee composed of leaders from business, labour unions, and post-secondary institutions should choose the next set of occupations or trades eligible for apprenticeship training. The three groups must agree there is sufficient demand for an occupation or trade so designated and then actively work together to establish the occupational profile and the training curriculum. Increasing the number of occupations eligible for apprenticeship training beyond the traditional trades will elevate the social prestige of the entire system.

The global economy is changing so rapidly that post-secondary education has no means of anticipating the kinds of jobs that will need to filled in the next ten or twenty years therefore continuous lifetime learning is increasingly necessary. I recommend that the Canadian federal government consider adopting an NQF as was done in Europe to recognize equivalencies between competencies developed through vocational training and academic education with the intent of integrating both at the tertiary level. This framework facilitates lifelong learning regardless of whether a person’s early education was obtained through vocational training, an apprenticeship, or general education at a university. Continuous lifelong learning is essential for ensuring BC’s workforce remains productive and effective for the next 20 years and beyond.

In Chapter 4 Euler’s (2013) concept of the key elements necessary for a successful VET system was used as a framework for a review of the BC system. The review demonstrated that BC has a small but robust apprenticeship system (as documented in Chapter 2 and Chapter 4B) and that the province already has many of the elements essential to the successful functioning of a VET system including apprenticeship and other programs that embody the dual principle. Further, the BC VET system could move incrementally towards a more general implementation of the dual model by facilitating the following changes:

1. Improve and enhance education of employers and the general public to encourage social acceptance of apprenticeship and the creation of more training positions.
2. Promote the advantages of the apprenticeship training model to employers with a focus on the day release model.

3. Offer greater employer financial incentives to encourage the creation of new training positions and explore the merits of a training tax on all employers.

4. Mandate the BCITA to promote and expand the number of trades and occupations eligible for apprenticeship training in high demand areas.

5. Mandate and support the BCITA to continue its marketing efforts through various media to actively promote an expanded apprenticeship system and better understanding of VET as a career option.

6. Create standards for WIL opportunities (co-ops and internships) facilitated by post-secondary institutions to ensure that students are safe and paid for their time while engaged in workplace learning.

7. Develop and implement standards and processes for the evaluation of training delivered during the work-based component of VET.

8. Adopting an NQF to promote lifelong learning and enhance the transferability of vocational and academic education.

9. Fund and support scholarly research focussed the benefits of the apprenticeship system and on the status of vocational training programs in general.

Closing Comments

My son, who inspired this study, received substantial benefits from participating in a dual studies VET training program (Alternance) in France with a global employer. Although for financial reasons, Schneider Electric, his sponsoring employer, could not offer him a permanent position after he completed his apprenticeship, he was quickly able to secure a permanent position at Steelcase, a global manufacturer of office furniture. After three years in a corporate support position, Steelcase promoted him to the position of Supervisor, Material Planning and Production Scheduling responsible for a team of eight staff at the Sarrebourg factory in France. After less than one year in Sarrebourg, he resigned from Steelcase and accepted a new position as Procurement Manager with the Hager Group, a global provider of solutions and services for electrical installations in residential, commercial and industrial buildings. His success at Steelcase and now with Hager would not have been possible without the original apprenticeship at Schneider Electric that set him on the pathway to long-term career success.
The points made in this thesis support a view that an effective sustained system of vocational education and training is an asset to both the BC economy and social capital. BC has an active VET system and it is a significant contributor to the current economic success of the province. While the system is largely effective, there are areas where improvements can be sought. The most important area for improvement is enhanced and active collaborations among key stakeholders and government agencies such as the BCITA, the BC Federation of Labour, BC Chamber of Commerce, BC Business Council and employer associations. This collaboration is the major focus of Euler's fifth element. Further, there should be active discussions among the Ministry of Education, the Ministry of Advanced Education and Skills Training and associations representing the administrations of universities and colleges about education programs that integrate workplace-based learning with the academic curricula.

This study has added important knowledge and understanding to the concept of apprenticeship as a model of education and training that can be a driver of a successful economy, and not just a training system for the trades. The German dual studies VET system used the basic apprenticeship model and expanded it into a world-class training system that stands out as a model from which other countries to learn. Employer engagement is the most important element for the success of any VET system and BC must find a way to increase employer engagement in the system. In addition, employers must recognize that they have a social responsibility to invest in on-the-job training since workplaces are important sites where learning occurs under real-life conditions.
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Appendix A.

Alice’s Restaurant’s Human Resource Department Permission Letter to Interview Students

Dear Ms. Young,

I understand that you are a doctoral candidate in the Faculty of Education at Simon Fraser University and will be the principal investigator for the proposed research at the [Restaurant's] Training Institution currently scheduled for November 30, 2016. This research project forms the basis for your dissertation, which you are completing as part of the requirements for a Doctorate degree. You have advised us that this research project has been reviewed and approved by the Research Ethics Board of Simon Fraser University.

The purpose of this research is to review different program delivery models of the Professional Cook 3 program to examine the advantages and disadvantages to students, employers, and the Industry Training Association. We have agreed that [the Restaurant] will not be named in the research thesis or any published research resulting from your research project.

As discussed previously, you may interview the students currently enrolled in the professional cook 3 program who are part of [the Corporation]. The interviews may be individual or in small groups and will last approximately one hour scheduled at a mutually convenient time. You may also interview [person’s name], the students’ instructor.

Students and [person’s name] may be requested to consent to the interviews being either audio or video recorded for the purposes of accurate analysis after all of the interviews have been completed. This decision will be left to the individual student to decide. You have advised that neither the audio, video or the transcript will be made public and will subsequently be destroyed as noted below.

CONFIDENTIALITY

I understand that you will keep any recordings and paper documents completed over the course of this research, including a copy of this letter, in a locked cabinet in your home office. Dr. Milton McLaren, your Simon Fraser University senior supervisor, is the only other person who may access this information. Any digital records will be stored on a separate hard drive in a password-protected computer and also kept in a locked cabinet when not actually in use. Upon completion of the research and submission of the thesis, the contents of the hard drive will be securely erased no later than August 31, 2017.
I understand that if I have any concerns or questions about the research that I may contact your research supervisor, Dr. Milton McLaren, at [email address] or Dr. Jeff Toward, SFU's Director of Research Ethics at [email address] or call him at [telephone number].

Yours sincerely,

[Signatory's name]
Appendix B.

*Interview Script for Day-Release Apprentices*

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator for this research project, which I am conducting for my doctoral thesis. The interview results collected during the research will be analyzed, described, and summarized for the thesis. You may wish to add topics of your own interest and you are welcome to do this as our conversation develops.

I would like to review the informed consent document with you to ensure you understand that I will be recording this conversation and how I will protect your privacy. I will send you a copy of the transcript for your review and comments. Before we begin, do you have any questions?

The following Topics will form a framework for our Interview.

Tell me about your career aspirations and why you have been training to become a professional chef. How long have you been employed with [Alice]? How did you enter the professional cook-training program? Where did you take Professional Cook 1 and 2?

What is your overall impression of the [Alice’s Restaurant] Professional Cook 3 program? What challenges have you encountered while training in this program? Did this program differ in any way from the training you received in Professional Cook 1 and 2? In what ways? How did you pay for your tuition and living costs while in the Professional Cook 3 program?

There are 2 possible delivery models for Professional Cook 3. One is called Block-Release and the other one is called Day-Release. I will describe them for you if you are not familiar with the terminology (see description below). Do you have any thoughts you would like to share on the format of the program that you took and how it might be better or worse for students than the other delivery format?

How do you feel about the Red Seal credential? Are you intending to write the Red Seal exam? Do you feel that the Professional Cook 3 training has prepared you to write the Red Seal exam?

Do you feel that the Professional Cook 3 program will assist you in achieving your career goals? What were the strengths and weaknesses of the program? Do you have any suggestions for changes? Would you recommend this program to a friend?

This concludes my questions. Do you have any questions or comments?

**Description of day-release and block-release program delivery formats:**

The Professional Cook 3 program requires 175 hours of institutional training. In the Block-Release model, students train 5 days per week for 4 or 5 weeks consecutively. In the day-release model, students receive training 1 day per week and work at their employer’s place of business 4 days per week.
Appendix C.

Invitation and Research Consent Form for Day-Release Apprentices

TITLE: COMPARATIVE REVIEW OF BLOCK-RELEASE AND DAY-RELEASE DELIVERY MODELS OF PROFESSIONAL COOK 3 PROGRAMS

PRINCIPAL INVESTIGATOR:  IRENE YOUNG
  Contact: [email address]
  [Telephone number]

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator in the proposed research.

INVITATION
I wish to invite you to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with your friends or relatives if you wish. If there is anything that is not clear, or if you would like more information, my contact information is provided in this form.

WHAT IS THE PURPOSE OF THE STUDY?
The purpose of this research is to complete a comparative analysis of two different program delivery models of the Professional Cook 3 programs and examine the advantages and disadvantages to students, employers, Colleges, the Industry Training Authority and the Ministry of Advanced Education. The two models are known as Day-Release and Block-Release. [Alice’s Restaurant] delivers the day-release program.

WHY ARE YOU BEING INVITED?
Your input is being sought because you are a student/employee enrolled in the Professional Cook 3 program at [Alice’s Restaurant].

DO YOU HAVE TO TAKE PART?
Participation in this research project is entirely voluntary. If you do decide to take part, you will be asked to sign this consent form. You are free to withdraw at any time and without giving any reason.

CAN YOU DECIDE TO LEAVE THE STUDY?
You can leave the interview at any time if you have any concerns whatsoever. If you are unable to participate in the interview, not compliant with the requirements of the study (for example, you don’t show up for the interview and don’t reschedule), or cannot be included for any other reason, I may ask you to withdraw from the study.
WHAT WILL YOU NEED TO DO IF YOU TAKE PART?

You will be asked to participate in a one-hour interview with me, the principal investigator, individually or with another co-worker from the same class. I will schedule the meeting at a convenient time in a private room at the [Alice’s Restaurant] Training Facility. You will be asked to participate in a conversation covering topics including your experience of the quality of the program, the development of confidence in skills acquired during training, whether you believe that you have developed the competence to act professionally and about your overall satisfaction with the training received.

POTENTIAL RISKS

I am required to inform you of any risks you might take in participating in this research. The risks of participating in this project are no greater than those experienced in everyday life. By consenting to participate in the interview for this study, you confirm that any information you encounter will be kept confidential and not revealed to anyone outside of the interview. Although the objective is to maintain confidentiality, it cannot be completely guaranteed. There will be no impact on your grades or assessment or any other aspect of the completion of your Professional Cook 3 program or your employment at [Alice’s Restaurant].

CONFIDENTIALITY

I will keep recordings and paper documents completed over the course of this research, including a copy of this form, in a locked cabinet in my home office. Dr. Milton McClaren, my academic supervisor, is the only other person who may access this information. When not actually in use, any digital records will be stored on a separate hard drive in a password-protected computer and also kept in a locked cabinet. Upon completion of the research and submission of the thesis (anticipated by August 31, 2017), the contents of the hard drive will be securely erased.

With your permission, the interview will be either audio or video recorded for the purposes of accurate analysis after all of the interviews have been completed. Neither the audio or video record nor the transcript will be made public. You will be asked some personal identifying questions (i.e. your name, age, previous post-secondary experience and name of employer), but you will not be individually identified in the published research, and your actual name will be substituted with a pseudonym. A document containing the list of pseudonyms and participants’ real names and other important information will be kept securely on the hard drive of my password-protected computer. Only Dr. McClaren and I will have access to the code. I will e-mail you a transcript of this interview within one month of the interview so that you may check that it has been accurately transcribed.

WHAT ARE THE BENEFITS OF TAKING PART?

Student participants of this study may derive personal satisfaction from the fact that they are contributing to research that may one day help other students. Colleges across Canada may consider the results of the study when determining the delivery model for Professional Cook training and the possible applicability to other trades training.
WHO IS ORGANIZING AND FUNDING THE RESEARCH?
This research project forms the basis for my dissertation, which I am completing as part of the requirements for a Doctorate in Education at Simon Fraser University. It has been approved by the Research Ethics Board at Simon Fraser University.

WILL YOU BE PAID FOR BEING IN THIS STUDY?
Participants will receive a $10 Starbucks Gift Card after the interview is completed. 

Thank you for reading this and for considering participating in this research.

CONTACT FOR FURTHER INFORMATION
If you have any questions or desire further information about this study, you should contact Irene Young at [telephone number] or by e-mail at [email address]. You may also contact my research supervisor, Dr. Milton McClaren, at [email address].

CONTACT FOR QUESTIONS OR CONCERNS
If you have any concerns about your rights as a research subject and/or your experiences while participating in this study you may contact Dr. Jeff Toward, SFU’s Director of Research Ethics at [email address] or call [telephone number].

WHY ARE YOU SIGNING THIS CONSENT FORM?
By signing this consent form, you agree that:

- You have read and understood the information in the consent form dated April 26, 2017 and have had the opportunity to ask questions.
- The principal investigator has answered your questions to your satisfaction.
- You understand your participation in the research is voluntary and that you may refuse to participate or you are free to withdraw at any time.
- You are not giving up your legal rights nor do you release the principal investigator or Simon Fraser University from their legal and professional responsibilities.
- You agree to take part in this study.
- You will receive a copy of the signed consent form for your records.

SIGNATURES

_________________________________ ______________________________
Please print name

_________________________________ ______________________________
Signature of subject Date (Written by research participant)

_________________________________ ______________________________
Signature of Investigator Date
Appendix D.

Interview Script for Block-Release Apprentices

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator for this research project, which I am conducting for my doctoral thesis. The interview results collected during the research will be analyzed, described, and summarized for the thesis. You may wish to add topics of your own interest and you are welcome to do this as our conversation develops.

I would like to review the informed consent document with you to ensure you understand that I will be recording this conversation and how I will protect your privacy. I will send you a copy of the transcript for your review and comments. Before we begin, do you have any questions?

The following Topics will form a framework for our Interview.

Tell me about your career aspirations and why you have been training to become a professional chef. Are you currently employed? With whom? Where did you take Professional Cook 1 and 2?

What is your overall impression of VCC’s Professional Cook 3 program? What challenges did you encounter while training in this program? Why did you choose to take Professional Cook 3 at VCC? Did this program differ in any way from the training you received in Professional Cook 1 and 2? In what ways?

How did you pay for your tuition and living costs while in the Professional Cook 3 program?

There are 2 possible delivery models for Professional Cook 3. One is called Block-Release and the other one is called Day-Release. I will describe them for you if you are not familiar with the terminology (see description below). Do you have any thoughts you would like to share on the format of the program that you took and how it might be better or worse for students than the other delivery format?

How do you feel about the Red Seal credential? Are you intending to write the Red Seal exam? Do you feel that the Professional Cook 3 training has prepared you to write the Red Seal exam?

Do you feel that the Professional Cook 3 program will assist you in achieving your career goals? What were the strengths and weaknesses of the program? Do you have any suggestions for changes? Would you recommend this program to a friend?

This concludes my questions. Do you have any questions or comments?

Thank you for your time and for volunteering to help me with this project. As promised here is your Starbucks® gift card. I expect to have the transcripts completed within the
next month and I will e-mail your transcript to you for your review. Please provide me with an e-mail address.

Description of day-release and block-release program delivery formats:

The Professional Cook 3 program requires 175 hours of institutional training. In the Block-Release model, students train at VCC 5 days per week for 5 weeks consecutively. In the day-release model, students train at VCC 1 day per week and work at their employer’s place of business 4 days per week. This delivery format takes 6 months for the student to complete.
Appendix E.

*Invitation and Research Consent Form Day-Release Apprentices (Revised)*

(Revised April 26, 2017)

**Title:** Comparative Review of Block Release and Day Release delivery models of Professional Cook 3 Programs

**Principal Investigator:** Irene Young   **Contact:** [email address]   [telephone number]

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator in the proposed research.

**Invitation**

I wish to invite you to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with your friends or relatives if you wish. If there is anything that is not clear, or if you would like more information, my contact information is provided in this form.

**What is the purpose of the study?**

The purpose of this research is to complete a comparative analysis of two different program delivery models of the Professional Cook 3 programs and examine the advantages and disadvantages to students, employers, Colleges, the Industry Training Authority and the Ministry of Advanced Education. The two models are known as Day Release and Block Release. [The Restaurant] delivers the day release program.

**Why are you being invited?**

Your input is being sought because you are a student/employee enrolled in the Professional Cook 3 program at [The Restaurant].

**Do you have to take part?**

Participation in this research project is entirely voluntary. If you do decide to take part, you will be asked to sign this consent form. You are free to withdraw at any time and without giving any reason.

**Can you decide to leave the study?**

You can leave the interview at any time if you have any concerns whatsoever. If you are unable to participate in the interview, not compliant with the requirements of the study (for example, you don’t show up for the interview and don’t reschedule), or cannot be included for any other reason, I may ask you to withdraw from the study.
WHAT WILL YOU NEED TO DO IF YOU TAKE PART?

You will be asked to participate in a one-hour interview with me, the principal investigator, individually or with another co-worker from the same class. I will schedule the meeting at a convenient time in a private room at the [The Restaurant] Training Facility. You will be asked to participate in a conversation covering topics including your experience of the quality of the program, the development of confidence in skills acquired during training, whether you believe that you have developed the competence to act professionally and about your overall satisfaction with the training received.

POTENTIAL RISKS

I am required to inform you of any risks you might take in participating in this research. The risks of participating in this project are no greater than those experienced in everyday life. By consenting to participate in the interview for this study, you confirm that any information you encounter will be kept confidential and not revealed to anyone outside of the interview. Although the objective is to maintain confidentiality, it cannot be completely guaranteed. There will be no impact on your grades or assessment or any other aspect of the completion of your Professional Cook 3 program or your employment at [The Restaurant].

CONFIDENTIALITY

I will keep recordings and paper documents completed over the course of this research, including a copy of this form, in a locked cabinet in my home office. Dr. Milton McClaren, my academic supervisor, is the only other person who may access this information. When not actually in use, any digital records will be stored on a separate hard drive in a password-protected computer and also kept in a locked cabinet. Upon completion of the research and submission of the thesis (anticipated by August 31, 2017), the contents of the hard drive will be securely erased.

With your permission, the interview will be either audio or video recorded for the purposes of accurate analysis after all of the interviews have been completed. Neither the audio or video record nor the transcript will be made public. You will be asked some personal identifying questions (i.e. your name, age, previous post-secondary experience and name of employer), but you will not be individually identified in the published research, and your actual name will be substituted with a pseudonym. A document containing the list of pseudonyms and participants’ real names and other important information will be kept securely on the hard drive of my password-protected computer. Only Dr. McClaren and I will have access to the code. I will e-mail you a transcript of this interview within one month of the interview so that you may check that it has been accurately transcribed.

WHAT ARE THE BENEFITS OF TAKING PART?

Student participants of this study may derive personal satisfaction from the fact that they are contributing to research that may one day help other students. Colleges across Canada may consider the results of the study when determining the delivery model for Professional Cook training and the possible applicability to other trades training.

WHO IS ORGANIZING AND FUNDING THE RESEARCH?
This research project forms the basis for my dissertation, which I am completing as part of the requirements for a Doctorate in Education at Simon Fraser University. It has been approved by the Research Ethics Board at Simon Fraser University.

**WILL YOU BE PAID FOR BEING IN THIS STUDY?**

Participants will receive a $10 Starbucks Gift Card after the interview is completed.

*Thank you for reading this and for considering participating in this research.*

**CONTACT FOR FURTHER INFORMATION**

If you have any questions or desire further information about this study, you should contact Irene Young at [telephone number] or by e-mail at [email address]. You may also contact my research supervisor, Dr. Milton McClaren, at [email address].

**CONTACT FOR QUESTIONS OR CONCERNS**

If you have any concerns about your rights as a research subject and/or your experiences while participating in this study you may contact Dr. Jeff Toward, SFU’s Director of Research Ethics at [email address] or call [telephone number].

**WHY ARE YOU SIGNING THIS CONSENT FORM?**

By signing this consent form, you agree that:

- You have read and understood the information in the consent form dated April 26, 2017 and have had the opportunity to ask questions.

- The principal investigator has answered your questions to your satisfaction.

- You understand your participation in the research is voluntary and that you may refuse to participate or you are free to withdraw at any time.

- You are not giving up your legal rights nor do you release the principal investigator or Simon Fraser University from their legal and professional responsibilities.

- You agree to take part in this study.

- You will receive a copy of the signed consent form for your records.
Day-Release Apprentice Project Clarification Script

Thank you for your participation in my research project and thank you for meeting with me today.

I need to clarify a few procedural issues with you regarding my research project. Although Simon Fraser University’s Office of Research Ethics had approved my overall project plan, the interviews with [Alice’s Restaurant] students were an amendment to the original project plan. At the time of the interviews last fall, I had not yet received approval of the amendment. I apologize for this error on my part but I am pleased to advise you that the amendment is now approved pending a personal conversation with each student participant and your agreement to sign the revised “informed consent letter”.

I wish to draw your attention to a risk to your privacy that I should have alerted you to prior to the interviews. As you will recall, I conducted the interviews in pairs with one of your coworkers present. Although I can assure you that I followed all of the confidentiality measures noted in the original letter exactly as outlined I should however have asked both students in the group not to repeat anything said in the meeting to anyone else after the interview.

Please be reassured that the meeting room was private and as indicated previously, I am the only person with a copy of the recording of the meeting and the transcript, however since some time has passed from the original interview, I cannot guarantee absolute confidentiality. The revised informed consent letter now identifies this risk. As stated in the original consent document, you are free to withdraw your data from this study at any time. In light of this new information, this option remains available.

I have reviewed the transcripts and can advise that in my opinion neither participant said anything of a compromising nature. I have a copy of the transcript for you to review personally if you wish.

If you wish to remain in this study, please sign the revised letter and thank you for your cooperation and assistance.
Appendix F.

Invitation and Research Consent Form for Block-Release Apprentices

TITLE: COMPARATIVE REVIEW OF BLOCK-RELEASE AND DAY-RELEASE DELIVERY MODELS OF THE PROFESSIONAL COOK 3 PROGRAMS AT VANCOUVER COMMUNITY COLLEGE (VCC)

PRINCIPAL INVESTIGATOR: IRENE YOUNG
Contact: [email address]
[Telephone number]

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I will be the principal investigator in the proposed research, which I am conducting for my doctoral thesis. The interview results collected during the research will be analyzed, described, and summarized for the thesis.

INVITATION
I wish to invite you to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with your friends or relatives if you wish. If there is anything that is not clear, or if you would like more information, my contact information is provided in this form.

WHAT IS THE PURPOSE OF THE STUDY?
The purpose of this research is to complete a comparative analysis of two different program delivery models of the Professional Cook 3 programs offered at VCC and examine the advantages and disadvantages to students, employers, VCC, and the Ministry of Advanced Education of two different program delivery models of the Professional Cook 3 programs offered at VCC. The two models are known as Day-Release and Block-Release approaches. This study will evaluate the day-release program operating as a partnership between VCC and [Alice’s Restaurant] as compared to the traditional block-release model of Professional Cook 3 training.

WHY ARE YOU BEING INVITED?
Your input is being sought because you are a student enrolled in the Professional Cook 3 program at VCC.

DO YOU HAVE TO TAKE PART?
Participation in this research project is entirely voluntary. Your participation in the one-to-one interview will have no effect on any aspect of your grading or assessment in any course or program. If you do decide to take part, you will be asked to sign this consent form. If you decide to take part, you are still free to withdraw at any time and without giving any reason. Your name or other identifying information will not be used in the study report, so your involvement will be completely anonymous.
CAN YOU DECIDE TO LEAVE THE STUDY?
You can leave the interview at any time if you have any concerns whatsoever. If you are unable to participate in the interview, not compliant with the requirements of the study (for example, you don’t show up for the interview and don’t reschedule), or cannot be included for any other reason, I may ask you to withdraw from the study.

WHAT WILL YOU NEED TO DO IF YOU TAKE PART?
You will be asked to participate in a one-hour interview with me, the principal investigator. I will schedule the meeting at a mutually convenient time in a private room on campus during the last week of your program. You will be asked to participate in a conversation covering topics including your experience of the quality of the program, the development of confidence in skills acquired during training, whether you believe that you have developed the competence to act professionally and about your overall satisfaction with the training received.

POTENTIAL RISKS
I am required to inform you of any risks you might take in participating in this research. The risks of participating in this project are no greater than those experienced in everyday life. There will be no impact on your grades or assessment or any other aspect of the completion of your Professional Cook 3 program at VCC.

CONFIDENTIALITY
I will keep recordings and paper documents completed over the course of this research, including a copy of this form, in a locked cabinet in my home office. Dr. Milton McClaren, my academic supervisor, is the only other person who may access this information. When not actually in use, any digital records will be stored on a separate hard drive in a password-protected computer and also kept in a locked cabinet. Upon completion of the research and submission of the thesis the contents of the hard drive will be securely erased and all paper documents destroyed (approximately April 2018).

With your permission, the interview will be either audio or video recorded for the purposes of accurate analysis after all of the interviews have been completed. Neither the audio or video record nor the transcript will be made public. You will be asked some personal identifying questions (i.e. your name, age, previous post-secondary experience and name of employer), but you will not be individually identified in the published research, and your actual name will be substituted with a pseudonym. A document containing the list of pseudonyms and participants’ real names and other important information will be kept securely on the hard drive of my password-protected computer. Only Dr. McClaren and I will have access to the code. I will e-mail you a transcript of this interview within one month of the interview so that you may check that it has been accurately transcribed.

WHAT ARE THE BENEFITS OF TAKING PART?
Student participants of this study will receive a $20 Starbucks gift card and may derive personal satisfaction from the fact that they are contributing to research that may one day help other students. Colleges in BC and across Canada may consider the results of the study when determining the delivery model for Professional Cook training and the possible applicability to other trades training, which may lead to improvements in these programs.
WHO IS ORGANIZING AND FUNDING THE RESEARCH?

This research project forms the basis for my dissertation, which I am completing as part of the requirements for a Doctorate in Education at Simon Fraser University. Vancouver Community College’s Research Ethics Board has approved this research project. It will also be reviewed and approved by the Research Ethics Board at Simon Fraser University.

WILL YOU BE PAID FOR BEING IN THIS STUDY?

Participants will receive a $20 Starbucks Gift Card after the interview is completed.

*Thank you for reading this and for considering participating in this research.*

CONTACT FOR FURTHER INFORMATION

If you have any questions or desire further information about this study, you should contact Irene Young at [telephone number] or by e-mail at [email address]. You may also contact my research supervisor, Dr. Milton McClaren, at [email address].

You may verify my student status at Simon Fraser University by contacting Dr. Robin Brayne, the Director of Graduate Programs, Faculty of Education, SFU at [email address], or [telephone number].

CONTACT FOR QUESTIONS OR CONCERNS

If you have any concerns about your rights as a research subject and/or your experiences while participating in this study you may contact Elle Ting, VCC’s Research Ethics Board contact, at [telephone number] or Dr. Jeff Toward, SFU’s Director of Research Ethics at [email address] or call [telephone number].

WHY ARE YOU SIGNING THIS CONSENT FORM?

By signing this consent form, you agree that:

- You have read and understood the information in the consent form dated January 25, 2016 and have had the opportunity to ask questions.
- The principal investigator has answered your questions to your satisfaction.
- You understand your participation in the research is voluntary and that you may refuse to participate or you are free to withdraw at any time.
- You are not giving up your legal rights nor do you release the research investigator or Simon Fraser University from their legal and professional responsibilities.
- You agree to take part in this study.
- You will receive a copy of the signed consent form for your records.
**SIGNATURES**

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<td>Signature of subject</td>
<td>Date (Written by research participant)</td>
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<td>Signature of Investigator</td>
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Appendix G.

Interview Script for [Alice’s Restaurant] Corporate Chef

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator for this research project, which I am conducting for my doctoral thesis. The interview results collected during the research will be analyzed, described, and summarized for the thesis.

I would like to review the informed consent document with you to ensure you understand that I will be recording this conversation and how I will protect your privacy. I will send you a copy of the transcript for your review and comments.

Before we begin, do you have any questions?

The following Topics will form a framework for our Interview. You may wish to add topics of your own interest and you are welcome to do this as our conversation develops.

1. Tell me a little about your background and how you became a chef and an instructor at [Restaurant Name].

2. What is your overall impression of the Professional Cook 3 program? What challenges have you encountered while teaching this program?

3. As you know, there are 2 delivery models for Professional Cook 3. One is called Block Release and the one you are delivering at [Restaurant Name] is the Day Release model. Do you have any thoughts you would like to share on the day-release format and how it might be better or worse for students than the other delivery format?

4. Why has [Restaurant Name] chosen the day-release model to deliver the professional cook 3 program? What is the background for that decision and what are the benefits to [Restaurant Name]?

5. What changes or improvements would you like to see in the delivery of this program?

6. What feedback did you receive from students about the way the program was delivered or anything that you felt was interesting and would like to share with me?

7. Do you think this model would be of interest/benefit to other restaurants or businesses in other sectors?
That concludes my questions. Do you have any questions or comments?

Thank you for your time and volunteering to help me with this project. I expect to have the transcript completed within the next month and I will e-mail it to you for your review. Please provide me with an e-mail address.

**Description of Day Release and Block Release program delivery formats:**

The Professional Cook 3 program requires 175 hours of institutional training. In the block release model, students train at VCC 5 days per week for 5 weeks consecutively. In the day release model, students train at VCC 1 day per week and work at their employer’s place of business 4 days per week. This delivery format takes 6 months for the student to complete.
Appendix H.

Interview Script for VCC Interim Dean

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator for this research project, which I am conducting for my doctoral thesis. The interview results collected during the research will be analyzed, described, and summarized for the thesis. You may wish to add topics of your own interest and you are welcome to do this as our conversation develops.

I would like to review the informed consent document with you to ensure you understand that I will be recording this conversation and how I will protect your privacy. I will send you a copy of the transcript for your review and comments. Before we begin, do you have any questions?

The following Topics will form a framework for our Interview.

1. Tell me a little about your background and how you became involved with culinary programs at VCC.

2. What is your overall impression of VCC’s Professional Cook 3 program? Did you or your staff encounter any challenges during the delivery of this program?

3. You may be aware that there are 2 delivery models for Professional Cook 3. One is called Block-Release and the other one is called Day-Release. I will describe them for you if you are not familiar with the terminology. (See description below) Do you have any thoughts you would like to share on the delivery format and how it might be better or worse for students than the other delivery format?

4. Did you receive any feedback from students or faculty about the way the program was delivered or anything that you felt was interesting and would like to share with me?

5. What impacts (positive or negative) do you foresee for VCC if the Day-Release model were utilized more often for Culinary Program delivery.

6. Are there any changes you would you like to see in the delivery of the day-release program?

7. Could the Day-Release delivery model be used in other apprenticeship programs?

That concludes my questions. Do you have any questions or comments that you would like to add or discuss?

Thank you for your time and volunteering to help me with this project. I expect to have the transcript completed within the next month and I will e-mail it to you for your review. Please provide me with an e-mail address.
Description of day-release and block-release program delivery formats:

The Professional Cook 3 program requires 175 hours of institutional training. In the block-release model, students train at VCC 5 days per week for 5 weeks consecutively. In the Day-Release model, students train at VCC 1 day per week and work at their employer’s place of business 4 days per week. This delivery format takes 6 months for the student to complete.
Appendix I.

Interview Script for the BCITA Senior Official

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator for this research project, which I am conducting for my doctoral thesis. The interview results collected during the research will be analyzed, described, and summarized for the thesis.

I would like to review the informed consent document with you to ensure you understand that I will be recording this conversation and how I will protect your privacy. I will send you a copy of the transcript for your review and comments. Before we begin, do you have any questions?

The following topics will form a framework for our Interview. You may wish to add topics of your own interest and you are welcome to do this as our conversation develops.

1. What is your overall impression of [Alice's Restaurant's] delivery of the Professional Cook 3 program that is delivered using the day-release model? Have you or staff had particular experiences with or addressed challenges with the program? The January 2018 Apprentice Survey showed 7.5% of respondents were in a form of day-release training.

2. You may be aware that there are two delivery models for Professional Cook 3. One is called Block Release and the other one is called Day-Release. Do you have any thoughts you would like to share on these Delivery formats and how you feel about their relative advantages or disadvantages for students, faculty, or participating business partners?

3. My findings demonstrated some advantages to the day-release model over block release to both students and to [Alice's Restaurant]. James Kennedy, Corporate Chef believes strongly in its usefulness that he does not understand why more restaurants do not use it.
   - Are you aware of any other restaurants or other sectors adopting a similar day-release model?
   - Do you think there are barriers to expanding day-release training and what would they be?

4. Does the ITA have any concerns about red seal completion rates? Does the ITA have any plans to make changes to improve the completion rate?

5. Employer cooperation is key to the apprenticeship model. Are there enough employers interested in offering apprenticeships today for the specified occupations?
   - If not, what methods have you considered for increasing employer cooperation?
6. Has the ITA ever considered increasing the number of occupations that qualify for apprenticeship similar to Germany, which has 330 defined occupations?

7. Are you aware of government (past or present) showing interest in using legislation, financial incentives or education to expand apprenticeship? Which method might be acceptable in BC?

That concludes my questions. Do you have any questions or topics you would like to add?

I expect to have the transcripts completed within the next month and I will e-mail your interview transcript to you for your review.

**Description of day-release and block-release program delivery formats:**

The Professional Cook 3 program requires 175 hours of institutional training. In the Block-Release model, students train at VCC 5 days per week for 5 weeks consecutively. In the Day-Release model, students train at VCC 1 day per week and work at their employer’s place of business 4 days per week. This delivery format takes 6 months for the student to complete.
Appendix J.

Invitation and Research Consent Form for [Alice’s Restaurant] Corporate Chef

**Title:** Comparative Review of Block Release and Day Release delivery models of Professional Cook 3 Programs

**Principal Investigator:** Irene Young

**Contact:** [email address] [telephone number]

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator in the proposed research.

**Invitation**

I wish to invite you to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with your friends or relatives if you wish. If there is anything that is not clear, or if you would like more information, my contact information is provided in this form.

**What is the purpose of the study?**

The purpose of this research is to complete a comparative analysis of two different program delivery models of the Professional Cook 3 programs and examine the advantages and disadvantages to students, employers, Colleges, the Industry Training Authority and the Ministry of Advanced Education. The two models are known as Day Release and Block Release. [Restaurant Name] delivers the day release program.

**Why are you being invited?**

Your input is being sought because you are an instructor teaching the Professional Cook 3 program at [Restaurant Name].

**Do You have to take part?**

Participation in this research project is entirely voluntary. If you do decide to take part, you will be asked to sign this consent form. You are free to withdraw at any time and without giving any reason.

**Can you Decide to leave the study?**

You can leave the interview at any time if you have any concerns whatsoever. If you are unable to participate in the interview, not compliant with the requirements of the study (for example, you don’t show up for the interview and don’t reschedule), or cannot be included for any other reason, I may ask you to withdraw from the study.
What will you need to do if you take part?

You will be asked to participate in a one-hour interview with me, the principal investigator. I will schedule the meeting at a convenient time in a private room at the [Restaurant Name] Training Facility. You will be asked to participate in a conversation covering topics including your experience about the quality of the program, the development of skills acquired by your students during their training, whether you believe that you have developed the competence to act professionally and about your overall satisfaction with the delivery of the program.

Potential Risks

I am required to inform you of any risks you might take in participating in this research. The risks of participating in this project are no greater than those experienced in everyday life. There will be no impact on the terms of your employment with [Restaurant Name], job evaluation or future career advancement.

Confidentiality

I will keep recordings and paper documents completed over the course of this research, including a copy of this form, in a locked cabinet in my home office. Dr. Milton McClaren, my academic supervisor, is the only other person who may access this information. When not actually in use, any digital records will be stored on a separate hard drive in a password-protected computer and also kept in a locked cabinet. Upon completion of the research and submission of the thesis (anticipated by June 30, 2017), the contents of the hard drive will be securely erased.

With your permission, the interview will be either audio or video recorded for the purposes of accurate analysis after all of the interviews have been completed. Neither the audio or video record nor the transcript will be made public. You will be asked some personal identifying questions (i.e. your name, age, previous post-secondary experience and name of employer), but you will not be individually identified in the published research, and your actual name will be substituted with a pseudonym. A document containing the list of pseudonyms and participants’ real names and other important information will be kept securely on the hard drive of my password-protected computer. Only Dr. McClaren and I will have access to the code. I will e-mail you a transcript of this interview within one month of the interview so that you may check that it has been accurately transcribed.

What are the benefits of taking part?

There will be no immediate benefits to the participants of this study other than their own personal satisfaction that they are contributing to research that may one day help other students. Colleges in BC and across Canada may consider the results of the study when determining the delivery model for Professional Cook training and the possible applicability to other trades training.
**Who is organizing and funding the research?**

This research project forms the basis for my dissertation, which I am completing as part of the requirements for a Doctorate in Education at Simon Fraser University. It has been approved by the Research Ethics Board at Simon Fraser University.

**Will You be paid for being in this study?**

There is no compensation being offered for participating in this study.

**Thank you for reading this and for considering participating in this research.**

**Contact for further information**

If you have any questions or desire further information about this study, you should contact Irene Young at [telephone number] or by e-mail at [email address]. You may also contact my research supervisor, Dr. Milton McClaren, at [email address].

**Contact for Questions or Concerns**

If you have any concerns about your rights as a research subject and/or your experiences while participating in this study you may contact Dr. Jeff Toward, SFU’s Director of Research Ethics at [email address] or call [telephone number].

**Why are you signing this consent form?**

By signing this consent form, you agree that:

- You have read and understood the information in the consent form dated January 25, 2017 and have had the opportunity to ask questions.

- The principal investigator has answered your questions to your satisfaction.

- You understand your participation in the research is voluntary and that you may refuse to participate or you are free to withdraw at any time.

- You are not giving up your legal rights nor do you release the principal investigator or Simon Fraser University from their legal and professional responsibilities.

- You agree to take part in this study.

- You will receive a copy of the signed consent form for your records.
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<td>Signature of investigator</td>
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Appendix K.

Invitation and Research Consent Form for VCC’s Interim Dean

TITLE: Comparative Review of Block-Release and Day-Release delivery models of the Professional Cook 3 Programs at Vancouver Community College (VCC)

PRINCIPAL INVESTIGATOR: Irene Young [email address]

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I will be the principal investigator in the proposed research, which I am conducting for my doctoral thesis. The interview results collected during the research will be analyzed, described, and summarized for the thesis.

INVITATION

I wish to invite you to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. If there is anything that is not clear, or if you would like more information, my contact information is provided on this form.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this research is to complete a comparative analysis of two different program delivery models of the Professional Cook 3 programs offered at VCC and examine their respective advantages and disadvantages to students, employers, VCC, and the Ministry of Advanced Education. The two models are known as Day-Release and Block-Release approaches. This study will evaluate the day-release program operating as a partnership between VCC and [Restaurant Name] as compared to the traditional block-release model of Professional Cook 3 training.

WHY ARE YOU BEING INVITED?

Your input is being sought because you are an administrator at VCC overseeing the delivery of the Culinary Arts programs at VCC, specifically the Professional Cook 3 program or a program advisory committee member providing guidance to Culinary Arts programs at VCC.

DO YOU HAVE TO TAKE PART?

Participation in this research project is entirely voluntary. If you are a VCC administrator, your participation will have no impact on the terms of your employment with VCC, job performance, or future career development. If you are a Program Advisory Committee (PAC) member, your ongoing participation with the PAC will be unaffected. If you do decide to take part, you are still free to withdraw at any time and without giving any reason.
You will not be anonymous in this study. I would like to identify your name and position title for use in the study report to indicate VCC’s reasons for supporting one approach over the other. I may wish to select some quotes from your interview to emphasize a point when relevant.

CAN YOU DECIDE TO LEAVE THE STUDY?

You can leave the interview at any time if you have any concerns whatsoever. If you are unable to participate in the interview, not complying with the requirements of the study (for example, you don’t show up for the interview and don’t reschedule) or cannot be included for any other reason, I may ask you to withdraw from the study.

WHAT WILL YOU NEED TO DO IF YOU TAKE PART?

You will be asked to participate in a one-hour interview with me, the principal investigator. I will schedule the meeting at a mutually convenient time in a private room on campus. You will be asked to participate in a conversation covering topics including your experience about the quality of the program, the benefits to VCC of each delivery model, and the challenges of each model.

POTENTIAL RISKS

I am required to inform you of any risks you might take in participating in this research. The risks of participating in this project are no greater than those experienced in everyday life. If you are an administrator, there will be no impact on the terms of your employment with VCC, job performance or future career development.

CONFIDENTIALITY

I will keep recordings and paper documents completed over the course of this research, including a copy of this form, in a locked cabinet in my home office. Dr. Milton McClaren is the only other person who may access this information. Any digital records will be stored on a separate hard drive in a password-protected computer and also kept in a locked cabinet when not actually in use. Upon completion of the research and submission of the thesis anticipated by December 31, 2016, the contents of the hard drive will be securely erased.

With your permission, the interview will be either audio or video recorded for the purposes of accurate analysis after all of the interviews have been completed. Neither the audio or video record nor the transcript will be made public. I may select quotes from your interview to reinforce a point. You will be asked to state your name, position title, and the organization you represent for the record. I will e-mail you a transcript of this interview within one month of the interview so that you may check that it has been accurately transcribed.

WHAT ARE THE BENEFITS OF TAKING PART?

Participants of this study may derive personal satisfaction from the fact that they are contributing to research that may one day help students. Colleges in BC and across Canada may consider the results of the study when determining the delivery model for Professional Cook training and the possible applicability to other trades training.
WHO IS ORGANIZING AND FUNDING THE RESEARCH?

This research project forms the basis for my dissertation, which I am completing as part of the requirements for a Doctorate in Education at Simon Fraser University. Vancouver Community College’s Research Ethics Board has approved this research project. It will also be reviewed and approved by the Research Ethics Board at Simon Fraser University.

WILL YOU BE PAID FOR BEING IN THIS STUDY?

There is no compensation being offered for participating in this study.

Thank you for reading this and for considering participating in this research.

CONTACT FOR FURTHER INFORMATION

If you have any questions or desire further information about this study, please contact me at [telephone number] or by e-mail at [email address]. You may also contact my research supervisor, Dr. Milton McClaren, at [email address].

You may verify my student status at Simon Fraser University by contacting Dr. Robin Brayne, the Director of Graduate Programs, Faculty of Education, SFU at [email address] or [telephone number].

CONTACT FOR QUESTIONS OR CONCERNS

If you have any concerns about your rights as a research subject and/or your experiences while participating in this study you may contact Elle Ting, VCC’s Research Ethics Board contact, at [telephone number] or Dr. Jeff Toward, SFU’s Director of Research Ethics at [email address] or call [telephone number].

WHY ARE YOU SIGNING THIS CONSENT FORM?

By signing this consent form, you agree that:

- You have read and understood the information in the consent form dated January 25, 2016 and have had the opportunity to ask questions.
- The principal investigator has answered your questions to your satisfaction.
- You understand your participation in the research is voluntary and that you may refuse to participate or you are free to withdraw at any time.
- You are not giving up your legal rights nor do you release the research investigator or Simon Fraser University from their legal and professional responsibilities.
- You agree to take part in this study.
- You will receive a copy of the signed consent form for your records.
SIGNATURES

__________________________________________  ______________________________________
Please print name                                Date (written by research participant)

__________________________________________  ______________________________________
Signature of subject                            Date (per witness)

__________________________________________  ______________________________________
Signature of witness                            Date (per witness)

__________________________________________  ______________________________________
Signature of investigator                        Date (per investigator)
Appendix L.

Invitation and Research Consent Form for the BCITA Senior Official

TITLE: COMPARATIVE REVIEW OF BLOCK-RELEASE AND DAY-RELEASE DELIVERY MODELS OF PROFESSIONAL COOK 3 PROGRAMS

PRINCIPAL INVESTIGATOR: IRENE YOUNG
Contact: [email address]
[Telephone number]

My name is Irene Young. I am a doctoral candidate in the Faculty of Education at Simon Fraser University. I am the principal investigator in the proposed research.

INVITATION

I wish to invite you to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with your friends or relatives if you wish. If there is anything that is not clear, or if you would like more information, my contact information is provided in this form.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this research is to complete a comparative analysis of two different program delivery models of the Professional Cook 3 programs and examine the advantages and disadvantages to students, employers, Colleges, the Industry Training Authority and the Ministry of Advanced Education and Skills Training. The two models are known as Day Release and Block Release. [Alice’s Restaurant] delivers the day-release program.

WHY ARE YOU BEING INVITED?

Your input is being sought because you are a senior government official with responsibility program for Apprenticeship programs.

DO YOU HAVE TO TAKE PART?

Participation in this research project is voluntary. If you do decide to take part, you will be asked to sign this consent form. You are free to withdraw at any time and without giving any reason.

CAN YOU DECIDE TO LEAVE THE STUDY?

You can leave the interview at any time if you have any concerns whatsoever. If you are unable to participate in the interview, not compliant with the requirements of the study (for example, you do not show up for the interview and do not reschedule), or cannot be included for any other reason, I may ask you to withdraw from the study.
WHAT WILL YOU NEED TO DO IF YOU TAKE PART?

You will be asked to participate in a one-hour interview with me, the principal investigator. I will schedule the meeting at a mutually convenient time at your offices. You will be asked to participate in a conversation covering topics about apprenticeship training and programs, challenges for students and for employers and to comment of the research that I have discovered thus far.

POTENTIAL RISKS

I am required to inform you of any risks you might take in participating in this research. The risks of participating in this project are no greater than those experienced in everyday life. Although the objective is to maintain confidentiality, it cannot be completely guaranteed. It may be difficult to completely conceal your identity in the published research because of your unique position with the BC Industry Training Authority.

CONFIDENTIALITY

I will keep recordings and paper documents completed over the course of this research, including a copy of this form, in a locked cabinet in my home office. Dr. Milton McClaren, my academic supervisor, is the only other person who may access this information. When not actually in use, any digital records will be stored on a separate hard drive in a password-protected computer and kept in a locked cabinet. Upon completion of the research and submission of the thesis (anticipated by December 31, 2018), the contents of the hard drive will be securely erased.

With your permission, the interview will be either audio or video recorded for the purposes of accurate analysis after all of the interviews have been completed. Neither the audio or video record nor the transcript will be made public. You will be asked some personal identifying questions (i.e. your name, previous experience), but you will not be individually identified in the published research, and your actual name will be substituted with a pseudonym. A document containing the list of pseudonyms and participants’ real names and other important information will be kept securely on the hard drive of my password-protected computer. Only Dr. McClaren and I will have access to the code. I will e-mail you a transcript of this interview within one month of the interview so that you may check that it has been accurately transcribed.

WHAT ARE THE BENEFITS OF TAKING PART?

Participants of this study may derive personal satisfaction from the fact that they are contributing to research that may help students in the future. Colleges across Canada may consider the results of the study when determining the delivery model for Professional Cook training and the possible applicability to other trades training.

WHO IS ORGANIZING AND FUNDING THE RESEARCH?

This research project forms the basis for my dissertation, which I am completing as part of the requirements for a Doctorate in Education at Simon Fraser University. It has been approved by the Research Ethics Board at Simon Fraser University.

WILL YOU BE PAID FOR BEING IN THIS STUDY?

There is no compensation for participating in this study.
Thank you for reading this and for considering participating in this research.

CONTACT FOR FURTHER INFORMATION
If you have any questions or desire further information about this study, you should contact Irene Young at [telephone number] or by e-mail at [email address]. You may also contact my research supervisor, Dr. Milton McClaren, at [email address].

CONTACT FOR QUESTIONS OR CONCERNS
If you have any concerns about your rights as a research subject and/or your experiences while participating in this study you may contact Dr. Jeff Toward, SFU’s Director of Research Ethics at [email address] or call [telephone number].

WHY ARE YOU SIGNING THIS CONSENT FORM?
By signing this consent form, you agree that:

• You have read and understood the information in the consent form dated July 20, 2018 and have had the opportunity to ask questions
• The principal investigator has answered your questions to your satisfaction.
• You understand your participation in the research is voluntary and that you may refuse to participate or you are free to withdraw at any time.
• You are not giving up your legal rights nor do you release the principal investigator or Simon Fraser University from their legal and professional responsibilities.
• You agree to take part in this study.
• You will receive a copy of the signed consent form for your records.

SIGNATURES

_________________________________ ______________________________
Please print name

_________________________________ ______________________________
Signature of subject       Date (Written by research participant)

_________________________________ ______________________________
Signature of Investigator     Date
# Appendix M.

**Germany’s VET Essential Elements Compared to BC’s VET System – Summary and Rating (from one to 10)**

<table>
<thead>
<tr>
<th>No.</th>
<th>Essential Element for Implementation of a Dual Studies Model of VET</th>
<th>Current Status of BC VET Programs and Policies</th>
<th>Evaluation</th>
<th>Rating on Alignment with Criteria</th>
</tr>
</thead>
</table>
| 1   | Vocational training seen as a means of achieving economic, social and individual goals | VET is recognized for achieving individual and economic goals and has a social role. AEST set goals to increase access to trades training for youth, women and indigenous peoples | BC has the basic legislative framework and set goals to increase WIL opportunities and expand high school apprenticeships. Training system not linked to economic goals | EIGHT  
VET link to economic goals is still required. |
| 2   | VET System that produces skilled mobile workers capable of relocating to work in their chosen fields. | Only workers with Red Seal qualifications are readily able to work across Canada. COFQ certifies qualifications of another 45 trades but ability to work in other provinces is not guaranteed. | Apprenticeship system provides basic structure especially for Red Seal trades but more trades should be harmonized. Apprenticeship should be expanded to include more occupations/trades. | FIVE  
Need for further policy actions. |
| 3   | Alternation of learning between school-based and specific firm-based (company-based) training. | The main form of alternating learning available is the Block-Release Model for 100 trades offered through the ITA. Co-Op is a form of Block Alternation. | Day-release models have advantages over the block-release models but the relative features of the two models are not widely known by employers. | SEVEN  
Need better information for companies and students |
<table>
<thead>
<tr>
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<th>Evaluation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>4 Vocational training is carried out in a partnership between government and businesses.</td>
<td>Business and industry sector representatives participate in committees that have an advisory role with the BCITA and colleges. True partnerships do not exist.</td>
<td>Employers who provide apprenticeship training are likely open to becoming more involved but there will be challenges in encouraging wider business participation, especially if that involves higher costs.</td>
<td>TWO More employer engagement in the system is required.</td>
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<td>5 Joint Funding of Vocational Training</td>
<td>Government subsidizes the costs of school-based training at colleges and universities. Students and apprentices at all levels pay tuition. Firms pay apprentices’ wages only while working and not during school-based training.</td>
<td>The model of joint funding exists at the Apprenticeship level and for some co-op programs. Expanding the program to non-training firms and other sectors will be a challenge but the basic model exists.</td>
<td>TWO More action needed by government.</td>
</tr>
<tr>
<td>6 Complementary programs run by schools or non-business entities.</td>
<td>Most colleges operate college-based businesses such as Hair Salons, Restaurants, or Auto Repair as complementary training venues.</td>
<td>There is strong reliance on complementary college operated enterprises at Colleges. These programs are used as substitutes rather than actively seeking more apprenticeship positions with real businesses.</td>
<td>SIX More employer engagement in the VET system is required.</td>
</tr>
<tr>
<td>No.</td>
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<td>7</td>
<td>Codifying quality standards</td>
<td>The National Occupation Classification NOC) Code system developed by the government of Canada contains the framework for standardization. The 2016 NOC contains 35,000 job titles within 500-unit groups. No Chamber of Commerce counterpart or other independent body to review and approve training standards.</td>
<td>The BC Ministry of AEST identified accurate and timely labor market information as being essential for enabling good decision making by learners, industry, and government. There is currently no equivalent entity to assume the role of Chambers of Commerce in monitoring work place training.</td>
</tr>
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<td>8</td>
<td>Qualified teachers and trainers</td>
<td>Colleges have qualified faculty. Workplace training must be supervised by Journey person or someone approved by the BC ITA. There is no Master Craftsperson equivalent in Canada to oversee company-based training.</td>
<td>Workplace training supervisors (Journey person) may benefit from further training in pedagogy to become better adult educators.</td>
</tr>
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<td>9</td>
<td>Balance between standardization and flexibility</td>
<td>The BC ITA has demonstrated flexibility in many ways including allowing the day-release training delivery model.</td>
<td>The BC ITA has tried innovative approaches including more online and blended learning but would benefit from incentives for new pilot projects on different models of VET.</td>
</tr>
<tr>
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<tr>
<td>10</td>
<td>Creating research functions to provide solid basis for decisions and design</td>
<td>The government of BC, BCITA, CCDA, and Statistics Canada have extensive research functions. There is insufficient scholarly research at the college or university levels.</td>
<td>The federal and provincial governments could both encourage more scholarly research through grants and endowing Chairs in apprenticeship studies</td>
</tr>
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<td>11</td>
<td>Social acceptance of vocational training.</td>
<td>Mostly negative and seen as fitting for students who are struggling academically. Insufficient employer engagement in current system—Limited to traditional trades (construction, mining and hospitality).</td>
<td>Expanding employer engagement will be a substantial challenge. The government might consider legislating a training fund that all firms pay into and from which training firms receive financial support. Encouraging students to participate will mean educating students, their parents and teachers</td>
</tr>
</tbody>
</table>

*Note.* AEST = Ministry of Advanced Education and Skills Training; BC = Government of British Columbia; BCITA = British Columbia Industry Training Authority; CCDA = Canadian Council of Directors of Apprenticeship; COFQ = Certificate of Quality; NOC = National Occupation Classification; VT = Vocational Training.