



Canadian Apprenticeship Forum
Forum canadien sur l'apprentissage

THE CANADIAN
APPRENTICESHIP
JOURNAL

Vocational
Education
in the Age
of a Global
Workforce

Issue 7
Fall 2012

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ACKNOWLEDGEMENTS ISSUE #7

The Canadian Apprenticeship Forum – Forum canadien sur l'apprentissage (CAF-FCA) gratefully acknowledges the individuals and organizations who contributed their time to this project.

CAF-FCA would also like to thank the Canadian Apprenticeship Journal's Editorial Board for their many contributions, and the Contributors.

The opinions expressed in the Canadian Apprenticeship Journal do not necessarily represent the views or official policies of the CAF-FCA or other agencies or organizations that may have provided support, financial or otherwise, for this project.

This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada.

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*The Canadian Apprenticeship Journal is a publication of the
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Canadian Apprenticeship Forum
Forum canadien sur l'apprentissage

Message from Editorial Board

This issue of the Canadian Apprenticeship Journal presents a unique opportunity for sharing and learning about approaches and reforms to vocational education and training, and apprenticeships around the world, with a special focus on low and middle-income countries (LMICs) including Chile, Sri Lanka, Lebanon, Tanzania and Bangladesh. By sharing information on successful apprenticeship systems and programs, this issue helps build understanding among researchers, policy makers, and practitioners in Canada and abroad.

In reviewing the articles, we found that some of the challenges the LMICs face hit surprisingly close to home. We discover that the public's negative attitudes towards vocational education and apprenticeship training are as persistent in Sri Lanka and Lebanon as they are here in Canada. There is generally a lack of awareness of vocational education and training options in LMICs, resulting in relatively low participation rates. Again, the Canadian apprenticeship community can relate to a certain degree.

There are stark differences, however. Skills deficits in workers and youth unemployment contribute to unrest and economic marginalization in LMICs. Although training and education are crucial to alleviating poverty and reducing conflict, there is a lack of knowledge and awareness about effective training strategies. Unstable political environments can disrupt and delay attempts to reform systems, diverting attention and much-needed resources to more pressing issues.

Despite these challenges, we noticed that the strategic importance of training and education is increasingly recognized in LMICs, and that there is considerable interest in exploring opportunities for collaboration and knowledge-exchange with other partners. In some respects, there is a sense in Canada that the dedication to investing in developing the skilled trades workforce is somewhat lacking, signifying a potential opportunity for Canada to reflect on its own commitments to training and to strengthen efforts for investing in skills training in light of what is taking place abroad.

In addition to articles from LMICs, there is an overview of apprenticeship in Canada. Tapping into the potential of under-represented groups to fill labour force demands is becoming increasingly important for countries around the globe, this country included. In one article we learn what Canada's provinces and territories are doing to grow an increasingly mobile and global skilled trades workforce to meet shortages. There are a number of initiatives that support reaching out to less traditional sources of talent for the skilled trades including Aboriginal peoples, youth, women, and individuals with disabilities. Enhancing assessments of and

integration processes for foreign trained workers with skilled trades backgrounds is also part of developing this key segment of the workforce for Canada and internationally.

Another article with a Canadian focus provides an update on the implementation process of a relatively new concept not only in Canada, but also on the international stage: a regulatory college for the skilled trades. Recently established in Canada's most populous province, the Ontario College of Trades (OCOT) provides just one example of a transformation taking place in a Canadian apprenticeship system. See the Fall 2011 issue of the CAJ for an earlier article on OCOT.

If you are new to the Journal, we would encourage you to explore past issues. Previously the Journal has featured such topics as return on apprenticeship training investments, labour market outcomes of apprentices, and the relevance of essential skills in apprenticeship training.

This edition of the Journal brings much needed attention to skills issues and provides an open venue for sharing and discussing promising practices and lessons learned. Raising awareness at an international level is vital for countries to think strategically about skills issues and develop solutions based on the practical experiences of others. By building a greater understanding of the similarities and differences among the various apprenticeship systems around the world, this issue creates opportunities for new approaches and strategies to be considered and implemented.

Finally, the Editorial Board wishes to acknowledge the International Development Research Centre for its support of this issue of the Canadian Apprenticeship Journal. This unique venture offers readers insight into the realities of apprenticeship training in various geographic and economic contexts, and provides what we hope is a stepping stone for the apprenticeship community to explore additional opportunities to engage internationally and to open important discussions on growing the global workforce.

*International
countries
represented
in this issue.*



An International Blog hosted by the Canadian Apprenticeship Forum

For those involved in conceiving, implementing and improving apprenticeship programs around the world, exchanging ideas, sharing best practices and learning from the experiences of others are critical. The Canadian Apprenticeship Forum – Forum canadien sur l'apprentissage (CAF-FCA) is facilitating greater knowledge exchange using a new blog and resource centre on its website.

Blog

Launched in September 2012, guest authors from various countries are able to share their experiences using an online forum developed for this purpose. The themes under discussion include setting up apprenticeship programs, supporting the apprentice-journeyman mentoring relationship, developing assessment processes, and recruitment and retention, among others. Readers are encouraged to provide comments and share information about what they are working on. The blog is a jumping off point for international partners to expand their networks, explore challenges and opportunities, and discuss relevant and timely apprenticeship topics.

Resource Centre

Through the collection of new research reports in a centralized virtual research centre, users have access to information about international approaches to apprenticeship, vocational and technical training. In a global labour market, understanding various approaches to skills development in the skilled trades may contribute to more informed credential recognition and identify partnership opportunities. To ease challenges that may arise from applying different terms and working in various languages, the research centre includes a wiki glossary with relevant phrases and concepts.

Both resources support the development of knowledge about effective apprenticeship strategies in order to build understanding among researchers, policy makers and practitioners. These tools are intended to build upon and deepen the international networking already taking place on social media. To participate or read the blog posts already available, go to www.caf-fca.org.

Implementation of the Dual Vocational Education and Training Program in Chile, 1992- 2007

By Professor Juan Ascui, Former National Coordinator of the VET Dual Technical School Program in Chile

Adapted and translated by co-author Francisco Troncoso, Former Deputy Coordinator of the VET Dual Technical School Program in Chile¹

Chile's dual vocational education and training (VET) program models the German approach to training skilled trades workers. The two countries signed an agreement in 1991 whereby Chile adapted Germany's dual system to fit its institutional and cultural realities. Few articles examine the similarities and differences between the German dual system and Chile's program, and it appears that no other articles exist in the English language that examine the development of this program in Chile. To fill this gap, the following article outlines Germany's and Chile's school systems and provides overviews of their approaches to dual VET. The article describes how the dual program was implemented in Chile including the factors that drove the reforms, the challenges encountered in establishing the system and the key actions taken by those leading the change. In Chile, the dual approach to VET is more accurately referred to as the 'dual program' because it is a relatively small component of the country's broader education system and is run by the schools. The dual program comprises just 10 per cent of VET school students in Chile. Conversely, the dual system in Germany is more widespread and is led by business.

The Chilean Context

Located in South America, Chile is the world's longest country at 4,300 kilometres from north to south. The Pacific Ocean is on its west coast and the Andes Mountains are to the east. In 2011 the country's total population was estimated at 16.4 million.² In just half a

¹ The authors thank Dr. Nellie Siller for her support in providing the first edit of this paper. Any remaining errors in content are those of the authors.

² Hernán Araneda, Head of Centre for the Innovation in Human Capital / Fundación Chile. "Formal TVET in Chile: Trends in Enrollment and Financing." Third International Conference on TVET. See slide 2: <http://www.unesco.org/education/TVET2012/parallel-sessions-day1/3/H-Araneda.pdf> .

decade (2005-2010), enrollment in postsecondary education in Chile grew by 51 per cent, from 646,000 to 973,000 students.³

The country's main economic contributors are local mineral resources, agricultural and fishing products, and forestry. Major industries include copper, foodstuffs, fish processing, iron and steel, and wood and wood products. Chile's exports account for more than one-third of its GDP, three-quarters of which are commodities such as copper, fruit, fish products, paper and pulp, chemicals and wine.⁴

During Chile's 'golden period of growth' between 1985 and 1997, the country averaged 7.6 per cent annual growth in gross domestic product (GDP).⁵

While growth slowed in the years following, Chile still managed to average a 3.5 per cent growth rate between 1998 and 2005, which meant the country outperformed most other major world regions in that timeframe, the exception being East Asia and Pacific.⁶ More recently, the country's GDP grew 5.1 per cent in 2010 and 6.5 per cent in 2011.⁷ This strong growth points to Chile's promising economic development. However, low labour productivity and unequal income distribution present major challenges to the country realizing its potential. Upgrading Chile's primary education and training system has been identified as a vital component for improving quality of life, and enhancing citizens' participation in and contributions to an increasingly diverse society.⁸

Upgrading Chile's primary education and training system has been identified as a vital component for improving quality of life, and enhancing citizens' participation in and contributions to an increasingly diverse society.

A key aspect of achieving this objective is to increase citizens' access to information and knowledge. More precisely, it means improving the education and training available by linking them to the development of human capital⁹ to better meet the needs of the labour

³ The World Bank. Latin America and Caribbean. "Chile's Tertiary Education Experience." See: <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/LACEXT/0,,contentMDK:23170641~pagePK:146736~piPK:64909335~theSitePK:258554,00.html>

⁴ Chile. Economy. The World Factbook. <https://www.cia.gov/library/publications/the-world-factbook/geos/ci.html>

⁵ Klaus Schmidt-Hebbel, Central Bank of Chile, "Chile's Economic Growth", Cuadernos de Economía, vol. 43, (Mayo) 2006, page 18. See: <http://www.scielo.cl/pdf/cecon/v43n127/art01.pdf>.

⁶ Ibid, 19.

⁷ Chile. Economy. The World Factbook.

⁸ Cristián Cox. "Innovation and reform to improve the quality of primary education: Chile". Paper commissioned for the *EFA Global Monitoring Report 2005, The Quality Imperative*, page 1. See: <http://ddp-ext.worldbank.org/EdStats/CHLgmrpap04.pdf>.

⁹ There are several definitions of human capital. We feel that the need to improve workforce ability and productivity in Chile is so serious that it is beyond such valuable discussions. We apply the definition by Arthur O'Sullivan: "Human capital is the stock of competencies, knowledge and personality attributes embodied in the

market. More than ever before, education is viewed as a fundamental part of Chile meeting these challenges.

In the mid-1990s, the concept of lifelong learning increasingly influenced developments in education and training around the world.¹⁰ Within this framework, vocational education and training, science, and research and development played major roles in shaping education systems, including Chile's. Not surprisingly, when looking abroad for successful examples, Germany's approach to vocational education and training (VET)¹¹, and in particular its dual system, stands out. Worldwide the German system is highly regarded for its proficiency in training skilled workers to meet the country's labour market demands.¹² Increasingly Chile is seeking to provide similar training to equip its youth to take advantage of opportunities arising from advancements in technical research and development.

Education in Germany

In Germany school legislation varies among the federal states (Laender), but as a general rule, children between the ages of 6 and roughly 10 to 12 years of age attend primary school (Grundschule).¹³ After primary education, students enter one of four streams of secondary schools: (1) Hauptschule, (2) Realschule, (3) Gymnasium, or (4) Gesamtschule (a combination of the three previously named).

The curricula at the schools differ according to the emphasis placed on the theoretical and practical applications of knowledge required for the type of education and training being pursued. Individuals interested in pursuing VET attend Hauptschule or Realschule, with those at Realschule receiving some additional theoretical training. Students who attend Gymnasium pursue university studies.

The Dual System in Germany

While Germany's dual system is similar to other countries' approaches to VET, it is specific to the country in that it is driven by business.¹⁴ Most youth pursue one of approximately

ability to perform labor so as to produce economic value. It is the attributes gained by a worker through education and experience." See: Arthur O'Sullivan and Steven M. Sheffrin. *Economics: Principles in Action*. Pearson Prentice Hall: Upper Saddle River, New Jersey, 2003.

¹⁰ John Holford, "Social and Economic Dimensions in European Lifelong Learning Policy." Page 2. See <http://www.leeds.ac.uk/educol/documents/172367.pdf>

¹¹ The dual system is an approach within Germany's broader VET system.

¹² Jenna Petrosky, "The German Dual Educational System: Evolving Needs for a Skilled Workforce." Page 1. See: <http://www.lehigh.edu/~incntr/publications/perspectives/v14/petrosky.pdf>.

¹³ Escuelas y Escuelas Superiores en la Republica Federal de Alemania Author Christoph Führt 1990 Inter. Naciones Bonn.

¹⁴ El Sistema Dual de formación profesional en la Republica Federal de Alemania. Wolf-Dietrich Greinert GTZ 1993 y Actualidad de Alemania, 2008. See: <http://www.tatsachen-ueber-deutschland.de/es/educacion-y-ciencia.html>

350 technical careers as defined by Germany's VET system. Training in the dual system combines theoretical education and on-the-job training.

Trainees¹⁵ receive on-the-job training at companies as well as technical training at part-time vocational schools. Training is developed, implemented and quality-assured by all relevant stakeholders including the federal government, the Laender, trade unions and employers' associations.¹⁶

In the dual system, the participating company and part-time vocational school share responsibility for training. The company signs a training contract with a young trainee and commits to passing on the required training outlined in the training plan. Training at the company typically occurs three or four days per week, which familiarises trainees with the

In the early 2000s, there were approximately 484,000 companies (or 23.3 per cent of all companies) offering apprenticeships in Germany.

technological and organisational aspects of the workplace. The experience allows trainees to contribute to the company's productivity, thus reducing the overall cost of training for the company and society as a whole. Trainees generally attend a vocational school for two days per week or in block teaching segments (480 lessons per year), where they learn the theoretical and practical knowledge of their trade. Students also take classes in modern languages or social studies.

Training occurs over a two to three and a half year period, depending on the trade. In addition to training offered by companies, there are business association training centers where advanced training is available. The dual system is financed by private businesses that pay salaries to apprentices and by the state, which covers the budget of the vocational schools. In the early 2000s, there were approximately 484,000 companies (or 23.3 per cent of all companies) offering apprenticeships in Germany.¹⁷

Germany's dual system results in a relatively low youth unemployment rate. It is generally lower than other European countries, sitting at just under 11 per cent in comparison to other European countries such as Italy (25.44 per cent) and Spain (37.85 per cent). For many years now, Chile has suffered from long-term youth unemployment of over 20 per

¹⁵ For the purposes of this article, the terms 'trainee' and 'apprentice' will be used interchangeably. An individual in a similar education stream in Canada is called an apprentice.

¹⁶ The Federal Ministry of Education and Research (BMBF) is responsible for non-school VET, that is training that takes place in companies. All school-based VET is the domain of the *Länder* governments, who are also responsible for all schools and education as far as qualifications can be acquired that are approved by the *Länder* governments.

¹⁷ Dr. Gisela Dybowski, "The Dual Vocational Education and Training System in Germany." Keynote Speech for Dual Vocational Training International Conference 2005 in Taiwan. 25 April 2005. See slide 24: http://www.bibb.de/dokumente/pdf/a23_internationales_dybowski-taiwan_april-05.pdf.

cent.¹⁸ The combination of theory and practical learning in the dual system creates highly qualified professional artisans and specialized workers in Germany. Moreover, the dual system is often just the beginning of ongoing training for learners who go on to pursue additional education throughout the span of their careers.

Although there are many positive aspects of the German system, it is not perfect. Some suggest that the Information Technology and Communications (ITC) sector lacks a skilled workforce. Even allowing for these criticisms, however, global results indicate that the German system has achieved a high level of success over the years.¹⁹

Education in Chile

Chile's Ministry of Education promotes the development of education at all levels through a system that looks to guarantee fair opportunities and lifelong learning for all. The Ministry oversees the allocation of public money for education (both by public and private institutions) and tries to ensure the right to education and the freedom to teach.

Over the past 20 years, enrollment at VET secondary schools has averaged close to 40 per cent of total secondary school enrollment.

The figures below provide an overview of enrollment in Chile's secondary schools nationwide and highlight the relative importance of VET at the secondary school level. Over the past 20 years, enrollment at VET secondary schools has averaged close to 40 per cent of total secondary school enrollment. Moreover, enrollment in the dual program has reached 10 per cent of VET that is offered at the secondary level, comprising approximately 4 per cent of secondary school enrolment overall.

¹⁸ IndexMundi. CIA World Factbook. "Unemployment, youth ages 15-24". See: <http://www.indexmundi.com/g/r.aspx?c=gm&v=2229>.

¹⁹ D.G. Tremblay and I Le Bot, "The German Dual Apprenticeship System: Analysis of its evolution and present challenges." Tele-Université UQAM, 2003. See pages 26-27 and 32: <http://www.teluq.quebec.ca/chaireecosavoir/pdf/NRC03-04A.pdf> AND "From Dual System to Dual Labour Market." Eichorst and Marx, IZA Discussion Papers, June 2009. See page 24: <http://ftp.iza.org/dp4220.pdf>.

**SECONDARY EDUCATION:
GENERAL EDUCATION AND VOCATIONAL EDUCATION AND TRAINING**

Official Statistics for Secondary Education in Chile

| | Secondary Education General Education Enrollment | Secondary Education VET Enrollment | Total Secondary Enrollment | % VET Enrollment/ Total Enrollment |
|---|---|---|-----------------------------------|---|
| <i>Private Subsidized</i> ²⁰ | 291,397 | 166,541 | 457,938 | 36.4% |
| <i>Private Paid</i> ²¹ | 73,688 | 565 | 74,253 | 0.8% |
| <i>Municipal</i> ²² | 273,728 | 180,285 | 454,013 | 39.7% |
| <i>Publicly owned, privately managed; Decree 3166</i> ²³ | 7,855 | 48,015 | 55,870 | 85.9% |
| Total | 646,668 | 395,406 | 1,042,074 | 37.9% |

Sources: Mineduc. Anuario estadístico 2006, published December 2007. See also information on The Lifelong Learning and Training Project (Programa de Educación y Capacitación Permanente, Chilecalifica) at <http://www.unesco.org/uii/litbase/?menu=16&programme=91>.

The Dual Program in Chile
Exploring new approaches for Chile

Chile started to explore a new approach to vocational education and training in 1991 when its government established a Cooperation Agreement with Germany. Notably, this occurred during the first government after Chile returned to democracy in 1990 when a number of pilot projects were underway. From 1992 to 1995, this initial step led to the exchange of ideas and experiences between the German Cooperation Agency (GTZ), the Chilean Labour and Training Service (SENCE), and the Chilean Ministry of Education to determine how best to adapt Germany's dual system to the Chilean context.²⁴ This work eventually resulted in the implementation of a dual program as a pilot project in Chile in 1992.²⁵ Experienced with the dual system, Germany was an ideal partner to support Chile's Dual Technical Training Project FOPROD (**Formación Profesional Dual**).

The specific goal of Chile's dual program is to provide theoretical and practical education both in a school setting and at the workplace. Similar to the German system, this approach enables students to develop competencies to qualify for jobs and allows them to either

²⁰ Private subsidized schools are financed through an attendance-based, per-student public subsidy.

²¹ Private paid schools operate entirely on parental contributions.

²² Municipal schools are administered by the country's 341 municipal governments.

²³ Publicly owned, privately managed schools are owned by the state and managed by business associations or charities.

²⁴ On August 21, 1997, Chile officially enacted the agreement with Germany through Decree Law N° 1.330. For more details please see Diario Oficial de la Republica de Chile. Published 13 November 1997, page 2.

enter the workforce or pursue additional education. The dual program was established in Chile as a regulated educational pathway within VET secondary education, and today in Chile it is one of the educational strategies inside a broader educational reform that began in 1995.

Many experts recognize the stability and relevance of the dual program with respect to improving the quality of and access to education. Indeed, the education reform has put the dual program on center stage in the Curriculum Reform of VET Technical Secondary Education in Chile. Enacted in 1998, the reform²⁶ recognized the dual program and provided for explicit regulation of its activities.

Establishing the dual program in Chile

The first school to implement the dual program was the National School of Graphic Arts in Santiago. The initial class consisted of 30 students who were pursuing careers in offset printing. Apprentices trained at 15 different companies.

A year later in 1993, two other schools joined the project. One was a state owned industrial school managed by the Federation of Chilean Industries (SOFOFA) called Domingo Matte Perez School.²⁷ This school had 50 students training in industrial chemistry at 20 different companies. The other was a technical school for girls called Liceo Técnico Femenino A-100.²⁸ It started with 60 students in

Many experts recognize the stability and relevance of the dual program with respect to improving the quality of and access to education.

gastronomy who trained at 30 different companies. This year also saw the dual program in Chile expand beyond Santiago into the Bio Bio region. In the Concepción Metropolitan Area, five technical secondary schools implemented the dual program for various industrial and service-oriented careers. The participating schools included Liceo C-25 owned by the city of Talcahuano²⁹; Liceo Industrial owned by the city of Tome³⁰; Liceo Industrial F.W. Schwager owned by F. W. Schwager Foundation in Schwager³¹; and in Concepción, the Girls' Commercial Institute (Instituto Comercial Femenino) and Commercial Institute (Instituto Superior de Comercio).

Key personnel at the participating schools drove the implementation of the dual program. Schools report that it is typically one person who sees the potential of the dual program

²⁶ Decree Ministry of Education N° 220, published in the Diario Oficial República de Chile, 18 May 1998.

²⁷ This school is an example of a state owned and privately managed school. Though these types of schools are few in number, some are among the best performing VET schools in Chile.

²⁸ This technical school is a common state school that is owned and managed by the City of Santiago.

²⁹ Town around the Greater Concepción Metropolitan Area.

³⁰ Ibid.

³¹ Ibid.

and pushes for its implementation. The individual is often the headmaster, the educational planning head (*Jefe de UTP*), or in some cases, a group of teachers. An impact study on the dual program found that in most schools, the project had the support of more than 70 per cent of teachers.³²

On the business side, the greatest support for the dual program came from leadership at some of the large corporations. Top managers quickly saw the potential of the dual program to contribute to business both as a human resource tool (as in the German tradition) and as a means for bolstering their commercial appeal and reputation.

Designing the dual program for the Chilean context

Similar to Germany's dual system, trainees in Chile divide their time between vocational school and on-the-job training. They typically attend vocational school three days per week with the remaining two days of the work week spent at the sponsoring company. In some cases, they spend one week at the workplace and every other week at school. As an example of adapting the program to meet cultural realities, in some job areas such as fishing, students may spend a full month at the workplace and then the following month at school.

Although different experts have different opinions, there are perhaps two main differences between the German and Chilean dual approaches to training. In German VET, businesses (including members of Chambers of Commerce and Small and Medium-sized Enterprise (SME) business associations) play a leading role, partnering with the state and schools to facilitate training. Chilean businesses do not have this tradition or the organization to take on such a responsibility. As such, the Ministry of Education is in charge of Chile's dual program and schools take the lead in implementing it. As described further in the text, it is up to the schools to obtain work placements in local businesses and institutions for the students enrolled in the dual program. This is contrary to Germany where businesses engage youth, actively participate in training, and send trainees to schools to ensure they receive the other part of their training.

A second difference is that Chilean VET secondary students have the option of attending university, which makes it necessary to have study programs that adequately prepare them for this pursuit. This difference requires that some of the content in the Chilean system be more advanced than some German VET studies, which do not allow students to enter university directly. Given this difference, the Chilean dual program has to allow for more time at school than the German dual system. In Chile, students spend roughly 50 per cent of their time in school while in Germany, dual system trainees spend between 25 per cent and 40 per cent of their time in school.

³² Bravo D, Peirano C, Sevilla P y Weintraub " Formación Dual: Un desafío para Chile". Universidad de Chile, Departamento de Economía, Santiago 2001.

In Chile, the schools provide students with a general education to support the development of basic competencies as well as the technological understanding required to master productive processes in their respective area of work. Workplaces (whether a business, professional practice, or public administration office) are expected to respect the apprentices' status as students. Training at the workplace follows a learning plan adapted to the context and needs of each company, and is carried out under the guidance of a company worker who is designated as the guide master.

Each school also assigns a tutor teacher who is responsible for several students. The tutors support the guide master by ensuring that the learning takes place according to the previously agreed-upon learning plan. Tutors also manage the relationship between the school and the workplace.

The implementation process

The FOPROD³³ project led to the implementation of the dual program at secondary schools in Chile. The four main steps for implementation included:

1. **Induction:** Induction involves the dissemination of information at the regional level and includes invitations to schools to take part in the dual project.
2. **Training:** Once schools have expressed their interest in the dual program, teachers at each school volunteer to be trained to manage curriculum design and the practical management of the dual program at the school level.
3. **Implementation:** The dual program is put into practice.
4. **Evaluation:** The full process is assessed to determine successes and shortcomings in order to take appropriate measures for improvement.

More specifically, as part of the dual program implementation process, schools carry out a set of activities during the training step. They ensure the engagement of teachers and companies (whether public or private) to take part in the program. They conduct research to understand regional job demand, define the professional profiles, and develop or adapt dual study plans for the technical careers on offer in the new dual program context. They also identify and engage workplaces near the vocational school and train the guide masters.

Once the dual program is underway, continuous monitoring occurs to maintain updated information about the dual program's processes and each trainee's progress.

³³ FOPROD stands for **F**ormación **P**rofesional **D**ual. Acronym and logo were used to identify the German Chilean Cooperation Project to establish the dual program.

Teacher training and school organization for the dual program

Upon adopting the dual program, each school trained the involved professionals according to a pre-determined model. Each school then organized a dual commission to implement the project. The training of those involved in the dual commissions occurred in the schools visited by the FOPROD Project Team during 1995 and 1996. Activities focused on training teachers for adapting the curriculum to the dual program, defining the roles of the tutor teacher and guide master, and outlining guidelines for a mutually beneficial relationship between schools and corporations.

There were usually six or seven teachers in a dual commission at a single school. The commission assumed responsibility for making contact with companies, determining the job profiles in demand, securing workplaces for students to pursue such careers and monitoring student progress both at the workplace and at school.

Almost all of the participating schools established initial contact with companies and reported encountering very few problems identifying the required number of apprenticeship work placements and obtaining support for the dual program from the corporations.

The main obstacle schools reported was the lack of knowledge about the dual program in the business community. This finding was hardly surprising given that these were the first schools to implement the dual program in the country and it was still a pilot project.

Business perspectives on the dual program³⁴

The number of apprentices accepted by any given company depended on its size. A small company could take up to three apprentices. A company with over 200 workers would take in an average of seven apprentices a year. Research shows that participating corporations received approximately 80 per cent of their apprentices from a single school, which is in some measure a statistic mean since some corporations worked with several schools, while others worked with just one. Relationships between schools and companies are not easy to develop. Taking on apprentices demands a certain degree of organization and trust between the participating groups. This trust and organization may be easier to

³⁴ Information provided in this section originates from Professor David Bravo's executive summary of an article on Chile's dual program written in Spanish: Bravo, David, Claudia Peirano, M. Paola Sevilla y Marcela Weintraub, 2001. "Formación dual: un desafío para Chile." GTZ, Departamento de Economía de la Universidad de Chile, Gobierno de Chile, Santiago de Chile, page 120. See: http://www.mineduc.cl/biblio/documento/FORMACION_DUAL_UN_DESAFIO_PARA_CHILE_1.pdf Readers with specific questions may follow up with Professor Bravo at the Universidad de Chile Centro de Microdatos in the Faculty of Economics at direccion@microdatos.cl.

develop between single schools and organizations, but it is something that has not yet been investigated, to the authors' best knowledge.

The two main motivations identified by businesses for participating in the dual program were (1) helping youth and (2) attaining economic benefits. Both of these reasons were cited by half of the businesses surveyed. In terms of the economic benefits, corporations noted that it was advantageous to have workers trained to meet the company's specific needs and who fit in with the corporation's culture. It also allowed the company to access a relatively inexpensive source of labour during seasonal peaks.³⁵

A company with over 200 workers would take in an average of seven apprentices a year.

By collaborating with vocational schools, businesses perceived additional financial and organizational benefits as well. For example, the transfer of technology and knowledge between the schools and companies resulted in the workforce having a firmer grasp of the exact competencies or skills (both hard and soft) required by the company, which decreased recruitment and training costs. Financial gains notwithstanding, there was also a strong perception of philanthropic motivations.

In the follow-up research, more than 95 per cent of corporations participating in the dual program stated their willingness to continue to train apprentices. Almost all of the participating corporations stated that the dual program should expand to the rest of VET secondary education.

It was also found that more information about the dual program not only in Chile, but in other countries as well, is in demand. Schools reported a need for more information to give to businesses to ease the path for identifying workplaces for apprentices and for increasing employment opportunities for certified students.

Other perspectives

Between 2005 and 2006 Chile's main business associations and the Ministry of Education developed an agreement to implement a Second Pro Growth Agenda. While the first Pro Growth Agenda focused on labour, financial and entrepreneurship issues, the Second Pro Growth Agenda focused on improving education. The partners of the Agenda recognized the dual program as an essential element in the training of future Chileans and as a sound financial investment.

³⁵ Ibid.

At a regional level, most officials in the Ministry of Education who are in charge of VET secondary education recognize the benefits of the dual program in terms of strengthening education offerings and improving links between businesses and vocational schools.

Despite challenges, the first 13 schools that implemented the dual program gave positive evaluations about their experiences. Implementing the dual program demanded change in habits and perceptions. Teachers and school leaders, instead of simply complying with their workloads as established, challenged the status quo. They sought out partners in companies with whom they had had no prior experience, undertook demanding training, and agreed to supervision by the Director of the Dual Program at the national level. Although considerable work is required to continue the dual program, most schools are interested in maintaining or even expanding their dual program offerings to include additional technical career pathways.

Closing remarks

Based on the information collected, it is anticipated that the dual program in Chile has enough stamina to continue.

There is broad consensus that job qualifications should be developed through diversified paths, with the dual program being one of them. It is a promising alternative that complies with the current demands of VET that training be performed in close contact with the real workplace.

Various experts have also given positive evaluations about the existence and development of the dual program³⁶, indicating that it has the promise of growing to meet Chile's needs.

Positive aspects of the dual program include the development of new and relevant relationships between VET secondary schools and workplaces, training for VET secondary teachers, and the willingness of both schools and businesses to participate in the program together. Indeed, this interest led to a demand to participate in the dual program that was higher than what FOPROD Project leaders initially expected, signalling future opportunities.

³⁶ See www.educacionempresa.cl where employers ponder the contribution of the dual system.

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Apprenticeship in Lebanon

By Nicolas Abourjeili, National Pedagogic Institute for Vocational Teaching, Lebanon

The focus of this article is Lebanon's vocational and technical education (VTE) system, and in particular, recent efforts to enhance its performance. The article discusses the development of the Lebanese VTE system and provides an overview of the challenges it faces. Lebanon's work with Germany, in terms of reforming Lebanon's apprenticeship system, is a primary focus. For more details on the German dual system, please see the article, Implementation of the Dual Vocational Education and Training Program in Chile, 1992-2007, which also appears in this issue.

The Lebanese Context

Lebanon is a small country situated in the Middle East. It is surrounded by Syria from the northeast and by Israel from the south. The Mediterranean Sea is on its west coast. There are approximately four million people living in Lebanon, and in 2006 it was estimated that an additional two to three million Lebanese lived abroad.¹

As of 2010, close to half of the country's population fell under the age of 25 and almost a quarter of the country's population was 15-24 years old (975,000). The country's current population growth rate is 1.2 per cent, putting the number of youth at more than 1 million by 2015.² While the figures that follow are linked to a slightly earlier timeframe, they still point to the upward trend in postsecondary education participation. The total number of students in Lebanon rose from 125,000 in 2001 to 147,000 in 2005, indicating a 4 to 5 per cent annual growth rate.³

Economic crises, political upheaval and armed conflict hampered Lebanon's economic growth for nearly a decade between 1998 and 2006. During this period, the country's gross domestic product (GDP) growth averaged just 2.7 per cent a year. By 2009 when political conditions had

¹ Gebran Karam, "Vocational and technical education in Lebanon: Strategic issues and challenges." *International Education Journal*. 2006. See: <http://ehlt.flinders.edu.au/education/iej/articles/v7n3/Karam/paper.pdf>.

² Hana A. El-Ghali, "A Generation in Crisis: Lebanon's Jobless University Graduates." *Middle East Institute*. October 2010. See: <http://www.mei.edu/content/generation-crisis-lebanons-jobless-university-graduates>.

³ Chapter 7: Higher Education. *Jordan's Competitiveness Report 2007*. See page 211: <http://www.jnco.gov.jo/static/pdf/chapter7.pdf>.

stabilized, Lebanon's GDP growth had climbed to 8.5 per cent.⁴ Trouble in 2011 slowed growth back down to 1.5 per cent.⁵ A lack of raw materials and a heavy dependency on Arab oil have limited Lebanon's engagement in industrial activities, which primarily consists of reassembling and packaging imported products in small businesses. As such, the service sector, and especially financial services and banking, are the greatest contributors to Lebanon's economy.

Introduction to Lebanon's Vocational and Technical Education System

The vocational and technical education (VTE) system in Lebanon was organized under the Directorate General of Vocational and Technical Education in the early 1970's. Since then, the system has undergone a series of reforms. It was reorganized at the end of the country's civil war in 1993, and then again in 1999. In the past, the system met the needs of the country, but new challenges demand change in order to prepare the Lebanese workforce for upcoming opportunities.⁶

The Composition of Lebanon's VTE System

Lebanon's VTE system is comprised of two fields: technical education and vocational training. Individuals who pursue technical education are learning for occupations that require a thorough knowledge of theories, and a strong base in science and technology. It includes three levels:

- (a) BT (*Baccalauréat Technique*),
- (b) TS (*Technicien Supérieur*), and
- (c) Applied Engineering or what was previously known as LT (*Licence Technique*) and the LET (*Licence d'Enseignement Technique*).

Increasingly, education and training are recognized as key tools to help the country realize its economic potential.

Vocational training is for those individuals interested in occupations that rely on more practical and manual skills. There are four levels in this field, three of which lead to a qualification:

- (a) short term training (with no qualification),
- (b) the CAP (*Certificat d'Aptitude Professionnel*),
- (c) the BP (*Brevet Professionnel*), and
- (d) Baccalaureate Professional – Dual System (based on the German model).⁷

The fourth pathway identified above, namely the dual system, is geared towards students who wish to enter the labour market directly. In the dual system, the first year of training takes place in vocational schools. In the second and third years, students divide their time between the vocational school and the workplace, attending school two days a week and gaining relevant,

⁴ International monetary fund. Resident Representative office in Lebanon. "Lebanon: Real GDP Growth Analysis, 1997-2009". March 2011. Presentation by Eric Mottu and Najla Nakhle. See page 2: <http://www.imf.org/external/country/LBN/rr/2011/030311.pdf>.

⁵ Lebanon. Economy. Central Intelligence Agency. World Factbook. See: <https://www.cia.gov/library/publications/the-world-factbook/geos/le.html>.

⁶ Karam, "Vocational and technical education in Lebanon", p. 259-260.

⁷ Ibid, p. 262-263.

practical experience at nearby companies the remaining three days of the work week. In this article, the terms 'dual system' and 'apprenticeship' are used interchangeably.

Challenges in Lebanon's VTE system

The 1971-1990 civil war and the July 2006 war have scarred Lebanon's society and economy. The Lebanese labour market relies heavily on its small and medium-sized enterprises (SMEs), which employ the majority of the industrial labour force.⁸ Yet Lebanese SMEs face serious competition in production costs and quality of products both in domestic and international markets. The companies are unable to rise to current challenges due to shortages in skilled

One of the major problems that the VTE system in Lebanon faces is the lack of coordination between schools and employers.

labour, and conversely, job opportunities for youth and semi-skilled workers are limited. In part, this situation is a result of the theoretical rather than practical focus of Lebanon's current VTE system, which ignores the country's present and future needs for skilled workers and managerial employees.

Increasingly, education and training are recognized as key tools to help the country realize its economic potential. With the exception of the dual system, the SMEs' involvement in reforming activities within the VTE system, including curricula design, exams and training, has been limited. Increasing their participation in reforming the VTE system in Lebanon would help them meet their human resource needs.⁹

One of the major problems that the VTE system in Lebanon faces is the lack of coordination between schools and employers. Challenges exist on multiple levels, but there are some areas in particular that could benefit from better cooperation between the two groups including curriculum design, training for teachers, partnerships between industry and education, and advanced training. Additionally, the VTE system and Lebanon's labour market face the emigration of skilled workers to other countries, especially the Gulf Arab countries.

Germany's Contributions to Lebanon's Dual System

The cooperative vocational training system in Lebanon was launched in 1996, based on an agreement between Lebanon's Ministry for Education and Higher Education (MEHE) and Germany's Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), or the German international cooperation.¹⁰ Germany's successful approach to vocational education is

⁸ Dual System Meister Small and Medium Enterprises. Lebanese-German Cooperation. See: <http://www.dsme-lb.com/>.

⁹ Promotion of the Vocational Training Sector and SME Development. See: <http://www.gtz.de/en/weltweit/maghreb-naher-osten/libanon/27298.htm>

¹⁰ It was formerly known as the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), or the German technical cooperation. The Deutsche Gesellschaft für Internationale Zusammenarbeit brings together the Deutscher Entwicklungsdienst (DED - German development service), the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ - German technical cooperation) and Inwent – Capacity Building International, Germany.

recognized worldwide, making it an ideal partner to help Lebanon achieve its training goals.¹¹ Implemented in April 2010 the current initiative, *Promoting technical and vocational education and training and SME development in Lebanon*, includes Lebanon's Federation of the Chambers of Commerce, Industry and Agriculture as a key partner, and has a targeted end date of March 2014.

Germany's GIZ plays a supporting role in this work by providing training for teachers and master tradespersons, promoting the dual system to both youth and employers, and advising the MEHE and the Federation of the Chambers on vocational training matters. As the dual system expands in Lebanon, the GIZ helps develop the capacity of employees at vocational institutions to adapt to their new work tasks to better meet the needs of the demand-oriented vocational training sector. Emphasis is also placed on bringing together key players from the public and private sectors to strengthen their commitment to the new approach to training the country's skilled trades workforce.

Lebanon's Apprenticeship¹² System

Lebanon's apprenticeship system is unique to the country in that it consists of three years of study with the first year of practical training taking place in a school setting, as outlined in the table below. In the first year, the objective is to strengthen the student's theoretical and basic skills.¹³ In the second and third years, the student acquires theoretical knowledge at school and develops workplace skills through practical experience at companies.

| | Time at school | Time at company | Total hours/year |
|--------------|----------------|-----------------|------------------|
| Year 1 | 5 days/week | | 1,520 |
| Summer 1 | | 2 months | |
| Year 2 | 2 days/week | 3 days/week | 1,520 |
| Summer 2 | | 2 months | |
| Year 3 | 2 days/week | 3 days/week | 1,200 |
| Total | 3 Years | | 4,240 |

The apprenticeship system offers training for eight different trades. They include industrial electric, industrial mechanics, restaurant service, car mechanics, heating and sanitary/plumbing, woodworking, production cook, metal construction, and maintenance. Apprenticeship training is available at 28 public schools out of approximately 115 in the country. The majority of students

¹¹ For more information on Germany's dual system, see the article, *Implementation of the Dual Vocational Education and Training Program in Chile, 1992-2007*, that appears in this issue.

¹² In this article, the reader is reminded that the terms 'apprenticeship' and 'dual system' are used interchangeably.

¹³ Basic skills include numeracy, document use and informatics, among others.

(69 per cent) are employed in companies immediately after completing their studies and they also have the option of pursuing further studies in their field.¹⁴

Similar to Lebanon's broader VTE system, apprenticeship also faces a number of challenges. It is difficult to keep teachers abreast of new technological developments in their education fields. While training for teachers is recognized as important for equipping them to provide settings conducive to learning, it is largely absent. Similarly, in the companies, there is a lack of qualified trainers who are able to create links between the theoretical education offered in the VTE schools and the practical training provided by the company. These two key components of the apprenticeship system create serious gaps in the training provided to Lebanon's aspiring skilled trades workforce.

Further, society has a negative image of the VTE field and there is a general lack of awareness of the apprenticeship system, resulting in low participation. It is also common for students to drop out of their apprenticeship program, especially during the first year. High dropout rates are partly attributed to limited career guidance since students often enter fields for which they are unsuited.¹⁵ It has also been suggested that students opt not to return to school once they have started to earn wages and that employers like to retain the students who have not completed their studies because of the lower wages they can offer them. Another challenge is the relatively low cost of employing foreign workers in Lebanese companies, which leads some employers to hire them over Lebanese workers.

Success of the Reforms to Lebanon's VTE System

An important component of Lebanon's VTE system, the dual system has met with much success. Twenty-seven public and private schools now offer apprenticeship opportunities with eight different occupations available. Another positive sign reflecting the reforms' success is the increased demand for the program. In the 2010/2011 school year, approximately 1,680 youth took part in the dual system and more than 650 companies offered apprenticeship placements. A promising number of qualified apprentices (two-thirds) also either found work immediately or opted to pursue further studies, indicating that retention is strong.

Success has also been realized on the teacher training front. The National Pedagogic Institute for Vocational Teaching (IPNET) in Lebanon ran its first course for teachers working in the dual system in 2011. Stakeholders are also opening up communication lines, as evidenced by recent roundtables hosted by regional chambers of commerce that include representatives from local vocational training schools and companies. Started in 2010, the discussions focus on highlighting common issues in developing the economy and enhancing vocational training.

¹⁴ GIZ-DSME-Lebanon (2010): Project Monitoring Report.

¹⁵ Barend Vlaardingerbroek, Neil Taylor and Tom Haig. "Student Transition to Vocational Education from Middle Secondary School in Australia and Lebanon: An Exploratory Study." *Mediterranean Journal of Educational Studies*, Vol. 14(1) 2009, pp. 91-107. See page 95:
http://www.um.edu.mt/_data/assets/pdf_file/0009/77049/Med_Journal_09-_Vlaardinger.pdf.

Finally, to help change attitudes towards vocational and technical education, stakeholders including MEHE, vocational schools and other institutions, are involved in media campaigns to promote the dual system and the opportunities it offers.¹⁶

All of these areas of success point to the promise of the changes made to Lebanon's VTE system. Ongoing reforms and open communication lines will ensure that the system supports the country in meeting its labour force demands to compete at the international level.

Other Sources of Interest

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As a trainer of trainers **Nicolas Abourjeili** makes significant contributions to the Lebanese educational system, especially with regards to technical vocational education and training (TVET). He worked as a trainer of TVET teachers at the Lebanese Ministry of Education in the National Pedagogic Institute for Vocational Teaching (IPNET) and is currently involved in the management of teacher training with IPNET.

¹⁶ Promotion of the Vocational Training Sector. See: <http://www.gtz.de/en/weltweit/maghreb-nahe-osten/libanon/27298.htm>.

Overcoming Barriers to Apprenticeship Training in Sri Lanka

By K J Koralage, Director of Training, Vocational Training Authority of Sri Lanka¹ and
Dhammika Hewapathirana, Chairman, Vocational Training Authority of Sri Lanka

This article provides an overview of Sri Lanka's technical and vocational education and training (TVET) system. An introduction to the country's economy, and its cultural and social realities provides context for understanding the challenges hindering the potential of the TVET system. The article identifies key areas for development and improvement in the TVET system. This piece concludes with a discussion on an initiative from 2005 designed to enhance Sri Lanka's TVET system to develop more highly skilled workers to help the country meet its labour force needs.

The Sri Lankan Context

An island located off the southern tip of India in the Indian Ocean, Sri Lanka's population was estimated at 20,653,000 in 2010.² The country experienced strong gains in gross domestic product (GDP) per capita over the past several years. After slow growth in 2009 (3.5 per cent), the GDP growth rates in 2010 and 2011 were particularly strong at 8 per cent and 8.2 per cent, respectively.³ The major industries fueling the country's economy are rubber, tea and other agricultural products, textiles, and the service sector, including banking and insurance.⁴

Sri Lanka boasts a literacy rate of 91.4 per cent⁵, which is one of the highest in South Asia.⁶ Despite this achievement, the number of Sri Lankan students enrolled in tertiary education is very low. In 2009 just 3.6 per cent of 20-24 year olds were enrolled in a university, with an additional 3.6 per cent in the same age group taking TVET courses. The average tertiary enrollment rate for other lower middle income countries is around 23 per cent.⁷ At the same

¹ The Vocational Training Authority of Sri Lanka is the leading government TVET provider in Sri Lanka.

² Statistical Data Sheet Sri Lanka 2011. Department of Census and Statistics, Ministry of Finance and Planning. See: <http://www.statistics.gov.lk/DataSheet/dataenglish.pdf>.

³ Sri Lanka, Socio-Economic Data 2011. Central Bank of Sri Lanka, June 2011, vol. XXXIV. See page 5: http://www.cbsl.gov.lk/pics_n_docs/10_pub/_docs/statistics/other/Socio_Econ_Data_2011_e.pdf AND Sri Lanka. Economy. Central Intelligence Agency. The World Factbook. See: <https://www.cia.gov/library/publications/the-world-factbook/geos/ce.html>.

⁴ Sri Lanka, World Factbook, ibid.

⁵ Socio-Economic Data 2011, June 2011, p. 5.

⁶ Ibid, p.18.

⁷ Priyanka Jayawardena, "Expanding Tertiary Education Critical to Sri Lanka's 'Knowledge Hub' Aspirations." *Talking Economics* from the Institute of Policy Studies. May 2012. See:

time, the unemployment rate among the educated population ranges from 13 per cent to 17 per cent, which is surprisingly higher than the national average of 8.5 per cent.⁸

Part of the challenge is that while an average of 200,000 students qualify for admission to university each year, there are only 20,000 spaces available. More spaces are available in the TVET sector, but it has not been a highly sought-after pursuit given its poor image in the country. Recent changes have had a positive impact, however. In 2005 the country instituted the National Vocational Qualification (NVQ) system and by the end of June 2010, more than 28,000 NVQ certificates had been issued by the Tertiary and Vocational Education Commission (TVEC).⁹

Despite these efforts, there remains a disconnect between education and employability, and it is largely blamed on school leavers' lack of skills in finding jobs or becoming self-employed.¹⁰ Increasingly, the country's decision-makers and labour market experts see the

On an annual basis, more than 200,000 people leave the country to find work.

promise of the training and education provided by the country's technical and vocational education institutions to help close this gap. In an attempt to attract students to the technical sector, a variety of training delivery agencies offer career guidance and counselling programs, but they have met with little success thus far. As a result of this situation, the local labour market has not met its potential.

Another aspect shaping Sri Lanka's labour context is the number of people seeking employment abroad. On an annual basis, more than 200,000 people leave the country to find work.¹¹ Most who seek foreign employment are unskilled and make very low wages. Educating these individuals in Sri Lanka's TVET system would greatly benefit the workers by equipping them with marketable skills to secure higher wages abroad. On the domestic front, Sri Lanka's economy would also benefit from a higher skilled workforce to address the country's labour gaps.¹²

<http://www.ips.lk/talkingeconomics/2012/05/expanding-tertiary-education-is-critical-to-sri-lankas-knowledge-hub-aspirations/>.

⁸ Report and Recommendation of the President to the Board of Directors. Asian Development Bank. Project Number: 35197. Proposed Loan - Democratic Socialist Republic of Sri Lanka: Technical Education Development Project. October 2005, p. 1.

⁹ Sector Briefing: Education and Skills Opportunities in Sri Lanka. UK Trade and Investment. See page 4:

<https://docs.google.com/viewer?url=http://static.globaltrade.net/files/pdf/20110321130135259.pdf&pli=1&chrome=true>

¹⁰ Ibid, p.iv.

¹¹ National Labour Migration Policy for Sri Lanka. Ministry for Foreign Employment Promotion and Welfare, October 2008. See page 1: www.ilo.org/public/english/protection/migrant/download/mpolicy_srilanka_en.pdf.

¹² National Education Commission, June 2009, p.84.

Challenges in Sri Lanka's TVET System¹³

Sri Lanka's vocational training option suffers from poor recognition amongst the broader public in terms of the qualifications required for such professions as well as the work performed in them. Yet even when there is awareness of the TVET system, people harbour negative perceptions of it. Despite the employability aspect of vocational training, parents prefer that their children pursue the highest education level possible, namely university, whether it leads to gainful employment or not. Indeed, TVET sector training institutes are regarded as the default option by parents and students alike. Consequently, many of the available training places at the TVET institutes go unfilled and report relatively high dropout rates in comparison to universities and other specialized training institutes.¹⁴

There are other barriers blocking the success of Sri Lanka's TVET system. The lack of financial resources available to invest in TVET programs and the limited availability of competent trainers to facilitate students' education negatively impact the quality of education provided. The curriculum packages are inadequate for preparing the students for the work environment and the school managers lack the skills necessary to properly support TVET programs. Poor links to industry hamper the institutions' ability to offer instructive on-the-job training opportunities, a condition that restricts the amount of hands-on preparation of the workforce. At the institutions themselves, the tools and equipment are of lower quality, putting the students at an even greater disadvantage.

Overcoming Challenges in the TVET System

A number of activities to enhance the performance of Sri Lanka's TVET system have been identified. Three key areas for development include training, resource allocation and accountability, and coordination of the various stakeholders' efforts.

In the area of training, there is a need to update curricula for the on-the-job training component for trainers and to provide the training centres with modern tools and equipment. Trainers should receive local and foreign training to advance their skills and ensure that they are providing their students with the most up-to-date information and approaches available. To boost the appeal of working in the skilled trades area, it is recommended that the training personnel at the institutions receive certification and appropriate compensation. Reforms in these areas will frame the sector in a more positive light, boosting its appeal as a viable education option that leads to respectable and well-paying employment opportunities. Moreover, recognizing the value of investing in the TVET system's trainers is a key step in raising the quality of the training provided and preparing a workforce that will be able to meet Sri Lanka's growing labour demands.¹⁵

¹³ Report and Recommendation, Project Number: 35197, p. 2.

¹⁴ National Education Commission, June 2009, p.77.

¹⁵ Ibid, p.85.

In an effort to encourage participation in the TVET system, both trainees and trainers should be given financial incentives. Additional funding may result in reduced dropout rates from TVET institutions by providing more positive learning experiences, something which the country hopes to achieve. Incentives for students from poor families will offer them a better sense of security, thereby encouraging the learners to remain in the program.

To further attract and retain individuals in the TVET system and improve society's perceptions of the technical sector, the system's participants should benefit from social security and insurance programs. It is recommended that appropriate monitoring and evaluation procedures occur on an ongoing basis to ensure that these investments in the TVET system achieve the intended results. Regular assessments will increase the initiative's positive outcomes by ensuring that the quality of the training provided in the TVET system remains high. Detailed monitoring criteria for TVET institutions are available as a [PDF](#).

Establishing and nurturing links between training organizations and industry to offer appropriate training for learners is a key area for development...

The third area for development focuses on better coordination of activities to improve the performance of the TVET system as a whole. Establishing and nurturing links between training organizations and industry to offer appropriate training for learners is a key area for development that will require strong coordination skills between and amongst stakeholders. Trainers and trainees should equally benefit from the career guidance and counselling system. In the training

institutions, better coordination between departments will lead to better use of the resources available. Also in terms of resources, it has been suggested that the government raise funds to support skills development, which will require coordinated efforts between the various levels and departments involved in managing the country's resources, both human and financial. Finally, a more coordinated system with effective communication links would result in minimizing salary and wage differences between individuals within the same profession, signifying efforts to create more equality and better standards in the sector.

Project Information

In 2005 the Asian Development Bank provided Sri Lanka with a US\$20 million loan to help the country develop more skilled workers by focusing on improving the technical education and vocational training offered. As outlined above, there was a need to attract more learners to the technical sector in order to meet emerging domestic and international demands for skilled labour. The work for this initiative entails a variety of actions. In terms of teaching, there was a need to enhance the quality of the teaching provided at the institutions by investing in the trainers and the tools and equipment. Increasing financial investments and improving the sector's image are efforts designed to attract and retain students in the system. Finally, equipping learners with applicable skills by engaging with industry for on-the-job training

opportunities and increasing the relevancy of the curriculum strengthens the education offered, resulting in a skilled workforce ready to compete in the global market.¹⁶

Anticipated Project Outputs

A sector study will need to assess the role of TVET providers and their effectiveness in meeting labour market demands. Moving forward, it will be necessary to conduct a critical review of the sector's obstacles and to assess the experiences and outcomes of previously completed projects. These findings will be important in identifying some of the key issues for reforming the sector.

In order to improve the current TVET system, it has been suggested that stakeholders agree to a medium-term strategy that includes a road map to guide future activities. Some immediate areas for action were identified and include (1) supporting the development of the TVET in partnership with the local government and (2) training technical teachers in the TVET system. The project will allow the country to address barriers within the system as well as better anticipate labour market needs.

The desired outcomes of the project include a more efficient TVET system which is better able to respond to current labour market demands.

The work will lead to a detailed project design and project administration memorandum. These will be based on the design of the monitoring framework, and will include social and economic analyses as well as social safeguards.

As discussed above, Sri Lanka's TVET system faces challenges on a number of levels. There are not enough qualified skilled workers to meet domestic, let alone foreign, demand. The system suffers from a lack of certified and skilled trainers, negative perceptions from the public, and low-quality teaching tools, equipment and curricula. Following the close of the project, efforts will continue to focus on increasing access to and enhancing the image of vocational training, building the capacity and quality of the teaching provided, and allocating appropriate resources to support continued improvements to the system. The desired outcomes of the project include a more efficient TVET system which is better able to respond to current labour market demands. Enhancing the training capacity and quality provided by the TVET system will

¹⁶ ADB to help improve technical education and vocational training in Sri Lanka. 22 November 2005. See: www.adb.org/news/adb-help-improve-technical-education-and-vocational-training-sri-lanka?ref=countries/sri-lanka/news; "Research Studies on Tertiary Education Sector: Identify Benefits and Analyze Issues related to Partnership Programs between Public TVET Institutions and Private Sector Enterprises." National Education Commission, April 2008. See: http://www.nec.gov.lk/web/images/pdf/research/Technical/Issues_related_to_linkages.pdf.

do much to support these efforts. Ultimately these efforts will ensure that the TVET system is valued as an important contributor to Sri Lanka's economic growth and social development.¹⁷

¹⁷ Report and Recommendation, Project Number: 35197, p.iv.

Training Opportunities in Bangladesh

By the Technical and Vocational Education and Training Reform Project of the International Labour Organisation

Providing training opportunities to underprivileged individuals benefits learners as well as society. In Bangladesh efforts to enhance the performance of its technical and vocational education and training (TVET) system are underway. This article offers overviews of three pilot projects in the country that seek to improve the education and skill levels of disadvantaged youth and women through informal apprenticeships and other vocational training opportunities.

The Bangladeshi Context

Located in South Asia, Bangladesh is bordered by India and Burma. To its south lies the Bay of Bengal. It is one of the most densely populated countries in the world with a total population exceeding 150 million. There is a significant youth population¹ in Bangladesh: almost 60 million people fall under the age of 18.

Between 1994 and 2011, the country's gross domestic product (GDP) annual growth rate averaged 5.5 per cent.² The main industries in the country include textiles, chemical (fertilizers and pharmaceuticals, for example), iron and steel, and paper.³ Approximately 45 per cent of the population is employed in agriculture.⁴ While still comparatively low, the country's literacy rate reached 53 per cent in 2009. In 1971 when the country became independent, the literacy rate sat at just 16.8 per cent.⁵ Until the recent approval of the National Skills Policy, youth were required to have at least a Grade 8 qualification to pursue training in a technical trade.

¹ According to the United Nations definition, persons between the ages 15-24 are youth while in Bangladesh, the age range is 18-35. (National Youth Policy 2003).

² Trading Economics. Bangladesh GDP Annual Growth Rate. See: <http://www.tradingeconomics.com/bangladesh/gdp-growth-annual>.

³ Industrial Production Statistics, Bangladesh Bureau of Statistics. November 2010. Issue 5 – Advanced Release. http://www.bbs.gov.bd/WebTestApplication/userfiles/Image/keyfinding/key_find_Nov_10.pdf

⁴ Bangladesh. Economy. Central Intelligence Agency. World Factbook. <https://www.cia.gov/library/publications/the-world-factbook/geos/bg.html>.

⁵ "Illiteracy grips almost half of Bangladesh." The Daily Star/Asia News Network. 9 September 2010. See: <http://www.asiaone.com/News/Latest+News/Asia/Story/A1Story20100909-236398.html>.

Bangladesh's TVET Reform Project⁶

The International Labour Organisation (ILO) and the Government of Bangladesh (GoB) are collaborating on a European Union-funded initiative to reduce poverty through reforms to Bangladesh's technical and vocational education and training (TVET) system. The reforms are intended to improve the country's global competitiveness by increasing the employability of its population through skills development. The five target areas include reviewing and strengthening policies, ensuring training relevancy and quality, strengthening the capacity of institutions, enhancing links between public and private organizations, and increasing underprivileged groups' access to training opportunities.⁷

Pilot Projects Underway

Informal apprenticeship model for replication

The ILO, Bangladesh Rural Advancement Committee (BRAC), United Nations Children's Fund (UNICEF) and the GoB are seeking to increase the employability of youth in safe and productive work environments by giving them access to vocational training. The pilot project consists of a structured informal apprenticeship program using Competency Skills Log Books (CSLBs) in which 500 Master Crafts Persons (MCPs) in a variety of trades are each assigned two apprentices for a period of six months. The MCPs were selected from trades identified by BRAC as being in high demand of skilled workers in five divisional cities.



BRAC/UNICEF/ILO informal apprenticeship program

⁶ The European Union funded 14 million of the 16 million euro the TVET Reform Project received in Bangladesh.

⁷ For more information on the TVET Reform Project in Bangladesh see:

http://www.ilo.org/dhaka/Whatwedo/Projects/WCMS_106485/lang--en/index.htm.

The activities in the pilot include educating the MCPs on occupational health and safety to minimize hazardous working conditions, improving workplaces, applying competency-based training methods for effective training, using CSLBs for record-keeping, and linking apprentices with BRAC schools or vocational training institutes to improve numeracy, literacy and life skills. The participating organizations took a collaborative approach to training delivery and to building the capacity of MCPs to ensure sustainability. There is a commitment to provide additional support to female apprentices in non-traditional trades. Young women are a significant portion of these apprentices. Out of the 1,000 apprentices enrolled, 584 are female.

*Out of the 1,000
apprentices enrolled, 584
are female.*

It is anticipated that this initiative will result in safer working conditions and informal skills venues for Bangladeshi youth, better trained MCPs who will have the skills necessary to train young people in the future, and a replicable, informal apprenticeship model for use in other sectors. At the same time, a nationally recognized qualification will be awarded to the 1,000 apprentices at pre-vocational level 2. This certification will open up opportunities for apprentices to enter into additional skills development programs to earn higher level certificates under the National Technical and Vocational Qualifications Framework (NTVQF). Thus the new approach will help provide a more promising future and decent work for these youth while contributing nationally to the reduction of youth unemployment, and to enhanced industrial and economic growth.

Supporting underprivileged youth

Recognizing the potential of disadvantaged youth, another pilot project currently underway in Bangladesh consists of a structured apprenticeship program for Motorcycle Service Mechanics. Sixteen underprivileged youth including five girls will be helped to attain NTVQF credentials. Funding from the European Union has supported the establishment of a dedicated competency-based training program in the Underprivileged Children's Educational Program (UCEP) - Bangladesh's premises, trained TVET trainers on the new methodology, and supported the development of CSLBs and competency-based learning materials.

Learners receive four months of training at UCEP from instructors at the Bangla-German Technical Training Institute (government) and UCEP-Bangladesh (non-government organisation). On completion of the competency-based training, for six months the learners are attached to one of four leading motorcycle service providers in the capital city Dhaka, directly connecting them to industry. The five female trainees included in the program will be given particular support as role models in trades regarded as non-traditional for women in Bangladesh.

One of the pilot's goals is replication, and eventual expansion, of the model into other public and private TVET institutes, non-government organizations, industry bodies and trade areas. An important part of this work will include developing strong and long-lasting relationships between

industry and government training institutions to fill the huge demand for a skilled and productive workforce in the country. Further, it is anticipated that the CSLBs that are being developed as part of this work will be adopted by industry and the TVET sector as a relevant and effective skills development tool.

Breaking Barriers

Data from the World Health Organisation and the World Bank's research into low and middle-income countries suggests that as many as one in ten people in Bangladesh are disabled,⁸

Approximately 4.5 million workers are employed in the textiles and clothing industry in Bangladesh, of which around 80 per cent are women.

which is equal to more than 15 million people.⁹

Disabilities are closely linked to poverty and economic hardship in countries like Bangladesh. It is a vicious cycle, with poverty also raising the possibility of impairment through exposure to poor nutrition, difficult living conditions, limited access to healthcare, poor hygiene and sanitation. One of the solutions to breaking this cycle is providing education and training to persons with disabilities (PWDs) to improve access to promising employment opportunities.

Approximately 4.5 million workers are employed in the textiles and clothing industry in Bangladesh, of which around 80 per cent are women.¹⁰ A partnership between the TVET Reform Project, the Centre for the Rehabilitation of the Paralysed, Interfab Shirt Manufacturing Limited and the Directorate of Technical Education with the involvement of Technical School and College in Gazipur under the GoB addressed the disability-poverty cycle and the garment industry's need for skilled workers. Their initiative is a specially designed and delivered Ready Made Garment Sewing (RMG) Machine Operators' trade course for PWDs, women with low education levels and underprivileged women.

Participants in the course are given the opportunity to acquire the technical competence required to become skilled RMG workers. Twelve women, including eight persons with disabilities and four underprivileged women with low education levels, are being trained over a four month period. Upon completion, the trainees undergo eight months of on-the-job training at Interfab Shirt Manufacturing Ltd. and in the process record their skills achievement in CSLBs for eventual national certification at NTVQF level 2 with higher wages as qualified and competent workers.

⁸ For more information on these statistics see:

<http://siteresources.worldbank.org/DISABILITY/Resources/Regions/South%20Asia/DisabilityinBangladesh.pdf>

⁹ *State of the Rights of Persons with Disabilities In Bangladesh*, 2009, Disability Rights Watch Group Bangladesh

¹⁰ For more information see: <http://www.steinandpartners.com/bangladesh-ready-made-garments-rmg-sector-at-a-glance/>.

Next Steps

Next steps for the three projects outlined above include:

Structured informal apprenticeship model – BRAC will consider expanding the delivery of this program to engage with more MCPs and offer training to more young people in different parts of the country. Other non-government organisations can get involved. The program will become more sustainable when micro-credit institutions begin to offer loans to apprentices on graduation and to MCPs who can eventually start or expand their small business.

Supporting under-privileged youth – The structured apprenticeship program at UCEP will grow so that more trades beyond motorcycle servicing introduce apprenticeship. UCEP itself has more than a dozen vocational training centers and there are hundreds run by other agencies where off-job training can be delivered. Industry is supportive.

Breaking the barriers – A third batch of trainees has already started at the CRP, and the program will be replicated at three other centers initially. There is growing interest among RMG manufacturing companies and buyers on training of workers. Recently, under a United Nations Development Programme-supported poverty alleviation project, a memorandum of understanding was signed with the largest garment manufacturing association to cooperate on training 20,000 sewing machine operators, which is only part of the estimated requirement for 200,000 workers. The 'breaking the barriers' model will be promoted so that more and more of these trained workers will be from disadvantaged groups.

The systemic changes in the TVET system in Bangladesh including the skills development policy, the NTVQF, the quality assurance system for TVET, enhanced apprenticeship and stronger training institution-industry linkages have established a sound foundation for more and better training for all. It is anticipated that the pilots described in the article will demonstrate that underprivileged persons can also become skilled and competent to fulfill industry demand, and meet their own goals through decent work.

Arthur E. Shears, who is Chief Technical Advisor to the TVET Reform Project, hails from Halifax. He has spent much of his career working on projects in Africa, the Middle East, the Caribbean and South Asia. He has previously helped to update apprenticeship systems in Belize and East Timor.

Sarah-Jane Saltmarsh is an Australian Youth Ambassador assigned to the project in a communications support role. She has made an important contribution by writing about different project initiatives and capturing them in photographs and video.

Harun Rashid is a National Program Officer working in the TVET Reform Project in Bangladesh. He has extensive experience in working with underprivileged and vulnerable groups in Bangladesh to improve their employment opportunities. His current focus is improving underprivileged groups' access to TVET for skills development and productive employment.

Building Capacity to Reduce Poverty: The Association of Canadian Community College's Education for Employment program in Tanzania

By Danielle Matheusik and Susan Isaac

This article provides an overview of the Education for Employment program in Tanzania that partners Canadian colleges and institutes with technical and vocational institutions in Tanzania to develop Tanzania's skilled workforce. A brief outline of the country's economic and social context provides readers with background information to better understand some of the challenges the program has had to overcome as well as the next steps for this promising initiative in Tanzania.

Introduction to EFE

The Education for Employment (EFE) program is an initiative of the Association of Canadian Community Colleges (ACCC) to continue contributing to poverty reduction in lower middle income countries through sustainable and effective measures. The focus is on private-sector development, which will ultimately lead to greater stability, creation and maintenance of jobs in countries' identified sectors. At the same time, the aim of the work is to advance the transferability and qualifying nature of the continuing education provided to the workforce.

Program activities across all countries are guided by the goal to forge "lasting partnerships that help improve and implement national education-for-employment adjustment, implement institutional services for the benefit of employers, employees and self-employed workers, and enhance the employability of populations."¹ Canada's network of 150 colleges and institutes centre their efforts on developing skilled workforces and supporting small businesses in sectors of the economy where a need has been identified. In Africa, the EFE is being implemented in Mozambique, Senegal and Tanzania, with the financial support of the Government of Canada provided through the Canadian International Development Agency. The focus of this article is ACCC's EFE program in Tanzania.

¹ See EFE-Africa Goals and Objectives: <http://www.accc.ca/xp/index.php/en/programs/int-partnerships/efe-intro/efe-africa/goals>

Tanzanian context

Located in East Africa, Tanzania is bordered by the Indian Ocean to the east, Kenya to the north, Uganda, Rwanda and Burundi to the northeast, Democratic Republic of Congo to the west, Zambia to the southwest, and Malawi and Mozambique to the south. In 2010 the country had an estimated population of 43,188,000.² In 2010/2011 there were 85,040 students enrolled in technical education³ and 95,576 enrolled in vocational education and training programs.⁴

In 2010/2011 there were 85,040 students enrolled in technical education and 95,576 enrolled in vocational education and training programs.

While Tanzania's industrial sector is one of the smallest in Africa, its gross domestic product (GDP) growth rate averaged 7 per cent between 2001 and 2008.⁵ Although the country has an abundance of natural resources including natural gas, gold, diamonds, coal, iron ore and uranium, among others, its economy relies heavily on the agriculture sector. A large percentage of the workforce (80 per cent) is employed in agricultural occupations and this sector contributes to 85 per cent of the country's exports.⁶

Education for Employment Initiative in Tanzania

ACCC, through its member colleges and institutes, has been engaged with Tanzania in different capacities over the past 24 years. A symposium in February 2007 that included 90 people from Tanzania's institutes and industries as well as representatives from Canadian colleges and institutes who had worked in Tanzania in the past prompted the current work being carried out through EFE-Tanzania.

ACCC works with Tanzania's Ministry of Education and Vocational Training to support the country's primary objective of developing a competitive labour force to meet the needs of the private sector and the self-employed. Twelve Tanzanian technical and vocational institutions are partnered with nine Canadian colleges and institutes who are members of ACCC.⁷ Key areas of

² Tanzania in Figures 2010. National Bureau of Statistics, Ministry of Finance. June 2011. See page 27: http://www.nbs.go.tz/pdf/Tanzania_in_Figures2010.pdf.

³ Technical education covers all post-secondary, non-university and tertiary education institutions.

⁴ Vocational education and training institutions offer programs that provide relevant knowledge, practical skills, and attitudes for gainful employment in a particular trade or occupational area for social economic development. There are currently no formal apprenticeships in Tanzania, so enrollment figures for vocational and technical levels of education are provided. The data comes from the Basic Education Statistics in Tanzania (BEST). National Data published by the Ministry of Education and Vocational Training, July 2011.

⁵ Tanzania. African Economic Outlook. African Development Bank/Organisation for Economic Co-operation and Development. See page 573: <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/30727940-EN-TANZANIA-AEO2008.PDF>. See also Economy. Tanzania. Central Intelligence Agency. The World Factbook: <https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html>.

⁶ Ibid.

⁷ For a list of the partnerships see: <http://www.accc.ca/xp/index.php/en/programs/int-partnerships/efe-intro/efe-africa/countries/tanzania>.

work have included strengthening national structures and focusing on institutions to enhance the performance of Tanzania's Technical and Vocational Education and Training (TVET) system. When broken down into more specific activities, this has involved developing appropriate curricula, designing occupational analyses, training teachers and developing systems for assessing competency. The primary sectors of focus in the initiative include agriculture, hospitality/tourism and mining.

One of the most promising aspects of this initiative is the extent to which Tanzania has been the driver of the work.

Since the late 1990s, Tanzania has had in place strong policies and a positive philosophy towards technical training. As such, ACCC's work in Tanzania has largely focused on supporting the country to put these policies into action and build on the positive attitudes by shifting activities from the central authorities to the institutions. Tanzania could see what needed to be done, but it was a matter of moving forward on the steps and that is

where ACCC, through the EFE program, has been able to offer its greatest support. Canada has offered support through program advisory committees and by working with local employers to identify the skills needed in various occupations. This step has required occupational needs assessments as well as nurturing the shift from a national focus to a more institutional focus.

One of the most promising aspects of this initiative is the extent to which Tanzania has been the driver of the work. Based on applications made by Canadian colleges, Tanzania institutions identified the ones with which they wished to work. The country's change management committee, which is a multi-stakeholder advisory committee for the EFE whose membership includes government, industry and educational regulatory bodies, played an important role. It identified the key sectors as well as the institutions involved in the project.

Overcoming Challenges

The main challenge for EFE-Tanzania was getting the private sector to see the value of participating in the initiative; it required a shift in attitude and a cultural change, to a certain extent. The education system initially had very little credibility with industry, making it difficult to convince employers to participate. Employers were reluctant to participate in the industry advisory committees, for example, where their engagement was crucial to moving forward. Identifying employer champions was touted as one way to help sway the private sector. The other challenging part of the equation was encouraging education to reach out. In the past, education was insular and disconnected from industry. Direction for the institutions came from government instead of from industry, so there was a disconnect in terms of supply and demand. The lack of connection to industry and community meant it was difficult to not only identify labour market needs, but also to fill them with the skilled personnel required.

Now with the project at the end of its fourth year, those engaged in the initiative recognize the importance of having government, private sector/industry and education work together. These

groups did not have a history of collaborating in the past, making these positive steps for the future. Employers increasingly see the value of working with the education system, and vice versa. Work is also underway to establish connections with communities, indicating the extent to which it is understood that cooperation at all levels will lead the country to greater success.

Next Steps

EFE was designed as a 10-year program and it is currently at the end of its fourth year. Funding for an additional 10 months have been approved and there is interest from the ACCC and Tanzania partners to continue the program. They are seeking other funding opportunities.

One area of more recent work has been the development of performance indicators to assess the institutions' success. There are some basic statistics available on outputs, such as the number of participants, but not on outcomes, which would include the number of people employed or placed through the initiative, for example.

Another area expected to attract more attention in the future is providing a mechanism for providing reliable and readily available labour market information (LMI). To explore this opportunity, there is interest from the partners to consider the concept of sector councils. These bodies would support efforts to obtain and share LMI, develop strategies to meet skills gaps, and encourage industry, education and government bodies to work together.

For more information on the EFE-Tanzania program, please contact Susan Isaac, Senior Project Officer at ACCC, at SIsaac@accc.ca.

Danielle Matheusik has worked for the Canadian Apprenticeship Forum as a project manager and researcher since September 2008. Focusing on outreach activities, her main responsibilities have included the Canadian Apprenticeship Journal, national dialogues, and research projects that inform the apprenticeship community and the public.

Susan Isaac is the Senior Program Officer at the Association of Canadian Community Colleges (ACCC). She is responsible for the Education for Employment (EFE) program in Tanzania, having been involved with the program since its inception. Prior to joining ACCC in 2006, she worked with various international development organizations in the areas of human resources, program management, education and advocacy.

Apprenticeship in Canada: Tracking a New Development in Ontario

The first part of this article provides an overview of apprenticeship in Canada. This context helps frame the update on the transformation taking place in one of the country's 13 apprenticeship jurisdictions to create a professional college for the skilled trades. While there are various other initiatives underway to modernize apprenticeship systems in Canada to meet labour force needs, developing a regulatory college for trades is a venture that has not been tried before either in Canada or abroad. The province of Ontario has undertaken this process to provide industry with real control over and responsibility for the on-the-job aspects of trades training and the certification of qualified tradespersons. While the Ontario College of Trades (OCOT) is still relatively new, due to its unique status there has been much demand for an assessment of how it is being implemented and how the issues are being resolved. The second part of this article offers a brief description of the characteristics of the new College, key objectives, and challenges.

Previously, the Canadian Apprenticeship Journal included an initial overview of OCOT, which can be accessed through this link: <http://journals.sfu.ca/caj/index.php/caj-jca/article/view/85> . For a more in-depth look at apprenticeship in Canada, please refer to an article that appeared in the first issue of the Canadian Apprenticeship Journal in winter 2010 called "A Backgrounder on Apprenticeship Training in Canada". The article includes a closer look at the apprenticeship system found in Ontario as well.

Canadian Context

Occupying the northern part of the continent of North America, Canada is the world's second largest country in total area. Sharing the longest international border in the world with the United States of America, Canada is also one of the most sparsely populated countries in the world. In 2011 Canada's population was estimated at 34,278,400.¹

¹ The Daily. Statistics Canada. Canada's Population Estimates. March 2011. See: <http://www.statcan.gc.ca/daily-quotidien/110324/dq110324b-eng.htm>.

Between 1962 and 2012, Canada's annual gross domestic product (GDP) growth averaged 3.34%.² The country's key sectors include service, manufacturing, energy and agriculture. Goods-producing industries such as mining and oil and gas extraction, manufacturing and agriculture account for nearly one-third of Canada's industry-based GDP while services-producing industries including finance, transportation and warehousing, and retail account for the other two-thirds.³

... between 1991 and 2009, the total number of registered apprentices in Canada more than doubled to approximately 409,000.

In 2009/2010 there were 1,905,516 students enrolled in either university or college programs in Canada.⁴ Separate statistics are collected on apprentices, and they indicate that between 1991 and 2009, the total number of registered apprentices in Canada more than doubled to approximately 409,000. As further indication of apprenticeship's growth during this time frame,

completion of apprenticeship programs grew from 19,722 in 1991 to 30,888 in 2009, an increase of 56.6%.⁵

Requirements to Become an Apprentice

A well-established form of work-based education in Canada, apprenticeship consists of on-the-job training and technical training. It is one of the main pathways to becoming a fully certified and legally licensed journeyman in Canada.⁶ While it varies according to the trade, most jurisdictions require an individual to be a minimum of 16 years of age and to have successfully completed grade 12 or an equivalent amount of related education and/or work experience to become a registered apprentice. Once these conditions are met, the prospective apprentice is required to find an employer sponsor to provide the on-the-job training. This employer must have a qualified journeyman on staff to act as the apprentice's mentor. An agreement outlining the terms of the apprenticeship is signed by the apprentice and employer, and it is registered with and administered by the jurisdiction's apprenticeship authority or branch.

Apprenticeship programs typically range in length between two and five years, depending on the trade and the province or territory. Apprentices spend approximately 80% of their time learning their trade in a workplace setting and the remaining 20% completing the technical training

² Trading Economics. Canada GDP Annual Growth Rate. <http://www.tradingeconomics.com/canada/gdp-growth-annual>

³ Canadian Industry Statistics. GDP Canadian Economy (NAICS 11-91). Last modified November 2011. Industry Canada. See: http://www.ic.gc.ca/eic/site/cis-sic.nsf/eng/h_00013.html

⁴ Public Postsecondary enrollments by institution type, registration status, province and sex. Table 477-0019. CANSIM. Statistics Canada. March 2012. See: <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/educ71a-eng.htm>. Registered apprentices are not included in this table.

⁵ Karl Skof. "Trends in Registered Apprenticeship Training in Canada, 1991 – 2009." Centre for Education Statistics. Statistics Canada. December 2011. See: <http://www.statcan.gc.ca/pub/81-004-x/2011003/article/11538-eng.htm>.

⁶ In some trades, a Certificate of Qualification may be granted to a trade qualifier or 'challenger' who demonstrates sufficient knowledge and experience in the trade to successfully write the provincial exam.

requirements. Technical training occurs between 4 and 12 weeks each year and can be taken in a variety of formats such as full-time block release, or part-time evening or weekend courses. Technical training is based on industry input and may take place at a community college, an industry training centre, a private college, or even online.

Certification and Red Seal Endorsement

Upon completion of the technical and the on-the-job training components of the apprenticeship program, the apprentice writes a provincial exam and, if successful, is granted a Certificate of Qualification, which is also known as a journeyperson's ticket. This provincial certification allows the journeyperson to work in the province in which the technical training was completed, and the skills and knowledge were assessed. Certified journeypersons are entitled to the wages and benefits established in their trade, and are permitted to train and mentor apprentices.

To support mobility of tradespersons across Canada, a number of trades are designated as *Interprovincial Red Seal Trades*. Journeypersons who have obtained a Red Seal endorsement on their provincial Certificate of Qualification are permitted to work in any province or territory in which their trade is designated without having to re-write qualifying exams. There are currently more than 50 trades included in the Red Seal program, which accounts for close to 90% of all apprentices and approximately 80% of Canada's skilled trades workforce.

To work in a compulsory trade, an individual must have a Certificate of Qualification or be a registered apprentice receiving training in the trade. One does not need to be licensed, however, to work in a voluntary trade. The provinces and territories determine whether a trade is compulsory or voluntary. To identify which trades are compulsory or voluntary in the various provinces and territories, see the Ellis Chart at www.ellischart.ca. The chart also provides educational requirements for the various trades.

Canada's Apprenticeship Systems

As an important component of education systems across Canada, apprenticeship is a provincial/territorial responsibility. As such, there are 13 different apprenticeship systems in Canada, one for each of the ten provinces and three territories. While the systems are similar in basic structure, as outlined above, there are regional differences. For example, in all provinces and territories except for Quebec, the technical training and on-the-job training are taken in each year of the program. Apprentices in Quebec, however, complete all of their technical training before beginning their training at the workplace.

Some overviews of the apprenticeship systems in Canada's provinces and territories can be accessed through the sixth issue of the Canadian Apprenticeship Journal, which was published in fall 2011. In this issue readers will find overviews of the systems in the Yukon, Alberta, Saskatchewan, Quebec, New Brunswick, Nova Scotia and Prince Edward Island. Not all

provinces and territories were in a position to contribute an overview to the Journal at the time of publication.

For specific information on each of the jurisdiction's apprenticeship systems, visit the website of the provincial and territorial apprenticeship branches/authorities as follows:

British Columbia Industry Training Authority: <http://www.itabc.ca/site3.aspx>

Alberta Apprenticeship and Industry Training: <http://www.tradesecrets.gov.ab.ca/>

Saskatchewan Apprenticeship and Trade Certification Commission:
<http://www.saskapprenticeship.ca/>

Manitoba Apprenticeship: <http://www.gov.mb.ca/tce/apprent/index.html>

Ontario Apprenticeship: <http://www.tcu.gov.on.ca/eng/employmentontario/training/>

Quebec Apprenticeship: http://emploi.quebec.net/individus/qualification_en.asp

New Brunswick Apprenticeship and Occupational Certification:
http://www2.gnb.ca/content/gnb/en/departments/post-secondary_education_training_and_labour/post-secondary_education/content/apprenticeship_andcertification/apprenticeship_andoccupationalcertification.html

Nova Scotia Apprenticeship Training: <http://nsapprenticeship.ca/>

Prince Edward Island Apprenticeship, Training, and Certification:
<http://www.gov.pe.ca/ial/index.php3?number=1027715>

Newfoundland & Labrador Apprenticeship and Trades Certification: <http://www.ed.gov.nl.ca/app/>

Yukon Apprenticeship Training and Tradesperson Qualifications:
<http://www.education.gov.yk.ca/advanceded/apprenticeship/>

Northwest Territories Apprenticeship and Occupational Certification: <http://www.ece.gov.nt.ca/>

Nunavut Training and Apprenticeship Opportunities: <http://nni.gov.nu.ca/taopportunities>

For a more in-depth look at apprenticeship in Canada, please refer to an article that appeared in the first issue of the Canadian Apprenticeship Journal in winter 2010 called "A Backgrounder on Apprenticeship Training in Canada". This article discusses the history of vocational education and apprenticeship in Canada, and outlines some of the challenges apprenticeship programs currently face. It includes a closer look at the apprenticeship system found in Ontario and considers Canada's approach to apprenticeship in the international context.

Implementing a Regulatory College for Trades in Ontario: Initial Assessment

By Peter W. Wilson, Ontario College of Trades⁷

Apprenticeship in Ontario

One of Canada's 13 jurisdictions, Ontario, has developed a unique approach to help address challenges to reforming its apprenticeship system. Although apprentices constitute only about 0.4%⁸ of the 6.9 million person workforce⁹ in Ontario, apprenticeship is a vital labour force management and training development solution as it contributes significantly to the productivity of essential trades.

A number of challenges with the design of the apprenticeship system have defied solution for many years such as the inflexibility of the regulatory environment, the complexity of improving the apprenticeship model, the lack of interest in apprenticeship as a career option, and the difficulties in developing successful new apprenticeships. Part of the solution may be found in the creation of a regulatory college for trades, called the Ontario College of Trades (OCOT), similar to what has been developed for teachers (Ontario College of Teachers) and nurses (College of Nurses of Ontario) in the province.

Developments in Ontario's Apprenticeship System

For the past 15 years or so, the Government of Ontario has been attempting to reform its apprenticeship system to make it more responsive to the needs of industry.¹⁰ Reforms implemented in 1998 and onward tried to modify apprenticeship to allow greater uptake of non-traditional occupations, make apprenticeship regulations more easily amendable and provide incentives for participation. There was resistance to this by some engaged in traditional trades who were suspicious of multi-skilling, the erosion of trade standards and the decreased value placed on the Certificate of Qualification.

As a result, Ontario ended up with two sets of acts and regulations for apprenticeship. The original one was for the construction trades (Trades Qualification and Apprenticeship Act

⁷ This article was authored by Peter Wilson. As such, any opinions expressed are his own.

⁸ Labour Force Survey. Statistics Canada. 2008.

⁹ The Ontario Labour Market in 2006. Employment Ontario. May 2007. Retrieved from website June 2012. See pages 1 and 8: <http://www.tcu.gov.on.ca/eng/labourmarket/currenttrends/docs/annual/annual2006.pdf>.

¹⁰ P.W. Wilson. "A Survey of the History of Apprenticeship Reform in the Province of Ontario, Canada." [Unpublished Doctoral Dissertation]. Santa Ana, California: California Coast University. 2012.

[TQAA])¹¹ and a new one was developed for the remainder of the trades (Apprenticeship and Certification Act [ACA]).¹² The legislation under which the new College operates (Ontario College of Trades and Apprenticeship Act [OCTAA])¹³ includes critical features of these two apprenticeship acts. This development created an operationally difficult situation as the two types of apprenticeship placed different emphases on how apprenticeship completion was assessed. The construction trades used a time-based apprenticeship model and the remainder of the trades worked within a competency-based system. Despite these complexities, the new legislation signifies the province's commitment to advancing the skilled trades, modernizing the apprenticeship system, and ensuring that apprenticeship is viewed as an essential component of the postsecondary system.¹⁴

The Ministry of Training, Colleges and Universities (MTCU) focused on providing financial incentives to increase apprenticeship entry numbers, which resulted in new apprenticeship entries rising from 25,240 (2002-03) to 38,600 (2006-07)¹⁵ before dropping back to 29,000 (2010-11) and 30,500 (2011-12)¹⁶ probably due to the economic downturn. As with other provinces, there was a concern that the increase in the pass standard for final examinations to 70%, set in harmony with the Red Seal program, would decrease examination pass rates and thus apprenticeship completions.

Since this situation was not sustainable, the government decided to create a governing college, OCOT, giving it the capacity to develop regulations and policy for implementing a membership plan, setting trade standards and examinations, and providing certification and enforcement of the act, among other functions.¹⁷ The MTCU retained apprenticeship delivery operations.

Because the development of the regulations for OCOT is not yet complete, a full measure of the implications of the change is not available. It is possible, however, to observe an outline of the direction being taken as well as possible outcomes.

¹¹ Trades Qualification and Apprenticeship Act. R.S.O. 1990, c. T. 17. Retrieved from the Ontario e-Laws website: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90t17_e.htm.

¹² Apprenticeship and Certification Act. S.O. 1998, c. 22. Retrieved from the Ontario e-Laws website: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_98a22_e.htm.

¹³ Ontario College of Trades and Apprenticeship Act. S.O. 2009, c. 22. Retrieved from the Ontario e-Laws website: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_09o22_e.htm.

¹⁴ Colleges Ontario. *Transforming Ontario's Apprenticeship Training System: Supplying the tradespersons needed for sustained growth*. July 2009, page 8. Retrieved from website August 2012: http://www.collegesontario.org/policy-positions/position-papers/apprenticeship_transformation.pdf.

¹⁵ Colleges Ontario. *Environmental Scan, 2007*. Retrieved from website June 2012:

<http://www.collegesontario.org/research/2007-environmental-study/2007-SCAN-BW-FULL.pdf>

¹⁶ Ontario Ministry of Training, Colleges and Universities. *Quarterly Apprenticeship Summary Report, Year-End 2011-2012*. Ontario Ministry of Training, Colleges and Universities internal document. Toronto, 2012.

¹⁷ T.E. Armstrong, *Apprenticeship in Ontario: An analysis and recommendations on compulsory certification*. Toronto, ON: Ministry of Training, Colleges and Universities. 2008. See: <http://www.collegeoftrades.ca/en/history>.

Ontario College of Trades

While OCOT operates at arm's length from the government, it will be supported financially (repayable) by the government until paying members are established. It is subject to governmental direction as are all regulatory colleges in Ontario.

The College sets the scopes of practice for trades, and these are what the performance standards are based on. Performance is evaluated through on-the-job assessments and written examinations.

The College has the potential to grow to 600,000 members

It is important to keep in mind that OCOT does not administer apprenticeship at this time. The regulatory body sets objective standards for the on-the-job knowledge and skill requirements in the trades, and develops assessments of trade competencies that are valid and reliable. These are used by the apprenticeship system to train and assess apprentices.

The College sets standards for membership entry and maintenance, and issues Certificates of Qualification for journeyman members and statements of membership for all other members.

A Regulatory College

It is anticipated that initially the College will include approximately 300,000 members of various types across 157 trades. The College has the potential to grow to 600,000 members because it is based on trades as professions, rather than traditional occupations.¹⁸ Membership categories include employers/sponsors and apprentices. It currently supports 41 Trade Boards with representation from employers and employees.

The duties and powers of the government minister responsible for the administration of the OCTAA are far-reaching. This means that although the College is nominally an arm's length non-governmental body, the government is the regulatory gate-keeper for all College-proposed changes.

When it is fully implemented, the College will assume responsibility for the apprenticeship system in Ontario, which will include setting standards for institutional and on-the-job training, examinations and certification of skilled tradespersons in Ontario's 157 apprenticeship trades. It will also be responsible for enforcing the exclusive right of practice for the 22 compulsory trades in Ontario.

The government will maintain an important relationship with apprentices since it will register the contract of apprenticeship between the apprentice and employer, and will continue to fund the

¹⁸ One of the goals of the College of Trades is to raise the status of skilled trades and put them on the same level as other respected professions. Although the term "profession" has not typically been associated with the skilled trades, the College aims to change that perception over time. Since most certified tradespersons will have the option of being members of the College or not, the College intends to promote the benefits of membership, in part, by raising the status of skilled trades and offering journeymen the prestige of being a member in good standing of a professional regulatory organization.

in-school portion of apprenticeship training. Apprentices, however, will also be members of the College, and will receive the benefits of membership, such as respect, mentorship and training to current industry standards, and be subject to the College's regulation.

While the College will implement active compulsory trade enforcement as well as complaint-driven enforcement operations as other regulatory colleges do, it does not accredit trade training schools or content delivery, which is also typical of other colleges. The College remains separate from apprenticeship administration and operations delivery.

Influences on OCOT Operations

There are a variety of factors that influence and guide the activities of the College. The organization has a very large membership, making it administratively complex. The diversity of stakeholder groups involved, including the public, employers, tradespersons, unions and the Ontario government, add to the complexity and mean that politics between the various groups plays a role in the approaches taken and the decisions made.

On the provincial side, the College is working principally with the Ministry of Training, Colleges and Universities. It is working to some extent with the Ministry of Labour which, under current legislation, has a role in enforcement of the exclusive right of practice for compulsory trades. OCOT is also in discussions with other provincial delegated administrative authorities, such as the Electrical Safety Authority and the Technical Standards and Safety Authority, which may be impacted by the

Some of the organizational imperatives include public safety, trade competence, just governance, legislative compliance and member service.

creation of OCOT. The federal government maintains a unit within Human Resources and Skills Development Canada that supports the Interprovincial Red Seal Standards program. All provincial apprenticeship authorities and HRSDC participate in an organization called the Canadian Council of Directors of Apprenticeship (CCDA). The CCDA governs the Red Seal program, which was described in the first part of this article. The College, when it is fully operational, will assume the Ontario membership on the CCDA. Much emphasis is placed on building and maintaining positive working relationships with organizations such as the CCDA.

The College's business orientation is a result of the fact that it is self-funded through membership fees, operates at arm's length from the government and is a not-for-profit organization. Some of the organizational imperatives include public safety, trade competence, just governance, legislative compliance and member service. Staffing has been a challenge because it can be difficult to find staff with the necessary trades experience and background.

There has been a large push for communication and marketing in an effort to connect with the College's large and diverse membership. Clear communication is crucial when explaining the value of OCOT to members and the public.

Initial Assessment of the College's Implementation

The imperatives of a regulatory college are different from those of the government. In this case, the government serves the public through the development, implementation, operation and support of the apprenticeship system. On completion of an apprentice's training, OCOT serves the public good by implementing standards of practice set by each trade, regulating that practice, providing compliance services (inspections and complaints processing), and addressing perceived performance deficits.

The nature of OCOT as a regulatory college makes it imperative that a solution be found for the existing situation where tradespersons work in a compulsory trade in contravention of the TQAA and ACA legislation (in other words, without holding a Certificate of Qualification). Naturally, it has been very difficult to find these tradespersons until they attempt to legitimize their trade experience by passing a Certificate of Qualification examination. The Ontario government could not solve this problem (as has been the case with virtually all provinces in Canada) and did not engage the remedies available to it in the apprenticeship acts (i.e. fines), understanding that labour market conditions often acted against easy compliance by tradespersons with the legislated requirements. Due to the nature of a regulatory college, a solution will need to be identified to discourage this practice without causing unnecessary harm.

The authors of the new OCTAA legislation tried to encompass the roles of government and the private sector in managing apprenticeship and trades by combining the provisions of the two previous acts (TQAA and ACA) into one act (OCTAA) in order to obtain buy-in from all the trades. There are difficulties accommodating the different apprenticeship training designs under one act however, and the process itself must be accomplished through complex regulations. The complexity of some of the proposed regulations has required the new Board of Governor members to devote some time to studying them, which has been welcomed as a learning opportunity by staff and the Board.

The Ontario apprenticeship system includes the design and development of standards and assessment documentation for training, and implementation of the apprenticeship system. Splitting these responsibilities between government and a regulatory college, as has been done in Ontario, makes for complex communications and liaison between the government and the College. These problems are being addressed by cross-agency committees which have worked well to date, but it is clear that the focus of the two parties is different. Accommodation in both directions is evident so far.

Introducing New Trades; Decertifying Others?

The government is tasked with introducing new trades and the College assumes responsibility for assessing their viability and developing the documentation that structures the scope of practice, the training and the assessment requirements. New trade applications from the public are often incomplete and require intensive coaching and follow-up to ensure that the government understands the trade area well enough to reliably estimate apprenticeship uptake,

Of the 157 trades for which the OCOT is responsible, only 22 currently have a compulsory requirement to be members of the College.

assess the trade's significance in the labour market and its potential for success. The College's orientation to new trades includes an assessment of the probability of a trade membership's desire for College participation, not just for apprentices, but for full journeyman participants in the operation of the College. These points of view must be reconciled with requirements for formal and detailed assessments.

There is a need to decertify a number of trades which have been left on the books by government. It is possible that some were not removed because it would have appeared impolitic to delete them, even though they were not of great interest to potential apprentices or had relatively low success rates in terms of completion. Low-use trades would not provide sufficient membership in the College to defray the cost of their upkeep. The College will look into developing a detailed procedure for carrying out this work.

The College must fund its operations out of membership fees because it cannot rely on receiving funding from the government. This situation means that its imperatives are going to be different from the government's obligations. There is a need to match service to the trades with the income received from them through membership fees.

Of the 157 trades for which the OCOT is responsible, only 22 currently have a compulsory requirement to be members (i.e. fee payers) of the College. This group comprises about 40% of the total number of certified tradespersons in the province. The rest of the trades are non-compulsory; there is no requirement that those who practice in the trade area in Ontario possess a Certificate of Qualification. Individuals in non-compulsory trades will need to be encouraged to join the College by other means.

The services the College provides for all trades include development and updating of on-the-job training standards, in-school curriculum standards, and assessment examinations (both prior learning assessment examinations for in-school training and summary assessments) to qualify for the Certificate of Qualification (journeyman certification). These are intensive and costly activities for the College and are a major portion of the services provided to all trades. The costs of these activities could be defrayed through increased membership engagement, the possibility of trades successfully applying for compulsory certification or, decertification of inactive trades

to reduce the services required. It is not understood yet what unintended stresses these solutions may create in the labour market.

Conclusion

This article has provided a snapshot of some of the challenges, existing and on the horizon, for OCOT, but it is not exhaustive. As the regulatory environment is firmly established and the relationships with its stakeholders are clarified, the place of the College in the Ontario trades structure will become stronger. It will aim to resolve many problems that have stressed the apprenticeship system in Ontario in the past.

Again, readers are reminded that this has been an example of one of the developments taking place in just one of Canada's 13 apprenticeship systems. It provides an overview of the complex work underway to modernize the performance of apprenticeship to meet the needs for a strong Canadian skilled trades workforce.

Dr. Peter Wilson has spent 40 years in training and apprenticeship with the military, various governments and recently at the Ontario College of Trades. He has recently completed a historical survey of apprenticeship reform in Ontario. He is currently working as an apprenticeship and training consultant in Toronto.

Expanding Apprenticeship and Skilled Trades Opportunities in Canada

By Danielle Matheusik with content provided by the Saskatchewan Apprenticeship and Trade Certification Commission

This article discusses some of the challenges facing Canada's skilled trades workforce and the country's ongoing efforts to address them. Recruiting underutilized sources of talent to apprenticeship programs and careers in the skilled trades is a key focus. Among the groups being targeted to alleviate workforce shortages are foreign trained skilled trades workers. The second part of the article offers highlights from a recent pan-Canadian study that explored jurisdictional practices regarding the assessment of trade skills for newcomers to Canada. The piece concludes with an overview of the province of Saskatchewan's initiative to enhance assessments of foreign trained workers' trade credentials.

Shortages in the Skilled Trades

Skilled trades workers continue to be in high demand worldwide, and Canada is no exception. According to the ManpowerGroup's Talent Shortage Survey 2012¹, vacancies in the skilled trades are the most difficult to fill by Canadian employers.² Employers in Europe, the Middle East and Africa also report having the greatest difficulty filling skilled trades positions.³ Looking at the trend globally, the skilled trades was the leading area in need of workers from 2008 to 2010 before dropping to third position in 2011. The skilled trades regained the top position in 2012.⁴

The two main factors contributing to Canada's shortages in the skilled trades are shifting demographics and an expanding energy sector.⁵ As baby boomers approach retirement, there will be a significant decline in the number of Canadians in the prime working years of 15 to 64,⁶

¹ For ManpowerGroup's seventh annual Talent Shortage Survey, nearly 40,000 employers in 41 countries and territories were surveyed in 2012 to gauge the impact of talent shortages on the global labour market.

² 2012 Talent Shortage Survey Research Results. ManpowerGroup. See page 26: http://a836.g.akamai.net/7/836/35746/v0001/manpower.download.akamai.com/35746/canada/2012_Talent_Shortage_Survey_Res_US.pdf.pdf.

³ Ibid, p. 4.

⁴ Ibid, p. 3-5.

⁵ Eugene Lang and Christopher Smillie, "Skilled Trades Deficit Colliding with Energy Boom." *The Globe and Mail*. 15 February 2012. See: <http://www.theglobeandmail.com/report-on-business/economy/skilled-trades-deficit-colliding-with-energy-boom/article2339745/>.

⁶ Rick Miner, "Jobs of the Future: Options and Opportunities." CAF-FCA Backgrounder Document, March 2012.

with the skilled trades workforce aging faster than the overall workforce.⁷ At the same time, substantial growth in the energy sector, combined with the need to update Canada's deteriorating electricity generation and delivery system, has created huge demand for skilled tradespersons.

The construction, oil and gas, and mining industries foresee significant labour shortages over the next decade. In construction, it is estimated that while part of the 319,000 workers required will be offset by first-time new entrants, approximately 156,000 workers will still need to be recruited from outside the industry by 2020.⁸ Over the next three years, the oil sands sector expects to create more than 5,800 jobs, which is a 29 per cent increase over 2011 levels.⁹ The mining industry expects to need 112,000 new workers by 2020.¹⁰

Canada is taking a multifaceted approach to tackling skills shortages.

Canada is taking a multifaceted approach to tackling skills shortages. Promoting apprenticeship training is a crucial part of the strategy, as it is in many other countries. There are apprenticeship training programs for hundreds of trades in all provinces and territories. Jurisdictions actively promote their apprenticeship programs, especially to those groups traditionally underrepresented in the trades. Internally, the 13 provinces and territories within Canada are working together to reduce the barriers to labour mobility so that workers in one region can take advantage of job opportunities in another. Realizing that immigration will form a core part of the skilled trades workforce in the future, the provinces and territories are also discussing ways that foreign credential recognition processes in the trades can be made more efficient, consistent and relevant for employers and applicants. Examples of the ways in which Canada is trying to reach out to underrepresented groups and improve its foreign credential recognition processes are described in more detail below.

Tapping Underutilized Sources of Talent

The typical apprentice in Canada is a white male under 30 with no history of disability.¹¹ Given that there are more employment positions available in the skilled trades than can be filled through traditional sources, considerable effort has already been made to heed advice from the Canadian Chamber of Commerce to recruit underutilized sources of Canadian talent, including

⁷ Lessons in Learning: Apprenticeship Training in Canada. Canadian Council on Learning. July 2006. See page 4: <http://www.ccl-cca.ca/pdfs/LessonsInLearning/July-25-06-Apprenticeship.pdf>.

⁸ Ibid.

⁹ Petroleum Human Resources Council of Canada, "Press Release," May 2012. See: <http://www.petrohrsc.ca/news-events/media-releases/2012/may-29,-2012-canada-s-oil-and-gas-industry-will-need-to-fill-at-least-9,500-jobs-by-2015.aspx>. For more labour market information see <http://www.petrohrsc.ca/labour-market-information/medium-to-long-term-outlooks.aspx>.

¹⁰ North Superior Workforce Planning Board, "The Mining Workforce Information Network." Presentation March 2012.

¹¹ National Apprenticeship Survey 2007. Canada Overview Report. Statistics Canada. Catalogue no. 81-598-X No. 001. See page 14: <http://www.statcan.gc.ca/pub/81-598-x/81-598-x2008001-eng.pdf>.

Aboriginal peoples, youth, individuals with disabilities, and immigrants.¹² Hiring women in non-traditional trades is another important consideration.

Many provinces and territories in Canada have initiatives underway to engage these groups to prepare and grow the skilled trades workforce. In British Columbia (BC), for example, work through Aboriginal Initiatives seeks to double the number of Aboriginal apprentices from 5 per cent of all registered apprentices in BC to 10 per cent. Youth apprenticeship programs exist in every province and territory to introduce opportunities in the skilled trades to young people.¹³ Many programs, such as the Ontario Youth Apprenticeship Program and Alberta's Registered Apprenticeship Program allow students to begin their apprenticeship program while still in high school. Students complete the requirements of their secondary school diploma and work towards becoming a certified tradesperson as a registered apprentice.

There are various supports and resources for employing persons with disabilities such as The Opportunities Fund for Persons with Disabilities and Assistive Technology Links. Some provinces and territories also offer support geared specifically to apprentices with disabilities, such as Financial Assistance for Yukon Registered Apprentices. Attracting and retaining women in apprenticeship programs and the skilled trades is another area that has benefited from a number of activities and initiatives. Canadian Construction Women, The Women in Skilled Trades and Information Technology program in Ontario and the Canadian Coalition of Women in Engineering, Science, Trades and Technology all support women who are interested in pursuing training and employment in the skilled trades. The variety and extent of efforts to grow Canada's skilled trades workforce is evident through the few selected organizations, programs and activities mentioned above.¹⁴

Immigrants and Foreign Trained Workers¹⁵ in the Skilled Trades

Newcomers to Canada are one of the key underrepresented groups to recruit to the skilled trades. According to Citizenship and Immigration Canada's Annual Report to Parliament in 2009, Canada relied on immigration for more than two-thirds of its population growth in the preceding five year period.¹⁶ Given the likelihood of this trend continuing, initiatives to recruit and assess the skills of foreign trained workers (FTW) will become increasingly important to strengthening Canada's economic performance. At the same time, the country recognizes its

¹² Top 10 Barriers to Competitiveness. Canadian Chamber of Commerce. Skills Development Discussion Paper. March 2012. <http://chambertop10.ca/wp-content/uploads/2012/02/1203SkillsDevelopmentDiscussionPaper.pdf>

¹³ In the past, Nunavut had NEAT: Nunavut Early Apprenticeship Training. Online references to the program can be found that are dated up to 2010.

¹⁴ For more information on programs and initiatives, readers should visit the provincial and territorial apprenticeship websites.

¹⁵ In this article, we use the term Foreign Trained Workers (FTW) to refer to skilled trades workers who acquired training and work experience outside of Canada.

¹⁶ Citizenship and Immigration Canada, "Annual Report to Parliament on Immigration," 2009. Access through: <http://www.cic.gc.ca/english/resources/publications/annual-report2009/message.asp>.

responsibility to support the ongoing development of a more mobile and global skilled trades workforce.

To varying degrees, apprenticeship jurisdictions across Canada are exploring ways to assess and integrate newcomers with skilled trades backgrounds into the labour force. What follows is a closer look at a study that explored practices in foreign credential recognition and trade experience assessments in Canada's provinces and territories. By getting a better grasp of the similarities and differences between the various provinces' and territories' approaches to recruiting and integrating foreign trained skilled trades workers, activities in these areas will become more efficient and effective. Moreover, sharing best practices and lessons learned will help identify appropriate supports for furthering efforts to not only grow Canada's skilled trades workforce, but also contribute to the increasingly global and mobile skilled trades workforce.

Canada relied on immigration for more than two-thirds of its population growth in the preceding five year period [2003-2008].

Cross-Canada Review of Apprenticeship Assessment Processes for Foreign Trained Workers

In 2010–2011 the Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) initiated a pan-Canadian survey of jurisdictional practices regarding the assessment of trade skills for newcomers to Canada. The survey, conducted by Caron Creative Consulting of Saskatoon, resulted in a full report detailing findings across Canada. A number of recommendations on best practices and future directions resulted from this work. The final report, *Understanding the Assessment and Recognition of Foreign Trained Workers in the Red Seal Trades*, can be found here: http://www.saskapprenticeship.ca/wp-content/uploads/2012/05/FQR_Final_March2011.pdf.

Report Highlights

Between 2007 and 2009, Canada welcomed 969,364¹⁷ new Permanent Residents and Temporary Foreign Workers. Of those, approximately 2 per cent of the total (19,233) applied to challenge certificate of qualification (journey person) examinations. The percentage of candidates seeking to challenge the exam was relatively stable over that time frame.¹⁸

¹⁷ Facts and Figures. Immigrant Overview: Permanent and Temporary Residents. Citizenship and Immigration Canada. 2009. See pages 6 and 53: <http://www.cic.gc.ca/english/pdf/research-stats/facts2009.pdf>

¹⁸ "Understanding the Assessment and Recognition of Foreign Trained Workers in the Red Seal Trades: A Cross-Canada Review of Methodology and Processes in Apprenticeship Systems to Assess and Recognize Credentials and Trade Experience." Saskatchewan Apprenticeship and Trade Certification Commission. February 2011. See page 1: http://www.saskapprenticeship.ca/wp-content/uploads/2012/05/FQR_Final_March2011.pdf.

According to Canada's apprenticeship authorities, the majority of FTWs challenging for provincial/territorial trade certification and interprovincial Red Seal endorsement came from China, India, and the United Kingdom. In terms of trade areas, electricians required the highest number of assessments, followed by the carpenter trade.¹⁹

FTWs challenging examinations for provincial/territorial certification and the Red Seal endorsement would encounter similar application, assessment and approval processes in each province and territory. There is an additional requirement in Quebec that FTWs must attain provincial journeyman status prior to challenging the interprovincial Red Seal exam. While jurisdictions' assessments of FTWs include more than simply assessing credentials, Nova Scotia, Northwest Territories and Saskatchewan place considerable emphasis on credentials in the application approval process. The provincial/territorial jurisdictions do not conduct language assessments.²⁰

Apprenticeship authorities estimate that assessing and verifying FTWs' trade experience is the area that occupies the majority of staff time and energy (54 per cent provincial/territorial average). The resources devoted to this area are reasonable, however, given that it is perceived to be the most important component in approving an application for provincial/territorial certification and Red Seal endorsement. Most jurisdictions have internal staff conduct the assessment and verification activities, which include reviewing documents that detail candidates' trade time, scope of work and level of trade experience.²¹

Apprenticeship authorities are very thorough in their assessments of FTWs, recognizing the importance of ensuring that industry receives competent skilled tradespersons who can complete tasks at the level of a certified journeyman. Jurisdictions are concerned about personal and public safety, so they are strongly committed to ensuring that FTWs are experienced in the full scope of the trade and can demonstrate the required trade time.²²

Each provincial/territorial jurisdiction sets its own fees based on a variety of factors, such as the level of subsidies received to support the process and the amount of effort for assessment processes. The different jurisdictional fees confuse some applicants and lead others to compare provinces to find the best deal.²³

Key Challenges

Processing FTWs applications, assessments and approvals for provincial/territorial certification and the Red Seal endorsement is challenging on a number of levels. Provincial/territorial apprenticeship staff responsible for these activities identified a number of areas that heighten the complexity of the work required. These include:

¹⁹ Ibid.

²⁰ Ibid, p.1-2.

²¹ Ibid, p.2.

²² Ibid, p.88.

²³ Ibid, p.2.

1. Time to process applications and assessments because of difficulty in contacting international employers.
2. Time to process applications and assessments because of internal policies and processes.
3. Communication barriers caused by language differences.
4. Administrative staff performing credential and trade experience assessments with limited or no trade expertise.
5. Challenge of comparing international credentials to Canadian apprenticeship training programs and curricula.
6. Applicant levels of frustration and anxiety with the application, assessment and approval processes.²⁴

Easing the Process

The study also identified possible actions to address some of the challenges outlined above. For example, it was suggested that, on a national basis, the appropriate balance in weighting for the assessment and recognition of credentials versus the assessment and recognition of trade experience for FTWs should be determined. The application fees should also be examined and attempts should be made to create greater consistency across jurisdictional borders.

Ongoing support for FTWs, which may include providing contacts for language service agencies, enlisting volunteer foreign trained journeypersons, and using common terminology in application and information documents, would ease the often overwhelming process. At the same time, those who conduct credential and trade experience assessment for FTWs could be given more support, such as creating a national inventory of resources on provincial/territorial certification processes, and sharing and implementing best practices for the certification process.

Other areas deemed important to enhancing activities for assessing FTWs include continuing to work collaboratively with government agencies that support FTWs, collecting statistics on FTWs to make improvements to the certification process, and review policies concerning the use of translators to ensure consistency in the treatment of FTWs across the country.²⁵

Report Outcomes

Saskatchewan presented the report at the spring 2011 meeting of the Canadian Council of Directors of Apprenticeship (CCDA). This council has representatives from every province and territory. The CCDA was interested in further exploring the report's recommendations and asked Saskatchewan to lead a "Task Team" to engage in further analysis. A meeting of interested parties from across Canada was held in Winnipeg, Manitoba, where each recommendation was fully examined and an action plan to address the recommendations was developed. Many emerging issues were also identified at the meeting. The result was an

²⁴ Ibid.

²⁵ Ibid, p.2-3.

extensive “findings” paper that documented the emerging issues and charted the course forward for implementation of the recommendations.

It is anticipated that enhanced services, improved practices, and consistent procedures for the assessment of FTWs in the skilled trades will result.

Danielle Matheusik has worked for the Canadian Apprenticeship Forum as a project manager and researcher since September 2008. Focusing on outreach activities, her main responsibilities have included the Canadian Apprenticeship Journal, national dialogues, and research projects that inform the apprenticeship community and the public.

Partnering to Enhance Assessment of Credentials for Foreign Trained Workers in Saskatchewan

Recognizing the importance of FTWs to its economic growth, Saskatchewan is actively seeking to enhance its assessment of newcomers' skills. What follows is a brief overview of an initiative to assess FTWs' trade skills and provide a foreign credential assessment service.

The Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) and the Canadian International Training and Education Corporation (CITREC) are working together to enhance assessment of foreign credentials. Operating under the IMMSKILLS brand, CITREC is providing assessment services in foreign countries where confirmation of documentation can be directly undertaken by their staff. This assessment service provides a means for foreign trained workers to have an initial assessment of their training credentials completed prior to immigrating to Saskatchewan and Canada. This assessment service is provided directly by CITREC for both voluntary and compulsory trades, on a user-pay, fee-for-service basis.

People wishing to immigrate to Saskatchewan will be able to receive a preliminary evaluation of the potential value of their trade

People wishing to immigrate to Saskatchewan will be able to receive a preliminary evaluation of the potential value of their trade qualifications. The assessment results are used to assist the SATCC in the final review of documentation for those wishing to challenge certification (journeyperson) examinations or enter apprenticeship training programs. The final award of credit is the sole responsibility of the SATCC; those who successfully meet the tradesperson eligibility requirements will be eligible to challenge the journeyperson examination once they are situated in Saskatchewan.

Other Perspectives: News and Research on Apprenticeship and Youth

Skills for inclusive and sustainable growth in developing Asia and the Pacific

March 2012

This policy brief outlines key points from an international forum that explored ways to enhance skills development systems, and technical and vocational education and training in Asia and the Pacific. For more information, see: <http://www.adb.org/sites/default/files/pub/2012/sustainable-growth-asia-pacific.pdf> .

The secret to Germany's low youth unemployment

April 2012

This article discusses the effectiveness of Germany's dual system in keeping youth unemployment low and developing the country's skilled trades workforce. For more information, see: <http://www.npr.org/2012/04/04/149927290/the-secret-to-germanys-low-youth-unemployment>.

Jobs for youth key to Africa's continued economic growth and social cohesion

May 2012

This press release highlights findings from the report *African Economic Outlook 2012* regarding the potential of the continent's large youth population. For more information, see: <http://www.oecd.org/dataoecd/36/4/50463752.pdf>.

LatAm Needs Technical Education

May 2012

This article points to the need for a better approach to technical and vocational education and training in Latin America to support strong economic growth. For more information, see: <http://www.latinbusinesschronicle.com/app/article.aspx?id=5654>

The role of 'culture' in apprenticeship completions

July 2012

This paper considers 'cultural' factors, including the social background of the apprentice and the size of the employer, that may influence completion rates of apprentices in Australia. For more information, see: <http://www.ncver.edu.au/publications/2498.html>.