CPRN CANADIAN POLICY RESEARCH NETWORKS

RCRPP RÉSEAUX CANADIENS DE RECHERCHE EN POLITIQUES PUBLIQUES

Enhancing the Flow of Supply and Demand Information among Training Institutions, Students, and Employers

Larry Orton
Ann Harvey

CPRN Research Report | October 2008

The views expressed in this report are the views of the authors and do not necessarily reflect those of the Ontario Ministry of Training, Colleges and Universities.

Contents

Tables

Acknowledgements

The authors wish to thank all those in national organizations who helped us quickly identify training institutions that are doing exemplary work in their countries. That work started with the Association of Canadian Community Colleges, which helped us identify its counterpart organizations in Australia, New Zealand, the United Kingdom, and the United States. In the case of New Zealand, our "cold call" to the Tertiary Education Commission was assigned to a very knowledgeable and very helpful individual who provided useful information on the spot and then was able to follow through the same day with more details. In the United States, we also contacted organizations that we discovered through other research; all were helpful. The National Association for Colleges and Employers and the League for Innovation in the Community College were especially responsive to our work both at the outset and as we realized we needed more help.

In some cases, national associations referred us to specific people for interviews. In other cases, we wrote to the person in the position we assumed would be responsible and followed with a telephone call. Although virtually all of these people were at the level of either vice-president or president, in some cases they were prepared to "down tools" and talk with us right then and there. In a few cases, they had to ask us to call back. All of them were very helpful.

We are grateful to those at the Strategic Policy and Programs Division of the Ontario Ministry of Training, Colleges and Universities for their support of this work.

To all of these people – our thanks.

Foreword

A key requirement that underlines the delivery of successful skills development and training programs is communication about needs and opportunities. College courses and training curriculum, the interests of prospective students, and the kinds of jobs on offer by employers are all interconnected, and for the system to be efficient, each of these players needs to be aware of the interests and plans of the others.

This report, by CPRN Senior Research Fellow Larry Orton and Ann Harvey, identifies best practices to strengthen the flow of information among these groups and lead to more effective training, based in part upon a scan of community college (or like institution) practices in Alberta, British Columbia, Australia, New Zealand, the United Kingdom, Ireland, and the United States.

The report points to opportunities to use technology in a way that tailors communication to the needs and interests of the individual user, but it also emphasizes that personal contact remains a critical recruitment tool, both for colleges and employers. Orton and Harvey also call for greater transparency by training institutions with regard to information on graduate and employer satisfaction. This echoes earlier work by CPRN that puts transparency at the centre of quality improvement in the post-secondary education sector.

I would like to thank Larry Orton and Ann Harvey for their contribution to our understanding of how information flows among training institutions, students, and employers, and their ideas about how to enhance the quality of this information exchange. I would also like to thank the Strategic Policy and Programs Division of the Ontario Ministry of Training, Colleges and Universities for their support for this work through the Ontario Human Capital Research and Innovation Fund.

Sharon Manson Singer, Ph.D.
October 2008

Enhancing the Flow of Supply and Demand Information among Training Institutions, Students, and Employers

1. Introduction

This project set out to identify the most successful vehicles that individuals, employers, and institutions use to communicate information about job training programs and employment needs. At the outset, we wanted to identify the best ways to inform

a. students about training programs they are considering;

b. employers about programs best suited to their needs for employees; and

c. training institutions about the needs of employers and students.

Support for this project was provided by the Strategic Policy and Programs Division of the Ontario Ministry of Training, Colleges and Universities.

This study deals with institutions comparable to Ontario's colleges of applied arts and technology (CAATs). These CAATs are growing increasingly varied. As a group, their programs provide mainly one-year certificates and two-year diplomas. However, in recent years some of the institutions have begun to provide four-year applied degrees and have been renamed.

Regardless of the program offerings, the Association of Canadian Community Colleges remains the national membership organization representing institutions like Ontario's CAATs. Some Canadian institutions that now offer applied degrees have recently begun their own national association, Polytechnics Canada.

This project set out to scan comparable institutions in Alberta, British Columbia, Australia, the United Kingdom, and two states of the United States. At the outset, we added New Zealand because of that country's recent history of new developments, and as the project unfolded we included the Republic of Ireland because a major institution there was held up as a model by two of the Canadian institutions interviewed early on.

The *Educational Portrait of Canada, 2006 Census: Highlights* (Statistics Canada, 2008) points out that fewer young adults were studying in trades than their parents. About 10% of young adults aged 25 to 34 had a trade certification in 2006, compared with 13% of the older adults aged between 55 and 64. Young adults were also choosing to study different trades than older generations. For example, there were 25,800 fewer young adults aged 25 to 34 years than adults aged 55 to 64 years who had a trades certificate in Mechanic and Repair Technologies/Technicians. On the other hand, there were 12,500 more young people who had a trades certificate in Personal and Culinary Services than the older generation.

The importance of addressing factors such as communication that can improve the ability of training institutions to meet employers' needs for skilled workers is underlined by the Canadian Council on Learning's report *Canadian Post-Secondary Education: A Positive Record – An Uncertain Future*:

> Employer support for adult education and training in Canada is lower than in other OECD countries. Just one in three Canadian workers participated in formal, job-related training in 2002. Of them, males, people in white-collar jobs and those already with post-secondary education received the most support. There is a mismatch between the skills and learning needs of millions of Canadians and the current availability of adult education and training opportunities" (Canadian Council on Learning, 2006: 9).

The Council's six priorities for action include two emphasizing the important role of communication: "Enhance the monitoring of supply and demand in the labour market with particular attention to areas of skill shortages"; and "Explore ways to engage employers further in adult education and find ways in which post-secondary education institutions can assist in this" (Canadian Council on Learning, 2006: 12).

From Initial Education to Working Life: Making Transitions Work (OECD, 2000) underlines the importance of good information. "Good information and efficient and equitable access to it are important if young people's decisions on jobs and courses of study are to be based on informed choices" (OECD, 2000: 116). The report points to academically focused students who tend to get little information about skill-based work as an optional career path while in high school. Many spend a lengthy time in transition from secondary school to full-time employment. Better information could help alleviate these problems (OECD, 2000: 118-119).

2. Methodology

The study included 13 institutions, four in Canada (two each in British Columbia and Alberta); two each in Australia and New Zealand; one each in the United Kingdom and Ireland; and three in the United States (see Table 1). Two additional institutions contacted in the United States did not fit the profile for training institutions sought for this study.

The Ontario Ministry of Training, Colleges and Universities asked us to look at institutions comparable to Ontario's colleges of applied arts and technology (CAATs) and, in Canada, to look at Alberta and British Columbia. The authors drew on their own experience in western Canada to identify the Northern Alberta Institute of Technology (NAIT) and Mount Royal College in Alberta, and the British Columbia Institute of Technology (BCIT) and Kwantlen University College in British Columbia.

Institutions outside of Canada were identified by asking institutions and national bodies[1] to identify foreign institutions that were doing exemplary work in the area of the study and that they might turn to for inspiration. With respect to national bodies, our primary contacts were in associations of institutions similar to Ontario's CAATs. We also contacted the American organization that deals exclusively with the institution-employer-student interface. A brief overview of the key national associations is given in the overview of each country that follows.

The Dublin Institute of Technology (DIT) and RMIT University (RMIT) were identified by Canadian institutions. Greenwich Community College was identified by an American institution that was asked for referrals to exemplary practice in other countries. Institutions in the United States and Australia were identified by contacting national bodies. In each case, we gave the national bodies a written outline of our project and then talked at length with them about the work and the institutions they recommended contacting. This approach did not work in the United Kingdom and New Zealand. In the United Kingdom, the national Association of Colleges (AoC) was undergoing a change in executive directors, and by the time a knowledgeable AoC board member was contacted, it was too late to contact the institutions he named. In New Zealand, the Executive Director of the national association, the Institutes of Technology and Polytechnics of New Zealand (ITP), was unable to be of assistance within the study timelines. Consequently, we telephoned the Ministry of Education, which led to immediate assistance from the Tertiary Education Commission.

All of the people contacted for this study were asked for referrals to reports on best practice research in communicating information about job training programs. The reports identified are summarized in the Major Reports section of this report, along with research identified by using Internet searches.

[1] National associations of institutions serve as a collective voice to advocate institutions' concerns. Generally, their missions include developing relationships with other countries and with disseminating good practices. Professional organizations can be excellent sources of new developments and good practice. They publish journals and management magazines; provide professional development opportunities, including conferences; undertake research; and maintain websites that are often very comprehensive and content-rich.

Table 1. Institutions Interviewed

Jurisdiction and Full Name (and Abbreviation)	City and Province or State
Canada	
British Columbia Institute of Technology (BCIT)	Vancouver, British Columbia
Kwantlen University College	Surrey, British Columbia
Mount Royal College	Calgary, Alberta
Northern Alberta Institute of Technology (NAIT)	Edmonton, Alberta
Australia	
RMIT University	Melbourne, Victoria
SkillsTech Australia	Acacia Ridge, Brisbane, Queensland
Republic of Ireland	
Dublin Institute of Technology (DIT)	Dublin
New Zealand	
Wellington Institute of Technology (WelTec)	Wellington, North Island
Whitireia Community Polytechnic	Porirua, North Island
United Kingdom	
Greenwich Community College	London
United States	
Anne Arundel Community College	Arnold (Annapolis), Maryland
Lehigh Carbon Community College	Schnecksville (Philadelphia), Pennsylvania
Sinclair Community College	Dayton, Ohio

3. Context

International bodies such as the Organisation for Economic Co-operation and Development (OECD) have observed that Canada is the only member country that has no national department of education, even though in other member countries the primary responsibility for education rests with the state or province. That fact makes it difficult to generalize about post-secondary education in Canada, since it has led to significant differences among provinces' institutional arrangements and policy. For example, the observation that all provinces in recent years have taken steps to implement some accountability among public educational institutions does not acknowledge the variation in the way in which accountability is being handled. That point is important because national accountability systems that at least three of the countries included in this study (Australia, the United Kingdom, and New Zealand) have in place are having an impact on aspects of this study.

3.1 Terminology

Some major terms are defined at the outset since countries vary in their use of terminology. The term "community colleges" in Canada and the United States is a generic term applied to institutions that primarily attract and accept students from their local community, make special efforts to reach out to and to serve their local communities, and have open admissions (that is, anyone with a high school diploma or General Educational Development [GED] certificate may attend). In the United States, they are generally supported through local property taxes. Instead of having "community college" in the name, such a college may be called a county, junior, technical, or city college. In each case, the college provides post-compulsory education and grants certificates, diplomas, and associate and applied degrees. In the United Kingdom, the term can name a secondary school that offers extra services such as adult education courses or programs that would be found in a technical college and that grants general certificates of education (GCEs) up to vocational qualifications. The term "community college" is also used by some "further education" colleges in the United Kingdom. These adult and community learning institutions are more similar in concept to the American and Canadian community colleges.

The term "further education" is commonly used in the United Kingdom, Ireland, and Australia to refer to full- or part-time post-secondary education below the level of higher education. Further education is for persons over compulsory school age and includes vocational, academic, social, physical, and recreational courses. It is often vocational- or work-based with emphasis on the needs of employers and the development and upgrading of work skills, but it includes continued general education for people of all ages and incorporates academic subjects and recreational activities.

The term "higher education" in the United Kingdom, Ireland, and Australia commonly refers to institutions that award degrees.

The term "tertiary education" is often used interchangeably with post-secondary education and follows secondary school. Tertiary education generally leads to certificates, diplomas, or academic degrees. Within that broad category, "higher education" normally refers to undergraduate and postgraduate education, while "vocational education and training" (beyond secondary education) is known as "further education."

3.2 Associations Contacted

Table 2 lists the major national associations that were contacted.

Table 2. Major National Associations

Jurisdiction and Full Name	Abbreviation
Australia	
Technical and Further Education (TAFE) Directors of Australia	TDA
Republic of Ireland	
None identified	
New Zealand	
Institutes of Technology and Polytechnics of New Zealand	ITP
United Kingdom	
Association of Colleges	AoC
United States	
American Association for the Community College	AACC
League for Innovation in the Community College	The League
National Association of Colleges and Employers	NACE
National Association of Student Personnel Administrators	NASPA

Many of the national associations in turn form international associations. Thus, community colleges have the International Association of Colleges (IAC) and the World Federation of Colleges and Polytechnics (WFCP). The IAC provides a forum for the exchange of ideas and resources among community-based higher and further education institutions. The WFCP began at the 1st World Congress of Colleges and Polytechnics, which was held in Quebec City in 1999.

Institution professionals who work in graduate placement or career development have the International Network of Graduate Recruitment and Development Associations (INGRADA).

3.3 Qualifications Frameworks

Governments frame the broad legal and regulatory framework within which institutions operate. They can create new institutions or combine existing ones, either directly through legislation or indirectly through the use of incentives.

An important initiative that is still developing in a number of the jurisdictions considered in this report is the development of qualifications frameworks. Such frameworks have been developed in Australia, Ireland, New Zealand, and the United Kingdom. The United Kingdom and Ireland are also part of a larger initiative to create a qualifications framework subscribed to by virtually all countries of the European Union (EU). That qualifications framework extends to technical and vocational education.

The EU work can be said to have started with the Bologna Accord,[2] intended to create the European higher education area (EHEA) by making academic degree standards and quality assurance standards more comparable and compatible throughout Europe. The basic framework adopted is of three cycles of higher education qualification. The cycles are defined in terms of qualifications and credits (the European Credit Transfer and Accumulation System, or ECTS). Each of the three cycles correspond to bachelor's, master's and doctoral degrees. Thus, the ECTS is a standard for comparing the attainment level and performance of students throughout Europe.[3]

In December 2004, ministers responsible for vocational training agreed that the ECTS would be complemented by the European Credit System for Vocational Education and Training (ECVET). ECVET will support the transfer, accumulation, and recognition of individuals' learning outcomes. It enables the documentation, validation and recognition of achieved learning outcomes acquired abroad, in both formal vocational education and training or in non-formal contexts.

3.4 A Note on Two Institutions

Two of the institutions included deserve special mention because they are unlike Ontario's CAATs in that they grant degrees and are recognized universities. Although they grant degrees, both institutions combine all levels of post-compulsory education; they offer apprenticeship, certificate, and diploma studies through baccalaureate, master's, and doctoral studies to post-doctoral studies. RMIT University in Melbourne, Australia, and the Dublin Institute of Technology (DIT) in Dublin, Republic of Ireland, are both public institutions that were identified by Canadian institutions as leaders. Both RMIT and DIT have unique histories.

RMIT University is one of Australia's original educational institutions. It has a reputation for work-relevant education and research, and for engagement with the needs of industry and community. RMIT has more than 60,000 students.

RMIT was granted formal university status when the *Royal Melbourne Institute of Technology Act* came into force in 1992. That change followed 95 years as the State of Victoria's leading technological educator and 30 years of offering degree courses. At various stages RMIT University has been known as Working Men's College (founded in 1887), Melbourne Technical College (1934), Royal Melbourne Technical College (1954), and the Royal Melbourne Institute of Technology (1960). Throughout its history RMIT has merged with other educational institutions that are now part of RMIT University: Emily McPherson College (1970s), the Phillip Institute of Technology (1992), Melbourne College of Printing and Graphic Art (1997), and the Melbourne Institute of Textiles (1999).

[2] This was named after the University of Bologna, where it was signed in 1999 by Ministers of Education from 29 European countries. Later, the agreement included other countries signatory to the European Cultural Convention of the Council of Europe.

[3] One academic year corresponds to 60 ECTS credits that are equivalent to 1,500 to 1,800 hours of study in all countries irrespective of standard or qualification type.

DIT was established as an autonomous institution in 1992 when the *DIT Act* brought together six colleges of higher education: the College of Technology (founded in 1887), the College of Music (1890), the College of Commerce, Rathmines (1901), the College of Marketing and Design (1905), the College of Technology (1911), and the College of Catering (1941). These colleges formed the nucleus of the faculty structure within the new DIT, which is now the largest third level institution in Ireland.

All of DIT's programs are applied in nature, and there are strong links with industry and the professions that make it possible for the Institute to keep abreast of market trends and to have industry input in the design and development of programs.

DIT promotes a "ladder system" that lets students progress from certificate or diploma to degree level. A recent example involves the introduction of eight Bachelor of Engineering Technology ordinary degree programs that give students the option to study for a degree in engineering without the specific entry requirement of higher level mathematics.

3.5 Australia

Our primary point of contact in Australia was the Technical and Further Education Directors of Australia (TAFE Directors Australia, or TDA). The TDA has 57 institutional members with large vocational components.

Education in Australia is primarily the responsibility of states and territories, and post-compulsory or tertiary education is divided between universities and technical and further education (TAFE) institutions. Post-compulsory education is regulated within a unified system of national qualifications, the Australian Qualifications Framework.[4]

TAFE institutions provide predominantly vocational courses in fields ranging from hospitality and tourism through construction, engineering, secretarial skills, visual arts, and computer programming to community work. TAFE institutions may be known as either colleges or institutes and are publicly owned, operated, and financed by the state governments. This contrasts with universities, which are funded mainly by the federal, or Commonwealth, government. TAFE institutions generally award qualifications up to the level of an advanced diploma, which is below a bachelor's degree within the Australian Qualifications Framework. TAFE study can often be transferred for credit toward a bachelor's degree, and some TAFE institutions now confer their own baccalaureates.

Some universities, such as RMIT University, offer TAFE courses. RMIT University might be considered a "hybrid" institution unlike anything known in Canada, but similar to DIT in Ireland, described further below. RMIT is considered a university in Australia and internationally. RMIT also has a strong TAFE component, headed by a person at the vice-president level.

[4] This description borrows from the websites of the institutions interviewed and from Wikipedia (http://en.wikipedia.org/wiki/Education_in_Australia, accessed March 25, 2008).

3.6 Republic of Ireland

The Department of Education and Science controls overall policy, funding, and direction. The National Qualifications Authority of Ireland and the Higher Education Authority are important national organizations. Vocational education committees (VECs) are statutory local education bodies that administer some secondary education and most adult education. Before 1992 VECs had authority over the Dublin Institute of Technology (DIT) and the regional technical colleges.[5]

The Government of Ireland approves seven degree-awarding authorities to grant awards at all academic levels; one of these is DIT. As in the United Kingdom, further education can involve many different awards offered by a multitude of bodies. Typical areas included apprenticeships, child care, farming, retail, and tourism. The statutory awarding body for further education is the Further Education and Training Awards Council, which is integrated into the National Qualifications Authority of Ireland and which ensures the quality of teaching programs and determines standards. Further education programs are delivered by public and private bodies, including VECs and regional technical colleges.

3.7 New Zealand

Our intended primary point of contact in New Zealand was the Institutes of Technology and Polytechnics of New Zealand (ITP). The ITP (formerly the Association of Polytechnics in New Zealand) represents the state-owned institutes that provide primarily vocational education. When it became clear that the ITP did not have time to provide the referrals needed, we were fortunate to have the prompt support of the Tertiary Education Commission (TEC).

TEC is a key central agency that is part of the Ministry of Education.[6] All forms of post-school education and training come under TEC's umbrella. These range from full-time academic study to on-the-job and work-related training, distance education, and part-time study.

TEC is responsible for the government's relationship with the tertiary education sector and for policy development and implementation. TEC's responsibilities include relationships with 31 tertiary education institutions, including 21 institutes of technology and polytechnics, industry training organizations, and adult and community education providers as well as universities and private providers. TEC is responsible for funding all post-compulsory education and training and facilitates collaboration and co-operation among institutions and between the institutions and businesses, communities, and iwi (tribes).

[5] This description borrows from "Education in the Republic of Ireland" (http://en.wikipedia.org/wiki/Education_in_the_Republic_of_Ireland, accessed March 25, 2008).

[6] This description borrows heavily from the publication *New Zealand Education System: An Overview* (available on the Ministry of Education's website: www.minedu.govt.nz/index.cfm?layout=document&documentid=7481&indexid=11329&indexparentid=6663, accessed March 18, 2008).

An interesting feature of post-secondary education in New Zealand is that there are national quality assurance and qualifications frameworks, which are overseen by the New Zealand Qualifications Authority. Another interesting feature is that there are no fixed divisions between the types of courses offered by each type of provider. Instead, the focus is on an institution's ability to offer programs with the required quality standards, rather than on its organizational type. Thus, for example, while technical and vocational education is offered mainly at institutes of technology, polytechnics, private training establishments, and in the workplace, some programs are available in secondary schools and universities. By the same token, higher or degree level education is mainly offered at universities, but some degree programs are also available at institutes of technology and polytechnics and some private training establishments.

3.8 United Kingdom

Our intended primary point of contact in the United Kingdom was the Association of Colleges (AoC), which was created in 1996 to promote the interests of further education colleges in England and Wales. The AoC has 425 member institutions and identifies "sister organizations" in Wales (FFORWM**)** and Northern Ireland (ANIC). Scotland is not included either in the AoC mandate or as a sister organization. Given the constraints of this project, we did not search for institutions in those jurisdictions.

Early in our scan we identified another organization that deserves mention: the Association of Graduate Careers Advisory Services (AGCAS). AGCAS is the professional association for higher education careers practitioners in the United Kingdom. It is the counterpart of NACE in the United States, although AGCAS is more oriented toward universities than NACE. AGCAS collaborates with employers and other key stakeholders to lead and support the delivery of career services.

Non-university level post-secondary technical education is provided by technical colleges, colleges of further and higher education, and accredited independent colleges that offer a large number of vocational courses leading to a professional qualification. The Business and Technology Education Council (BTEC) offers many vocational courses leading to the BTEC First Diploma (one year, full-time) or to the BTEC National Diploma (two to three years, full-time). The Higher National Diploma is conferred after three years' study by the Council.

Further education colleges usually offer a range of full-time and part-time vocational courses, as well as more academic and higher education courses. Many of the courses provide qualifications that are accepted for entry into UK universities. As a group, further education colleges are large in size and scope, attract a variety of students, and have facilities for work-based learning. A typical further education college has several thousand students, ranging from school leavers to older people, with more than half of the students being over the age of 21; programs range from basic literacy and numeracy up to technician level courses and degree level work in some subjects; students range from young full-time students to part-time adult learners working in industry and those taking classes for leisure; and work-based learning might include work environments such as restaurants, hair salons, and travel agencies run by students. These colleges are strongly "customer" focused and linked with the local community.

Further education colleges differ in size and emphasis, but all offer basically the same kind of curriculum and nationally recognized qualifications. A further education college chooses its own name and might be called, for example, a college of further education, of technology, of agriculture and/or horticulture, or of some specialist subject.

As in Canada, where some "community colleges" and technical institutes are now awarding degrees, some colleges of further education in the United Kingdom are offering "higher education."[7] The *Further and Higher Education Act* of 1992 addressed this situation by allowing the transfer of further education institutions to the higher education sector, if the institution's "full-time enrolment … for courses of higher education exceeds 55% of its total full-time equivalent enrolment number." The Act made other significant changes. It abolished the separation of universities and polytechnics so that polytechnics took university titles and gained the right to award their own degrees. The Act also replaced the Universities Funding Council and the Polytechnics and Colleges Funding Council with higher education funding councils for England, Scotland, and Wales.

3.9 United States

Our primary points of contact in the United States were the American Association of Community Colleges (AACC) and the League for Innovation in the Community College. The League was most helpful.

The AACC was created in 1920 and has some 1,200 institutions as members. The League was created in 1968 and has about 800 institutions as members. The League is concerned with the same types of institutions as the AACC, although its focus is on innovation and it is an international association drawing members from 14 countries.

The National Association of Colleges and Employers (NACE) was also very helpful. NACE deals exclusively with the institution-employer-student interface. NACE was established in 1956 and has some 2,000 colleges and universities as members. Among its services, NACE undertakes regular surveys of starting salary offers to new college graduates and of the tools being used to reach and educate college students about job-search and career choices. As well, NACE gives annual "best practices" awards.

Early in our scan we identified another organization that merits mention. The National Association of Student Personnel Administrators (NASPA) has more than 11,000 individual members in 29 countries and traces its origins to 1918, with the creation of Student Affairs Administrators in Higher Education. The organization was subsequently known as the National Association of Deans and Advisers of Men until it was renamed as NASPA in 1951.

[7] This description is taken from a few sources: EuroEducation.net, the European Education Directory (at www.euroeducation.net/prof/ukco.htm); Eurydice (at www.eurydice.org); and the British Council (at www.britishcouncil.org/learning-uk-education-systems.htm, accessed March 20, 2008).

Post-secondary education in the United States[8] involves colleges and universities. Students might attend a community college for two years prior to further study at another college or university. Community colleges are generally operated by a division of the state university or by local special districts. Community colleges may award Associate of Arts (AA) or Associate of Science (AS) degrees after two years. Beyond that level, students transfer to a four-year college or university. Some community colleges have automatic enrolment agreements with a local four-year college/university, where the community college provides the first two years of study and the university provides the remaining years of study, sometimes all on one campus.

4. Major Reports

Evaluations of the approaches that are taken to improve information flow are rare. Our review of the literature, our contact with leading academics[9] and practitioners, and our questions to the institutions contacted suggest that the published literature is virtually silent on these topics. Thus, it is difficult to use evidence to suggest improvement or to look at the impact of missing or unavailable information.

We did attempt to identify internal evaluations of specific events. Those responsible for particular programs – job fairs, for example – undertake evaluations for their own reasons, usually to make improvements or to decide how to allocate resources. This sort of "fugitive" documentation can be very difficult to find. We were interested in comparative evaluations, but those responsible for programs do not appear to do comparative evaluations to identify the benefit of the job fair (to continue with that example) relative to alternatives or to compare different types of job fairs. Thus, the material dealt with here is limited to student and employer survey responses and some work undertaken by the National Association of Colleges and Employers (NACE).

Not surprisingly, professional associations have been quite active in this area and have undertaken important work. In the United States, NACE and the National Association of Student Personnel Administrators (NASPA) are two professional associations with an interest in these areas, and their journals and papers are a likely source of relevant research even though both organizations are oriented toward degree-granting institutions. NACE even has standards for its members entitled "Principles for Professional Conduct for Career Services & Employment Professionals" (NACE, 2008).

[8] This description is taken from several sources, including "Education in the United States" (at http://en.wikipedia.org/wiki/Education_in_the_United_States).

[9] E-mail communication with Alison Taylor, Faculty of Education, University of Alberta, March 5, 2008.

4.1 How Students Learn about Institutions

How students learn about institutions is part of the survey of first-year students undertaken regularly by the Canadian University Survey Consortium (CUSC). The most recent survey at 34 universities included 12,648 students (CUSC, 2007). Although there does not appear to be a comparable survey dealing with other types of post-secondary institutions, including vocational institutions, the findings may be relevant. When the survey asked which of 13 different types of contact students "might have had before choosing their current university," it was found that, although most students had multiple types of contact, a quarter had some personal contact directly from their university before graduating from high school or CEGEP. When the CUSC survey asked what students considered the single most important contact in choosing an institution, the responses (shown in Table 3) seemed to underline the importance of this personal contact.

Table 3. Single Most Important Contact in Choosing an Institution

Type of Contact	Percentage of Respondents
Campus visit/open house	25
University website	18
Viewbooks, brochures, or pamphlets	17
Visit by a university representative to high school	12
Maclean's university rankings	4
Meet with university recruitment/admissions staff on campus	4
Recruitment fairs	3
Other	11
Not applicable	6

Source: CUSC (2007: 54).

Graduate outcomes in the employment market and satisfaction with the training received are well researched for graduates of all types of institutions. In recent years especially, there has been an increase in the number of publications from governments and institutions. One outcomes survey that has been in place for many years is available from NAIT. The NAIT Placement Survey lists the number of graduates hired from each program annually as well as the employers hiring that year from each program. Starting salaries are included also. The Graduate's Skills and Training Profile completes the program-by-program presentation.

As part of its accountability initiative, Alberta Advanced Education negotiated a common set of questions and a common methodology that all institutions were to use dealing with both outcomes and satisfaction. To further ensure comparability, within a few years the Ministry offered to fund the common administration of a common questionnaire and now works with public and private colleges, institutes, and universities to ensure that regular surveys are undertaken. All these surveys are readily available.

The *Alberta Post-Secondary Graduate Outcomes Survey: Class of 2003/2004* was published in August 2006. There were 15,662 respondents from four universities, four publicly funded private university colleges, 15 colleges, and two technical institutes. One question asked graduates what information sources they used for planning post-secondary studies. Institutional calendars, parents/other relatives, and friends were the three most used sources when graduates were deciding what program and institution to attend. Institutional calendars and parents/other relatives each received the highest average usefulness rating of 3.6 out of 5, followed by friends (3.4) and teachers (3.2). The Alberta Learning Information Service website (www.alis.ab.ca) was the least used source. School or guidance counsellors and career counsellors were not generally perceived as helpful, each with average ratings of less than 3 out of 5 (Alberta Advanced Education, 2006a: 40).

Other countries have similar publications, although the Alberta effort appears to be unique in the extent to which a common survey is mandated, standardized on behalf of all post-secondary institutions, and made available. Countries with national qualifications frameworks mandate some portion of what Alberta does. The United Kingdom, Ireland, New Zealand, and Australia require either outcomes or satisfaction surveys, or both, although the requirement is generally for institutions to undertake a survey. Common questions and methodology are generally not required. Graduate Careers Australia (formerly the Graduate Careers Council) undertakes the national Graduate Destination Survey – paid for by the federal (Commonwealth) government – that also covers graduates' satisfaction with teaching, programs, and support. Graduates complete the survey four months after graduation, and the results are used to prepare reports dealing with postgraduate destinations, employment destinations, and salaries. A separate satisfaction, or "Graduate Course Experience," survey results in a publication of the same name. However, both the destinations and satisfaction surveys are limited to university graduates. There is no comparable national survey for TAFE institutions.

NACE in the United States also conducts the Graduating Student Survey, as do its counterpart organizations in a number of countries, including Canada. In the United States, the survey is undertaken every spring and published in early summer. The most recent report (NACE, 2007) describes the results of surveying 13,114 students online; these students were from 302 colleges in 44 states. Although the survey is intended to help career professionals adjust their programs and services to better serve students and employers, the results are of interest to a much broader audience. The survey objectives that are particularly relevant to this project concern how students approached the job market; the resources and methods the students relied on and found most helpful in obtaining full-time employment; what company characteristics attracted graduates to a preferred employer; and how students identified particular employers as their preferred employment choice (NACE, 2007: 3).

The survey found that "students exploring the job market relied heavily on the Internet and personal relationships to structure, research, and implement their job search." The main activities students reported were visiting company websites (81% did so frequently), checking job postings on a company website (67%), checking job postings on the college career centre website (55%), and researching job openings on commercial job-search websites (54%) (NACE, 2007: 5).

4.2 Employer Communication with Students

NACE has undertaken work in addition to that described above. The organization's white paper (Case et al., 2004) looks at the use of electronic tools and college recruiting. That research reports that employers prefer using electronic means to communicate general and specific information about job openings and that technological advances in online applications, video conferencing, and e-mail may change the ways in which employers interact. But not all recruiters are the same; those concerned with a national market generally prefer electronic means, whereas those concerned with a local market rate such means as less important. According to the research, students find electronic recruiting too impersonal to meet their needs for human interaction and to make them feel special. Students did not rank any electronic tools highly and particularly disliked "video conferencing, job search boards, and online application processes" (Case et al., 2004: 2). The conclusions are that students appreciate technology "when used in the context of a personal connection with an employer" and that employers need to use their websites to establish their "brand" and give "job seekers an understanding of the work environment" and then need to follow up with more personal methods. Training institution career centres have the opportunity to coach both employers and students in the most profitable use of employer recruitment techniques.

Another NACE white paper (Scott, 2004) explores employers' use of online application systems in the recruitment of college students and the impact of that use on their practices at career fairs. Again, the paper acknowledges a conflict between employers' increasing use of online methods and students' "strong desire for personal contact during the recruitment process." The paper presents the views of students, employers, and institutions (i.e. the "career service professionals" that NACE represents). At face value this conflict seems unlikely, since young people are so technologically savvy. Yet the paper suggests it is that very sophistication that leads young people to be suspicious of having success with the "'black hole' data base systems" that employers use. Instead, they prefer a personal "high touch" approach.

A note in Scott's paper (Scott, 2004: 34) identifies specialized research that another project may choose to pursue:

> Since 1991, [there has been] an annual survey to measure students' needs, expectations, and experiences as regards the college recruitment process. … as developments in recruitment technology have emerged – applicant tracking systems, e-mail communications, video interviews, and the current move to online application processes – the surveys have increasingly targeted the high-tech/high touch paradigm. This focus reflects not only the candidates' contemporaneous opinions and concerns, but employers' expressed interest in access to unbiased data gathered from their ultimate customers – the students themselves.

4.3 Communication between Employers and Institutions

Alberta Education and Alberta Advanced Education have been conducting employer surveys at two-year intervals. The latest published survey reports on 2005/2006 responses (Alberta Advanced Education, 2006b). The main objectives of the survey were to evaluate employers' satisfaction with the skills and knowledge of recent graduates, satisfaction with non-subject-specific attributes of recent graduates, and satisfaction with the overall responsiveness of Alberta's learning system to employers' specific human resource needs. A total of 2,200 surveys were completed. Just over half of all employers surveyed had provided assistance to employees within the last two years for education or training in Alberta's learning system. Employers most often reported providing time off during the workday and a leave of absence as the types of assistance they provided for education and training. The implications for institutions to build on employer responses lend importance to the role of communicating needs between institutions and employers.

Two priorities recommended for Canada by the Canadian Council on Learning are relevant to this discussion of communication with employers. The first is that Canada "explore[s] ways to engage employers further in adult education and finds ways in which postsecondary institutions can assist in this," and the second is to "enhance the monitoring of supply and demand in the labour market, with particular attention to areas of skill shortages" (Canadian Council on Learning, 2006: 12).

5. Case Studies

5.1 Terminology

Before presenting the case studies of institutions' communications efforts, a few comments are needed on the use of the terms "CRM software" and "viewbooks."

CRM Software

Institutions report that they are beginning to use software to manage institutions' relations with their clients – prospective and current students and employers. Because it was identified often and because it is new and specialized, it is discussed briefly here.

Customer relations management (CRM) and the software used to support it began in the business world as a strategy to maximize revenue and customer satisfaction. An objective of CRM is to present an enterprise that a customer can experience as a single entity operating over extended periods of time. This way of thinking and the related software adapts readily to the "business" of post-secondary education.

In the business world, a thorough application involves all parts of an enterprise to capture, store, and analyze information about customers, vendors, partners, and internal processes. Ideally, the technology that supports CRM is part of an integrated package so that the various aspects – sales and customer service, for example – are not implemented in isolation from each other. If they were implemented separately, the customer might easily gain the impression that one part of the organization did not know what the other part was doing.

Successful CRM implementation requires acceptance of the customer-centred, single-organization philosophy, appropriate policies, and a coordinating strategy so that different players in an organization coordinate their efforts to create an overall valuable service for the customer.

Commercial CRM software packages are being adapted to and adopted by post-secondary institutions. With them, and with the appropriate acceptance and policies, an institution will be able, for example, to track contacts with students from their initial call to inquire about a program through to graduation to their status as an alumnus. An institution will be able to track all contacts that all parts of the institution make with employers – whether that involves their involvement in an advisory group, their experience in hiring a co-op student, or their contribution of time, equipment, or money.

Just as a business might use the information collected to support its marketing strategy, a post-secondary institution might use the information to identify customer segments, improve student retention and alumni loyalty, and improve its program offerings by better understanding student and employer needs.

Some businesses focus CRM only on the management of a team of salespeople. Others are concerned with customer interaction across the entire organization. This scan of developments suggests it is too early to see how widely post-secondary institutions will adapt CRM features.

Viewbooks

Many institutions noted their use of "viewbooks." In each case, the institutions were referring to glossy magazines in paper format produced to describe campus life, academic highlights, and program highlights and intended to serve as a prelude to a campus visit. This use of the term is easy to confuse with such a publication made available in electronic form on an institution's website, either for viewing electronically or for printing.

It is even easier to be unclear about how the term is being used because "viewbook" is the term used by a firm that sells software to make it easier to make such electronic publications available (www.viewbook.com/about/).

5.2 Canada

5.2.1 British Columbia Institute of Technology (BCIT), Vancouver

BCIT is the largest post-secondary institution in British Columbia and is a founding member of Polytechnics Canada, an association dedicated to the promotion of polytechnic education and applied research. BCIT provides the majority of apprenticeship training in the province of British Columbia. Enrolment is approximately 16,000 full-time students and 32,000 part-time students. The average starting salary of graduates in 2006 was $3,350 per month.

Communication Vehicles Used to Reach Students

The BCIT Marketing Department coordinates radio and television ads, train and bus posters, information sessions on campus, and instructors for break-out groups. An open house is held every two years so that visitors can view the facilities. High school liaison visits provide information for counsellors and parents. A viewbook and individual program brochures are produced in paper formats. The calendar is no longer provided in print form; it is available online.

The 2008 edition of the *BCIT Graduate Outcomes Reports for Certificate and Diploma Graduates* is available to the general public (www.bcit.ca/irp). Graduates are surveyed approximately one year after graduation. The report lists the number of graduates hired from each program and the median salary of those in training-related work. The latest BCIT 2008 outcomes are from the surveys of graduates from 2004 through 2006. Employment status is separated into the percentage in five categories: related job, other employment, unemployed, studying, and other. The report does not list employers hiring graduates from each program.

Students are also provided with links to BC and Canadian labour market information. The Work Futures website contains information on the nature of occupations in British Columbia and their employment prospects (www.workfutures.bc.ca). A resource for education and career planning for people in British Columbia is Education Planner (www.educationplanner.bc.ca). The Government of Canada has an employment and career resource tool for youth aged 15 to 30 at www.youth.gc.ca.

Feedback on Types of Communication to Students

A survey of incoming students found that the most influential forms of recruitment were word of mouth and the Web. From the institution perspective, all components of recruitment work together.

BCIT wants to use the Web as a way to continue communication on a more regular basis with students. Using the Web, BCIT will be able to more easily provide information over time, rather than attempting to give all important information the first day of class, for example. Although students have indicated they want to communicate this way, instructors' uptake on electronic communication is lagging.

The issue of the type of communication that suits students is considered very important. Surveys of students are now completely online. Response from trades students to online surveys has been poor. BCIT has found that trades students prefer personal interaction, whereas technology students are comfortable going to the Web. Technology students do want personal follow-up later. BCIT is trying to increase use of the Web by all students incrementally.

Feedback on Programs from Employers

Programs at BCIT are reviewed every five years, and the review includes a survey to industry for feedback. The institution believes that its recruitment of faculty members from industry along with their returning to industry for sabbaticals increases overall communication about program adequacy.

Every program has an advisory committee that has industry as well as faculty representatives. Regular meetings are held. BCIT has a reviewing framework to be followed for review of all programs. Policies and procedures are needed to make major changes to a program or to remove it. Such changes require the approval of related unions. As a result of the BCIT initiative, other colleges are looking at reviewing frameworks as well.

BCIT receives many requests from employers to adapt modules to the needs of specific job-sites. Communication flows through advisory committees and faculty networking with industry in various ways.

5.2.2 Kwantlen University College, Surrey, British Columbia

The current enrolment at Kwantlen University College is 17,000.

Kwantlen has just completed a reorganization of its trades program. The Dublin Institute of Technology was one of the sites consulted in the reorganization process.

Communication Vehicles Used to Reach Students

Kwantlen attracts students mainly through marketing to high schools, a viewbook, a large online presence that includes calendars, and a job fair. Kwantlen and BCIT combine efforts on a job fair called "Trading Up" for employers and high school students. Kwantlen's trades programs have a high rate of enrolment.

Kwantlen has an online job posting system to connect students with employers. The system can send current job postings directly to students; as well, employers can check student resumes.

Kwantlen does not have a report listing the number of graduates hired from each program annually.

Feedback on Types of Communication to Students

No information was available on surveys of students to determine what types of communication suit them best.

Feedback on Programs from Employers

Every program has an advisory committee made up mainly of employers. The committees have direct input into programs. Practicums and co-op programs also provide good opportunities for feedback.

Kwantlen uses three avenues of communication with employers about the work-site training needs they might have. Program advisory committees are one option. Co-op programs include opportunities for institution representatives to attend association meetings. Finally, a large number of Kwantlen instructors also have industry jobs.

Our question on how Kwantlen communicated with employers to determine work-site training needs for employees proved timely. A task force will report to the President at the end of March on tailoring short courses for employers.

5.2.3 Mount Royal College, Calgary, Alberta

Two-thirds of Mount Royal College's credit programs are transferable to Alberta universities. The student population was 12,703 in 2004/05.

Communication Vehicles Used to Reach Students

Mount Royal attracts students with its viewbook, career and recruitment fairs, website, program brochures, fact sheets on each program, and the calendar, which is available in portable document format (pdf). The viewbook serves as a lead-in to a campus visit with features about student life, faculty highlights, and career trends by program.

From the institution's standpoint, what works best for attracting students is a sequenced approach starting with the viewbook (14,000 copies of the glossy magazine printed annually), then the program brochures, and then the detailed fact sheets for each program. Mount Royal has a strategic enrolment strategy. Communication is tightly knit with recruitment and retention.

Mount Royal has just purchased and is beginning to implement client relations management (CRM) software. CRM will be used to track all contacts with prospective students; ultimately the CRM software will be integrated throughout the College's database so that it manages contacts with, for example, alumni and potential donors.

Mount Royal conducts an annual survey of students during May and June of the year they graduate. Results are available on the website by August. The Mount Royal College Graduate Follow-Up Survey website is for internal use, and students only have access once they are registered. Survey results are used by Career Services and Admissions. The follow-up survey reports by program and by employment, using the North American Industrial Code, and includes salary ranges. Employers are not identified.

Feedback on Types of Communication to Students

Since 2004, Mount Royal has been part of the Canadian University Survey Consortium (CUSC) headquartered at the University of Manitoba. A total of 34 universities share an instrument that was administered to 12,648 respondents in 2007. (Questions about what forms of communication influence students in choosing an institution and the student responses are included in the previous Major Reports section.)

Feedback on Programs from Employers

Each program across all degrees and diplomas has an advisory committee that includes employers and provides a venue for input. As well, Mount Royal has directed field studies within their applied degree programs; the Career Services Department works with students and employers to arrange for field placements. Co-op programs that are under development in the new degree programs will provide another communication link.

Job postings from employers are listed on the website.

Employers seeking to access upgrading for current employees can contact the Career Services Department and Continuing Education Programs.

5.2.4 Northern Alberta Institute of Technology (NAIT), Edmonton, Alberta

NAIT has over 17,500 full-time and apprenticeship students and more than 50,000 continuing education registrations. Over 40% of the students entering full-time NAIT programs have previous post-secondary education. NAIT has four campuses in the Edmonton Capital Region and campuses in Fairview, Grande Prairie, High Level, and Peace River.

NAIT confers certificates, diplomas, and applied degrees. The Institute offers some 250 programs, including 34 apprenticeship offerings.

Communication Vehicles Used to Reach Students

NAIT holds 300 external events such as trade shows each year to attract students to its programs. A call centre and a website are available. NAIT has a viewbook and other print material. Although "print is not major any more," the NAIT Graduate Placement Survey report is still the most-used communication vehicle.

The NAIT Graduate Placement Survey report lists the number of graduates hired from each program annually. The survey is undertaken six to nine months after graduation and has been in place for over 20 years. It lists the employers hiring graduates from each program and the salary range for new graduates. As well, the report includes a profile of graduates' skills and training for each program. NAIT's website gives the complete report for 2005 and a summary report for 2006 and 2007. In hard copy, the latest survey results are used in face-to-face meetings to promote programs and are available to prospective students. Before choosing a program, students are able to compare employment rates and salaries and graduates' skills for programs that interest them. For the most recent survey report, 20,000 copies were printed.

NAIT has recently completed a report of the second survey of graduates five years after graduation (*Graduate Employment Survey: Five Year Out Study of the Class of 2002*). This is a report with a longer perspective that students can consult when considering program options.

The recruitment office has been using CRM software for a year. One use is for predictive modelling. Eventually, NAIT intends to include in CRM the entire community it serves, including donors and volunteers as well as students.

What works best in attracting students to NAIT programs is "following up" initial contacts made at trade shows, connections through the call centre, and inquiries through the website. The greatest area for market growth is new Canadians, and NAIT has recruiters who specialize in matching programs to the needs of these students. Their needs tend to vary widely from the needs of sequential learners following the traditional educational path from high school to post-secondary education.

Feedback on Types of Communication to Students

NAIT has the Graduate Satisfaction Survey, although it does not include any questions about the types of communication that students prefer.

NAIT is one of 25 post-secondary institutions in Alberta participating in the Graduate Outcomes Survey conducted for Alberta Advanced Education. (Results relating to the use of various information sources for planning post-secondary studies are reported in the Major Reports section.)

Feedback on Programs from Employers

Two principal sources of program feedback from employers are the advisory committees for each program and surveys. NAIT conducts the Employer Satisfaction Survey every three years and then works to respond to the gaps that are identified. As part of the Employer Satisfaction Survey 2006, employers were asked to identify additional skills required by the respondent's organization that NAIT graduates did not bring to the workplace. Several respondents identified a skill specific to the program of study, while others noted that program content should be expanded to include additional material. The importance of practical experience and strong communication skills were also noted. One specific finding was that Bachelor of Technology graduates did not have sufficient "soft skills" required for the job. This finding ties in to an article entitled "The Bases of Competence: Skill Development during the Transition from University to Work" (Evers and Rush, 1996).

The most commonly identified concern was that the number of NAIT-trained graduates is not meeting employer demand.

To communicate with employers about their work-site training needs, NAIT has a Corporate and Institutional Training Department with a budget of approximately $16 million. Career advisors work individually with individual cases to respond to upgrading training needs.

NAIT was part of the 2005/2006 Employer Satisfaction Survey commissioned by Alberta Education and Alberta Advanced Education reported in the Major Reports section.

5.3 Australia

5.3.1 RMIT University, Melbourne, Victoria

The enrolment at RMIT University is 60,000; one-third of the students are in vocational education and training. RMIT offers certificate, diploma, advanced diploma, degree, graduate, and post-doctoral programs.

Communication Vehicles Used to Reach Students

The Victoria Tertiary Admissions Committee is the chief point of entry for existing workers returning to study. RMIT is the provider of choice, and as a result most of their students come through that centralized admissions system. Marketing is directed to industry contacts to target employers and individuals.

A major issue in Australia is building understanding of what vocational education can offer to individuals. State-sponsored television and press advertising is used to promote vocational education and training. The federal government also designed the Skills One website to provide a "virtual careers expo." RMIT is looking at the website now and hopes to try this approach.

Careers expos/open houses are directed at school students through networks of schools with support from employers. Generally, careers advisors in secondary schools do not have sufficient background and understanding of trades possibilities for their students, and for this reason they are primary targets.

Local learning and employment networks (LLENs) are incorporated organizations and groups whose mission is to facilitate local partnerships for the purpose of improving young people's education and training outcomes in Australia. LLENs are supported by grants from Australia's Department of Education and Training. All 31 LLENs in the state of Victoria were established in 2001. According to RMIT, the LLENs are improving completion rates. Further information on LLENs can be found in Fowler (2002).

In August 2007, the government launched "Regional Skills Stores" in Victoria to encourage further education and training, recognize existing skills, and help employers meet emerging skill needs. These Skills Stores are street-front locations for individuals to get free expert advice about their current skills, future skill development options, and the training they need to turn their skills into qualifications. The Minister for Skills and Workforce Participation commented as follows:

> Victoria's economy faces two major skill challenges – the continuing shift towards high-value-added production, requiring higher levels of skills, and the ageing of the population. By encouraging older Victorians to upgrade their skills and re-enter the workforce, Skills Stores will help address both these challenges. In a recent survey, 59% of Australian employers named lack of skilled staff as the biggest factor preventing small to medium-sized businesses from expanding – twice the proportion of other major countries like Britain and the US (Media release: "Regional Launch of $23 Million Skills Stores," August 15, 2007).

There is no "silver bullet" as to what works best to attract students to RMIT's programs. One initiative to attract undecided students to pre-apprenticeship programs was to purchase e-mail lists from a commercial entertainment chain. The results were more positive than advertising on television or in newspapers.

The National Centre for Vocational Education Research conducts a survey of graduates three to six months after graduation.

RMIT does not produce a report listing the number of graduates hired from each program annually. It is not a government requirement to do so.

Feedback on Types of Communication to Students

Students are not surveyed to provide feedback on the types of communication that suit them best.

Feedback on Programs from Employers

Industry advisory committees for each program provide information on emerging needs. The Australia Quality Training Framework has established standards for satisfaction surveys of employers and students. An employer survey is under development.

In terms of institutions learning about work-site training needs for employees who need to upgrade their skills on the job, the system for communication is led by industry skills councils that oversee skill requirements.

5.3.2 SkillsTech Australia, Brisbane, Queensland

SkillsTech Australia is one of Australia's leading vocational education facilities and is Queensland's leading TAFE institute in automotive, building and construction, manufacturing and engineering, and electrical/electronics studies. In July 2006, SkillsTech Australia assumed responsibility for all trades training in metropolitan Brisbane, including all facilities, staff, and students.

The current enrolment is 25,000 students. SkillsTech has a mandate to serve the state-wide Queensland population and anticipates enrolment of 60,000 by July 2009. Skill shortage is significant and leads to competition among employer groups for graduates.

Communication Vehicles Used to Reach Students

Students are attracted to programs through arrangements with their employers and government departments. A large part of the student population is in apprenticeship training.

One innovation has been a women-in-construction forum called "Try a Trade." Female students are invited to attend the forum and try out various trades.

Traditionally, SkillsTech's enrolment was done in person through service centres. Now the institute is moving to more Web-based enrolment. The initial target for Web-based enrolment is advanced diploma students. Many students will access training through their employer and will not need to come to the institution at all.

SkillsTech is developing "marketing collateral" around each industry sector. A prospectus is now available for international students from China, Vietnam, and India.

The SkillsTech website has links to a video, media releases, an events calendar, a photo gallery, and student testimonials. No report is produced listing the number of graduates hired from each program annually.

Feedback on Types of Communication with Clients

Survey results on the types of communication preferred by clients have led to the creation of a joint telephone and e-mail connection. A 1-800 number and a connected e-mail system with a single staff person to take calls at all times have made it possible for the institution to respond to queries within 48 hours. The clients are employers. Statistics are kept on the number of calls, which average 1,000 per month.

Feedback on Programs from Employers

Employer feedback on programs comes through a number of industry communication strategies. A council or board represents all industry sectors for overall strategic advice. Local advisory working groups are occupationally specific and managed by industry associations that advise on programs.

Two employer surveys are conducted annually. As well, the Department of Education conducts employer surveys.

To provide for on-site training needs, SkillsTech has the One-Stop-Shop for Training Solutions with a key client manager assigned for each request. Courses are either delivered by SkillsTech or brokered through public institutions or private providers.

5.4 Republic of Ireland

5.4.1 Dublin Institute of Technology (DIT)

Enrolment at DIT is 3,500 to 4,000 full-time and 8,000 part-time students.

Although it is a member of the European University Association, DIT's programs range from apprenticeship to postgraduate level and from accounting and architecture to tourism and telecommunications.

Communication Vehicles Used to Reach Students

The major way to attract students to programs at DIT is through secondary career guidance counsellors. Open days for guidance counsellors, where academics give an overview of their programs, are found to work best of all the initiatives. Academics also visit schools to talk about careers. The Admissions Office provides a prospectus for counsellors and teachers.

Students can access a central application website (www.cao.ie) that has been in place for 15 years for all of Ireland's technical institutions. Close to 100% of first-year students use this central system. The website is more attractive to students than the prospectus, a glossy magazine. Newspaper and radio, but not television, advertisements are used. The academic calendar appears as a supplement in national newspapers.

A DVD about life on campus at DIT was produced two years ago. Copies are sent to all guidance counsellors and all students who have applied to DIT. Student reaction has been positive, and DIT intends to keep the DVD current.

DIT produces a first destination report listing the number of graduates hired from each program annually. This survey is required by government, and survey forms are distributed to students nine months after graduation. The detailed report is used by faculty; students do not have access to it. The summary report for Ireland, *What Do Graduates Do? The Class of 2005* (latest available version) is accessible on the Higher Education Authority website (www.HEA.IE).

DIT has online software for employers to advertise jobs (JobScene on the DIT site) that DIT ratifies. The Association of Graduate Careers Ireland has an integrated JobScene database that both employers and students can use.

Major career fairs are held annually. This past year institutions on the east coast of Ireland coordinated efforts to sponsor a major fair in Dublin. Approximately 5,000 students attended to interact with 180 companies.

Feedback on Types of Communication to Students

Careers Service at DIT conducts a marketing survey that includes a question asking students how they first heard about DIT Careers Service. The results are of interest even though only 240 students responded to the question:

E-mail	24%
Careers talk/workshop	18%
Word of mouth	14%
Poster	10%
Staff member/lecturer	10%
Orientations*	6%
Students union	4%
Careers website	3%
Notice board	3%
College prospectus	2%
Other	6%

* DIT uses the term “inductions”

Feedback on Programs from Employers

Advisory committees have input into course development. Some faculties have industry placement in co-op arrangements, particularly in tourism and food. A lot of lecturers have industry experience. Some have regular contact with industry. Courses are regularly reviewed (at least every five years) for career and industry focus.

Although DIT runs courses for employees’ professional development, it is not DIT’s primary role to respond to employers’ work-site training needs, and it takes no special steps to determine their needs. Its primary role is third level education for students progressing from the second level.

5.5 New Zealand

5.5.1 Whitireia Community Polytechnic, Porirua, North Island

The enrolment at Whitireia is 8,000 to 9,000 students on four campuses; approximately 20% are Maori.

Unemployment in New Zealand is very low at present. As a result, the government strategy is to attempt to increase efficiency with higher level qualifications.

Communication Vehicles Used to Reach Students

Whitireia uses its prospectus, a glossy publication, as its major means to reach students, publishing about 25,000 copies annually. As well as accessing other print publications, students can access a website. Marketing campaigns, school liaison programs at various levels, and advocacy forums are also used. A considerable budget allocation is made for television and newspaper advertising.

To reach students, Whitireia wants to use a social marketing model, as well as a content-driven model, for its website. Among other things, a social marketing model might involve having students who are leaders to serve as contacts for other students. The institution wants to build relationships with schools that are more content-driven and activity-based. It aims to help students improve their decision-making so that they start in the right program at Whitireia when they first register, rather than after the second or third try.

A survey of graduates is conducted, and the overall percentage of graduates who have gone on to work or to study is reported.

Feedback on Types of Communication to Students

Whitireia does not survey students to question what types of communication suit them best.

Feedback on Programs from Employers

Whitireia requires each program to have an advisory committee that meets three times per year. These committees recommend program changes based on the changing needs of the industry. Employers are also involved through their own representative national bodies (industrial training organizations) and in less structured ways by participating in government reports. An annual report on regional tertiary training needs is produced with input from the Department of Labour, the Department of Economic Development, employers, the city, Maori representatives, and all 80 tertiary providers. The report addresses matching the need for tertiary education with employment needs.

An annual employer survey collects information on key performance indicators. Government-mandated questions for a student satisfaction survey, a graduate survey, and an employer survey are reported to government in a single data return system.

The greatest need in terms of communicating employers' work-site training needs is for the development of a regional facilitation role for the institution. In other words, Whitireia plans to communicate at the regional level with regional organizations rather than at the employer level to meet work-site training needs. Whitireia is looking at a network of provision created for the region based on a UK model.

5.5.2 Wellington Institute of Technology (WelTec), Wellington, North Island

WelTec has an enrolment of 11,265 students; 57% of the students have jobs. (The full-time equivalent [FTE] total is approximately 4,500.) Four campuses provide a range of programs from entry-level certificates to degrees. The focus includes applied, technical, and professional education and training.

Communication Vehicles Used to Reach Students

Newspaper advertising and direct mail are major methods of attracting students to WelTec. Career expos are used on a shared basis with other training institutions. Open days are held for students to visit WelTec campuses. School visits by staff were reported as a frequent communication tool. A prospectus lists all programs, and subject area booklets are available. The website is not identified as a communication vehicle for reaching local students; it appears to be directed to international students. Although WelTec has not been tracking what works best to attract students to its programs, it is now looking at studying which options are most productive.

Feedback on Types of Communication to Students

An early evaluation of new students is carried out at the program level to ensure that students have the information they need. No questions are included as to the type of communication that suits students best.

WelTec collects information from graduating students on employment outcomes as part of annual program evaluations. Response levels are not as high as desired. WelTec is looking into creating an alumni database that would facilitate collecting program feedback and follow-up information.

Feedback on Programs from Employers

Advisory committees are in place for each program area. Committees meet four times a year to provide strategic direction to the institution. A review of the effectiveness of advisory committees was conducted a year ago.

A regional facilitation program to address tertiary needs for the region is chaired by WelTec.

The employment satisfaction survey that is administered annually has just been revised.

Employer work-site training needs are addressed through advisory groups. Workplace training including embedded tutors for literacy and skills training is a major outcome. The tutors who are full-time WelTec staff provide a communication link between WelTec and employers.

The Regional Technology and Trades Centre provides a storefront outreach location for employers to access.

A variety of employer-institution agreements exist for students to obtain training at either WelTec campuses or work-sites. As well as workplace training, work release, internships, apprenticeships, and cadetships are available in many training areas. "Cadetships" were identified in our interviews only by WelTec, which reported that the idea was brought to New Zealand from Melbourne, Australia.

A little research suggests that WelTec is not the only place to find cadetships in New Zealand. The Ministry of Youth Development offers cadetships internally or finances businesses to encourage them to offer cadetships. The Cadetship agreement is set out in a contract specifying training and employment components. The partner acts as a mentor to the WelTec Technology Cadet, pays for tuition fees and summer vacation work, and can hire the Cadet directly into the business at the start if the employer wishes. Employers have the opportunity to assess the student's work performance and offer full-time employment upon graduation. These programs lead to diplomas and degrees in mechanical, civil, and electrical engineering. Some cadetships offer the possibility to gain qualifications as part of the National Qualifications Framework (www2.careers.govt.nz/cadetships). WelTec facilitates the process by sponsoring evening events for employers to meet students. The program has expanded largely based on word-of-mouth communication.

5.6 United Kingdom

5.6.1 Greenwich Community College, London, England

Greenwich Community College is the largest provider of further and adult education in Greenwich and serves a multicultural community of over 14,000 students. It offers more than 2,800 courses at 12 main centres and 200 community centres. Much of the focus of this college is on training for service sector industries, specifically sport, recreation, leisure, travel, and tourism.

Communication Vehicles Used to Reach Students

The traditional glossy prospectus has been the long-standing mode of communicating about programs with students. A separate publication is prepared for part-time students, full-time students, and full-cost students (commissioned training by businesses). Students can also consult the Web for course and program details. Marketing survey results indicate that the best vehicle is word of mouth, reported by the majority of respondents.

A report is prepared for some programs (London Leisure Centre, Tourism, and Health and Social Care) listing the number of graduates employed. It is used by heads of departments to promote courses but is not directly available to students.

Feedback on Types of Communication to Students and Employers

To date, Greenwich Community College has no formal survey of students to determine the form of communication that suits them best, although the College is considering this now. Greenwich has been using focus groups to identify the methods of communication students prefer. The top preference has been mobile phones and text messaging. The College has piloted these methods with individual tutors reminding students of notices and dates for meetings. Issues of social inclusion are a concern. (Not all students can be assumed to have mobile phones.)

Feedback on the types of communication employers prefer has not been collected as systematically. Greenwich is about to install customized sophisticated software (CRM) and expects it will be operational by June 2008.

Feedback on Programs from Employers

Feedback from employers on programs is part of the communication plan. Greenwich has strong partnerships with major employers and gets immediate feedback on curriculum design and delivery. For the leisure industry, some teachers retain their full-time jobs in industry and teach in the college. There is an advisory board in the gaming industry and in the health industry. In the electrical and motor vehicle industries, there is little employer feedback due to the small size of businesses.

Job exchanges involve staff working in industry and some industry people serving on staff, but direct job exchanges are not made.

Providing training to meet work-site training needs is viewed as a business opportunity by Greenwich. They conduct training needs analysis for employers as a means of building a relationship. They have provided on-site training for a London entertainment group that advertises itself as the Number One entertainment venue in the world. Other contracts result from canvassing the private sector.

Each department conducts an annual self-assessment that includes comparing achievement and retention performance against national benchmarks.

5.7 United States

5.7.1 Anne Arundel Community College, Maryland

This college was recommended by the League for Innovation in the Community College. It serves Anne Arundel County and the state capital of Annapolis, close to Washington, DC. The enrolment in credit and non-credit courses for 2005 was 56,402.

This college has a program connection in entrepreneurial education with Greenwich Community College, England.

Communication Vehicles Used to Reach Students

The pipeline to high school students for Anne Arundel is high school guidance counsellors. General marketing for the adult learner is directed at transitioning and re-entering needs. To this end, the schedule of classes for both credit and continuing education is mailed four times annually directly to all 280,000 households in the county. This direct mail has proven to be the best way to attract students to programs at Anne Arundel. The Web has proven less useful for communicating with adults.

Anne Arundel does not have a report listing the number of graduates hired from each program annually.

Feedback on Types of Communication to Students

Focus groups are used to collect feedback from students when changing the format of communications.

Feedback on Programs from Employers

Anne Arundel gets feedback about programs from employers through advisory committees and surveys. The College conducts an employer satisfaction survey that is required by the State of Maryland.

The College has representatives on nine chambers of commerce and many business councils. These avenues serve to communicate the work-site training needs of employers to the College as well as to the program advisory committees mentioned above.

The College's Centre for Workforce Solutions responds to training needs for business and industry's incumbent workers. This centre has a sales team and an implementation team. From 50 to 75 companies or organizations per year have contracts with the College for incumbent worker training. Demand reflects the economy. Success is measured by the fact that there is a high repeat percentage of contracts with client companies.

5.7.2 Lehigh Carbon Community College, Pennsylvania

Lehigh Carbon was recommended for the study by the League for Innovation in the Community College. Speaking of the area, a recent article said "Bethlehem, Allentown and Easton are in the Lehigh Valley (pop. 790,000), birthplace of the American Industrial Revolution and the epicenter of its industrial decline" (Ibbitson, 2008: A1).

The College serves two counties and has an enrolment of 7,000 on one campus.

The focus is on career pathways leading students from high school into a pathway for gainful employment. Students plan their curriculum in high school and are permitted dual enrolment in high school and college for approved courses.

Communication Vehicles Used by Institutions to Reach Students

Guidance counsellors are the key communication vehicle for Lehigh Carbon to reach high school students. They encourage students who have met basic high school program requirements to consider enrolling in Lehigh Carbon courses to fill their high school timetable and gain credit at the college level at the same time. Thus the students are introduced to the College.

Of the total college enrolment, 1,000 are high school students taking college courses and earning credit in both high school and college. These dual enrolments are achieved using four models. One model is for the college to hire high school teachers to teach Lehigh Carbon courses in their high school; in this case, the contract specifies no salary in order to deal with legal or union issues. A second model involves sending college instructors to high schools to teach specific courses. Some courses are available online. A fourth model is for high school students to take courses on the College campus; about 100 students take courses on campus.

To facilitate planning for dual programs, guidance counsellors in all schools in Lehigh County use "Career Cruising," an online career guidance resource (www.careercruising.com).

Other methods that help attract students to Lehigh Carbon programs include job shadowing and student interning. The Web is not used as a way to attract students to Lehigh Carbon Community College.

Local and statewide reports list the number of graduates hired from each college program annually.

Feedback on Types of Communication to Students

Student surveys giving feedback on the types of communication that suit them best are not conducted.

Feedback on Programs from Employers

The two principal ways used to obtain feedback from employers about program suitability are the Workforce Investment Board and advisory committees. The Lehigh Valley Workforce Investment Board (www.lvwib.org/) works with the College to ensure that industry is involved with its programs. The Board is one of many such local boards mandated by Pennsylvania and one of 650 such business-led boards that nationally are members of the National Association of Workforce Boards intended to "Help America Work." One of their strategies is to align education and workforce development. Advisory committees including employers who hire graduates are put in place for each grant the College receives. As well, advisory committees are required for each program area.

5.7.3 Sinclair Community College, Ohio

The Miami Valley Tech Prep Consortium operates out of Sinclair Community College and was recommended for inclusion in the study by the League for Innovation in the Community College. (Sinclair has an enrolment of 24,000 students on a single campus.)

The Consortium's strategy is to introduce high school students to Sinclair Community College by helping them develop a long-term education plan in high school that provides suitable background for the college program they will take. As well, students can opt to take some approved courses as part of their high school program that will also give them college credit.

The program called Early College Connections invites applications to the college program from 10th grade students and up. In high school, they can take up to 30 approved credits that will count for credit toward a community college program. This defined pathways program claims a high completion rate. The program focus is on intake, not on students getting jobs.

The program draws on schools from the state of Ohio. Enrolment in the program is small but growing, with about 500 students in 2007 and over 600 in the current school year.

Communication Vehicles Used to Reach Students

Evening events for parents provide information on educational and financial aspects of the Tech Prep program.

The college website (through the "Metamorph" desktop icon) provides for career planning online that permits developing an educational plan from ninth grade through an associate degree for a student working with a guidance counsellor.

Feedback on Types of Communication to Students

The program director works with school staff in 60 school districts rather than communicating directly with students. No survey information was available on how successful this plan was for students as a communication link with the college.

Feedback on Programs from Employers

Ohio requires education institutions to have a business advisory group for high school and post-secondary programs directed to employment. Under that law, employers are involved in this program through a series of meetings to determine skills required for specific program outcomes.

The Program of Study Pathway Templates developed for the Miami Valley Tech Program were reported as having application potential for displaced workers from manufacturing jobs who need quick training and a new job (www.mvtechprep.org).

6. Synthesis of Findings

This section synthesizes findings from the case studies and major reports under two headings. The first section considers how students are informed about training programs, and the second considers communication vehicles used by training institutions and employers to optimize their training efforts.

6.1 Informing Students about Training Programs

6.1.1 Range and Frequency

Interviewees were asked an open-ended question as to the main ways they attract students to their programs. Although the answers encompassed important features of the institutions' communication outreach to new students, the authors conclude they were not all-inclusive. As well, not all respondents held the same position in their institution and thus responded from somewhat different knowledge bases. We therefore advise a degree of caution in interpreting the frequencies of use of various communication vehicles. Where the results are corroborated by major studies, more importance can be attached to the results.

Website use was the most frequent response, with nine institutions naming it. Two of the large-scale surveys reported in the Major Reports section above reflect the prevalence of website use to students. According to the NACE 2007 report of an online survey, students relied heavily on the Internet for job hunting, with 81% visiting company websites and 55% checking job postings on college websites. Among students in the CUSC 2007 survey, 18% identified a university website as the single most important contact in choosing an institution.

Glossy magazines (called either a viewbook or a prospectus) and brochures were cited in eight cases. In the CUSC 2007 survey, 17% of the students identified viewbooks, brochures, or pamphlets as the single most important contact in choosing an institution. The Alberta Post-Secondary Graduate Outcomes 2006 Survey found that institutional calendars and parents/other relatives received the highest usefulness rating in deciding which program and institution to attend.

The use of media including one or more of newspapers, radio, television, or train and bus posters was reported by seven institutions. Graduate employment reports were also reported seven times. However, the amount of information in graduate employment reports varied significantly, from a minimal reporting of the percentage of graduates employed to providing the names of employers and starting salaries by program.

High school liaison visits were cited by six institutions, as were major staged events such as job fairs and trade shows.

On-campus visits or open houses targeting students and parents or guidance counsellors were reported by four institutions. This was the top-rated "single most important contact in choosing an institution" for students in the CUSC 2007 survey, with 25% reporting it.

Four institutions worked through secondary school guidance counsellors to attract students to their programs. A total of four used one-on-one communication, including a call centre, CRM software, and word of mouth.

The remaining communication vehicles used to attract students were direct mail, reported by three institutions; regional storefront centres, reported by two institutions; and evening events for parents, reported by one institution.

6.1.2 Success in Communicating with Students

The frequency of use of communication vehicles just summarized was only a partial predictor of what vehicle was judged to work best in connecting with students about training programs. We also asked respondents for their assessments of what worked best. Those assessments are summarized here.

Personal contact with prospective students through word of mouth, mobile phones and text messaging, or high school guidance counsellors was rated the most successful by five institutions.

A *sequenced approach* was highlighted by three institutions. In one case, students first received a viewbook, followed by program brochures, and then fact sheets. Another institution is attempting to tailor the mode and sequence of communication to students' background; while trades students prefer to be approached first through personal communication, technology students are willing to use Web communication first provided it is followed by personal communication. A third case emphasized following up initial contacts made at trade shows, connections through the call centre, and inquiries through the website.

Direct mail of the schedule of classes to all households in the county was the most successful for one institution. The Web was considered less useful for communicating with adults in this case.

Ireland's *national central application website* was reported to be more attractive to students than the prospectus.

The most extensive document reviewed by the study authors for communicating successful outcomes from specific training programs to prospective students was the *NAIT Graduate Placement Survey report*.

6.2 Training Institutions and Employers

The importance of making the most of communication opportunities between training institutions and employers cannot be underestimated. The flow of supply and demand information between training institutions and employers and the integration of that information into training programs is at the crux of providing strong support to the country's industrial workforce needs.

Many communication vehicles were in place for communicating with employers at all the institutions we contacted. Some vehicles were multi-purpose in providing input or feedback about training programs for new graduates as well as for work-site training needs. Existing channels were spoken of with great respect and their importance was underlined.

All training institutions reported having program advisory committees in place for most or all programs. Often, these advisory committees were mandated by government. One institution received government grants that require it to have advisory committees for those special grants.

Communication avenues to employers also consisted of memberships on industry skills councils or boards managed by industry. As well, one institution had representatives on many chambers of commerce and other business councils.

Individual employer surveys were cited in five cases. Macro-level reviews of programs, courses, or frameworks were reported three times. "Framework" in this case refers to the policy and/or procedures for adding or changing a program.

Communication between training institutions and industry was facilitated by the various working arrangements and background work experience of staff. Five institutions referred to employees with concurrent teaching-industry positions or to staff moving back and forth between the institution and industry in various roles. Five institutions also noted that their staff members were well positioned to communicate with industry staff in arranging for student work-site placements.

Regional storefront centres were used for outreach to employers and their employees by four institutions. Three were expanding communication links through the directed marketing of educational services to industry.

The institution representatives who were interviewed did not choose to comment on what types of communication with employers worked best. So many different purposes were being accomplished by various forms of communication that comparisons would have had little meaning.

7. Summary, Reflections and Recommendations

This project set out to identify best practices for enhancing the flow of information among training institutions, students, and employers. A scan was undertaken of institutions in Alberta, British Columbia, Australia, New Zealand, the United Kingdom, the Republic of Ireland, and the United States; in each case we identified institutions comparable to Ontario's Colleges of Applied Arts and Technology.

This section brings together thoughts related directly to "reaching prospective students" and to "institution-employer communications." The section also addresses several other ideas that were raised by the research, even though these thoughts go beyond the area we set out to consider. Because one desired outcome of this project was an understanding of what sort of future research might be worth pursuing, the section also reflects on that question.

Although suggestions are implicit in much of what follows, recommendations appear in ***bold italics***.

7.1 Reaching Prospective Students

7.1.1 Personal Contact

Our scan has provided some insight into both the frequency of use of various communication vehicles and the ones that informants judged as working best.

Personal contact with prospective students was rated as the most successful communication vehicle. Personal contact includes technology such as mobile phones and text messaging, word of mouth, and the more traditional avenue through high school guidance counsellors. Institutions also make use of multiple approaches in sequence and tailor their approach. A *sequenced approach* might involve providing prospective students with a viewbook, followed by program brochures, and then fact sheets. The mode and sequence of communication might also be tailored to students' background – using the program of interest as a proxy of their background. Thus, an approach that works for applicants to trades programs might not work as efficiently for applicants to technology or other programs.

An increasing number of institutions appear to be building on the importance of such a personal, sequenced, and customized approach by harnessing the power of technology, and in particular the use of CRM software. ***Institutions' use of technology to improve their services needs to be encouraged.***

At the same time, it is reasonable to speculate that education, just like every other industry, needs to be concerned that the use of powerful electronic technology respects individual privacy. It is not particularly surprising that none of the respondents identified privacy as a concern: educators too want the freedom to harness new technologies to improve their services. Nonetheless, as institutions adopt CRM software, ***oversight authorities need to be vigilant with respect to individual privacy concerns.*** The purchase of distribution lists could lead to privacy issues.

7.1.2 Outcomes Surveys

Information on what happens to graduates of a program can be an important source of information for those choosing a program or institution. Although virtually every institution surveyed acknowledged the importance of such surveys, there is a great range of experience. ***It is important to find ways to encourage institutions to collect and make such information available.***

Collecting information is not the same as making it available. It is not enough to find out, for example, whether graduates find employment, and to use that information to improve programs. Although that is important, it is also useful to make the information available to prospective students.

In some jurisdictions, outcomes surveys are mandated by government or a government agency. In the UK, Australian, and New Zealand surveys, a quality assurance framework typically requires institutions to have a survey in place and to report the results. In the United States there may be state-legislated or accreditation requirements.

Of the institutions included in this survey, NAIT provides the best model. That institution has not only systematically collected information annually over many years, but also publishes the results of its employment outcomes surveys and now makes those results available on its website. The paper copy is among the most commonly used document with NAIT's market. To make the Web version more useful, the institution might link it directly to information that prospective students would likely search.

7.2 Institution-Employer Communications

The range of communications vehicles found in this scan is commonly found in Canadian institutions. Program advisory committees, industry skills councils or boards, employer surveys, and exchanges of staff between the training institution and industry are all used by many Canadian institutions. ***Given the success of these communications vehicles, government should seek opportunities to develop and apply policy and financial levers to ensure that all of these vehicles are used and that they are used systematically.***

Program advisory committees serve many communication roles. They provide a forum for getting advice on programs and finding out about work-site needs. They give the institution a basis for establishing informal networks with employers. They serve as the basis for staff "exchanges" that will further improve communication.

The industry skills councils or boards reported internationally are reflected in Canada's use of sector councils. It was beyond the scope of this scan to determine whether other countries use these bodies more extensively.

7.3 Qualifications Frameworks for Canada?

The creation of the European higher education area and the development of a related qualification framework were discussed earlier (Section 3.3). In that context, we noted the development of the European Credit System for Vocational Education and Training to support the transfer, accumulation, and recognition of individuals' learning.

Canada needs to learn how European countries have been able to put such a system – nascent though it may be – in place and to use that information to improve its own mechanisms for coordinating delivery and recognition across provinces and territories.

7.4 Beyond Outcomes – Satisfaction Surveys Count Too

We have noted the importance of collecting and making available information on what happens to graduates of a program; we believe that outcomes information is important for those choosing a program of study or an institution, just as it can be important to those wanting to improve educational programs. In this scan, seven institutions noted that they undertake either graduate outcomes surveys or graduate satisfaction surveys, or both. As well, six institutions reported that they survey employers to determine their level of satisfaction with graduates.

Information on how graduates view the program is also important for potential students and program managers. Such "satisfaction" surveys appear to be even less common than outcomes surveys. Yet, we believe it is ***important to find ways to encourage institutions to collect and make information available on graduate and employer satisfaction.***

7.5 Methodology Is Important

For this scan, we have focused on what information is collected and communicated rather than the way in which surveys are undertaken. However, that emphasis overlooks the importance of ensuring that surveys are done well so that findings are reliable, valid, and comparable.

General requirements, such as requiring institutions to have a survey in place and to report the results, can mean that an institution's survey will differ significantly from those conducted by similar institutions. In the United States, the multiplicity of state, regional, and specialized bodies means that there is no national standardization.

Such general requirements for outcomes or satisfaction surveys, or both, mean that institutions are on their own in determining the topics to be included, how the questions are asked, and when they are asked. A graduate outcomes survey, for example, might be carried out at the time of graduation or some months or years after graduation.

Another approach is for institutions to agree among themselves on questions and methodology, or for questions and methodology to be required of all similar institutions by government or a government agency. Either approach ensures a higher level of comparability among institutions.

The highest level of comparability can be assured when the surveys are undertaken centrally, either by government, a government agency, or by a collection of institutions operating in common.

In Canada, arguably the best model is in Alberta. That model may in fact set an international standard for work done in a single jurisdiction. In Alberta, the provincial Ministry of Advanced Education conducts standardized surveys on behalf of all post-secondary institutions – universities, colleges, and technical institutes – and makes the results available on its website. The questions are standardized so that reasonable comparisons on basic data can be made across types of institutions: comparing technical institutes with universities, for example. Such surveys are in addition to whatever surveys an institution may choose to undertake. NAIT provides a long-standing and outstanding example of having such surveys, as described earlier.

There are other examples of institutions working together, without any legal requirement. NACE and sister organizations in other countries undertake employment outcomes surveys that are widely disseminated. There is also the Community College Survey of Student Engagement, based on the earlier National Survey of Student Engagement, although it deals with other topics.

7.6 Websites and Personal Communication

Increasingly, the World Wide Web is the medium of choice for circulating all sorts of information, including information of concern to this review. Institutions use the Web to reach potential students and to provide services to their existing student body. Employers and employer groups access the same websites to learn about training opportunities for their staff and to collect information they might need to plan recruitment programs. When an employer wants to recruit beyond known institutions, or to meet new needs, the employer can use the Web to identify institutions offering similar programs.

Regardless, it is notable how many institutions qualify their use of the Web and how much those institutions recognize the significance of in-person contact either with students or their advisors. This observation fits with NACE's reviews and with research undertaken by CPRN that suggests personal contact is important, especially for hard-to-reach populations and disadvantaged youth.

One institution in this scan appears to be thinking about combining the technology with the need for personal contact. In that case, the institution is talking about making its website a more social experience – perhaps in the image of Facebook. The Web can be a powerful tool for much more than disseminating and updating information.

7.7 Thoughts for Future Work

Various ideas for future research were identified in the preceding subsections, but there is one idea in particular that merits special mention.

Two of the institutions identified as leaders by Canadian institutions combine all levels of post-compulsory education, from apprenticeship through baccalaureate, master's, and doctoral studies to post-doctoral studies.

DIT and RMIT University have unique histories, described earlier, that probably contribute to their success in integrating these types of education. Although both institutions result from the merger of several different institutions over many years, such an institution might be created anew. Detailed study may lead to the conclusion that such a model might be adapted to Canada.

At face value it would seem that the structure of these institutions would facilitate communication. Students who wish to pursue a given area of study would deal with a single organization rather than several. Employers seeking graduates in a particular area or upgrading for employees would work with a single institution able to provide training at the appropriate level, rather than with multiple institutions.

References

Alberta Advanced Education. 2006a. *Alberta Post-Secondary Graduate Outcomes Survey: Class of 2003/2004.* Edmonton: Alberta Advanced Education.

Alberta Advanced Education. 2006b. *2005/2006 Employer Satisfaction Survey, Final Report.* Edmonton: R.A. Malatest & Associates Ltd.

Brisbois, Richard, and Ron Saunders. 2006. "Skills Upgrading Initiatives in Canada: Evidence from Alberta and the Northwest Territories." In OECD [Organisation for Economic Co-operation and Development]. *Skills Upgrading, New Policy Perspectives.*

Canadian Council on Learning. 2006. *Canadian Post-Secondary Education: A Positive Record – An Uncertain Future.* Ottawa: Canadian Council on Learning.

Case, Jim, Lisa Christensen, Rachel Moeller, and Hilles Hughes. 2004. *Bridging the Gap between Student Expectations and Employer Reality: Electronic Tools and College Recruiting.* National Association of Colleges and Employers.

CUSC [Canadian University Survey Consortium]. 2007. *First-Year Student Survey – June 2007.* Winnipeg: Prairie Research Associates.

Evers, F.T., and J.C. Rush. 1996. "The Bases of Competence: Skill Development during the Transition from University to Work." *Management Learning* Vol. 27, No. 3: 275-300.

Fowler, Sue. 2002. "The LLEN: The Purpose of Local Partnerships in the Provision of Improved Outcomes for Young People." *ARIS Resources Bulletin* Vol. 13, No. 4. ERIC reference #ED471616.

Graduate Careers Australia. 2007. *Graduate Destination Survey.* Canberra: Graduate Careers Australia.

Ibbitson, John. 2008. "Guns and God aren't the only things on Pennsylvania's mind these days." *The Globe and Mail*, April 15. pp. A1, A12.

Minister for Skills and Workforce Participation. 2007. "Regional Launch of $23 Million Skills Stores." August 15. Victoria, Australia: Ministry for Skills and Workforce Participation. Accessed at www.dpc.vic.gov.au/domino/Web_Notes/newmedia.nsf/798c8b072d117a01ca256c8c0019bb01/92a6181f73d3af8aca257338007e1eb9!OpenDocument.

NACE [National Association of Colleges and Employers]. 2007. *Moving On: Student Approaches and Attitudes toward the Job Market for the College Class of 2007, Executive Summary.* Bethlehem, PA: NACE.

NACE [National Association of Colleges and Employers]. 2008. *Principles for Professional Conduct for Career Services & Employment Professionals.* Bethlehem, PA: NACE.

OECD [Organisation for Economic Co-operation and Development]. 2000. *From Initial Education to Working Life: Making Transitions Work.* Paris: OECD.

Scott, Mary E. 2004. "Can High Tech Coexist With High Touch? Online Application Processes and Career Fairs." *NACE Journal* (Summer).

Statistics Canada. 2008. *Educational Portrait of Canada, 2006 Census: Highlights.* Available at www12.statcan.ca/english/census06/analysis/education/highlights.cfm.

Appendix 1. Key Websites – Associations and Institutions

International

www.wfcp.org/index.php	World Federation of Colleges and Polytechnics
www.iaoc.org/	International Association of Colleges
www.ingrada.org/	International Network of Graduate Recruitment and Development Associations

Australia

www.skillstech.tafe.qld.gov.au/index.html	Skills Tech Australia
www.rmit.edu.au/	RMIT University
www.tda.edu.au/default.htm	The website for the association of executive heads of Technical and Further Education institutions – TAFE Directors Australia
www.graduatecareers.com.au/	Graduate Careers Australia

Canada

www.accc.ca/index.htm	Association of Canadian Community Colleges
www.bcit.ca/	British Columbia Institute of Technology, Vancouver
www.kwantlen.bc.ca/home.html	Kwantlen University College, Surrey
www.mtroyal.ab.ca/	Mount Royal College, Calgary
www.nait.ca/	Northern Alberta Institute of Technology, Edmonton
www.alis.gov.ab.ca/main.asp	Alberta Learning Information Service, developed by several provincial departments as Alberta's gateway for career, learning, and employment information and services. The website provides information to help with career planning, post-secondary education and training, educational funding, job search, labour market trends, and workplace issues.
www.cusc-ccreu.ca/index.htm	Canadian University Survey Consortium

Republic of Ireland

www.dit.ie/DIT/Homepage/index.html	Dublin Institute of Technology, Dublin, Ireland

New Zealand

www.cit.ac.nz/	Wellington Institute of Technology
www.whitireia.ac.nz/	Whitireia Community Polytechnic
www.worksite.govt.nz/	This site brings together a wealth of employment information organized to make it accessible for individuals or employers. For individuals, the major categories of information are for those looking to return to school and those seeking employment.
www.nzqa.govt.nz/index.html	New Zealand Qualifications Authority. The authority's responsibility includes assuring the quality of qualifications and providers.
www.tec.govt.nz/	The Tertiary Education Commission is responsible for leading the government's relationship with the tertiary education sector and for policy development and implementation.

United Kingdom

www.gcc.ac.uk/	Greenwich Community College, London
www.aoc.co.uk/	Association of Colleges

United States

www.aacc.edu/	Anne Arundel Community College, Maryland
www.lccc.edu/	Lehigh Carbon Community College, Pennsylvania
www.sinclair.edu/	Sinclair Community College, Ohio
www.aacc.nche.edu/	The American Association of Community Colleges is close in membership and mandate to Canada's Association of Canadian Community Colleges.
www.league.org/index.cfm	The League for Innovation in the Community College is similar in membership and mandate to the American Association of Community Colleges, but with an international membership and a more focused interest.
www.naceweb.org/default.asp	The National Association of Colleges and Employers (NACE) is concerned with helping students attain personally rewarding careers and helping employers develop effective college relations programs that contribute to effective candidate selections for their organizations.
www.naceweb.org/awards/default.htm	The awards section of the NACE website describes best practices that have won award for the years 1998 to 2007.
www.naspa.org/index.cfm	National Association of Student Personnel Administrators
www.careercruising.com/	Career Cruising website. A link to the Career Cruising website can also be found on:
www.cwds.state.pa.us/cwdsonline	Commonwealth of Pennsylvania Workforce Development System – CareerLink

Canadian Policy Research Networks – Réseaux canadiens de recherche en politiques publiques
214 – 151 Slater, Ottawa, Ontario K1P 5H3
613-567-7500 www.cprn.org