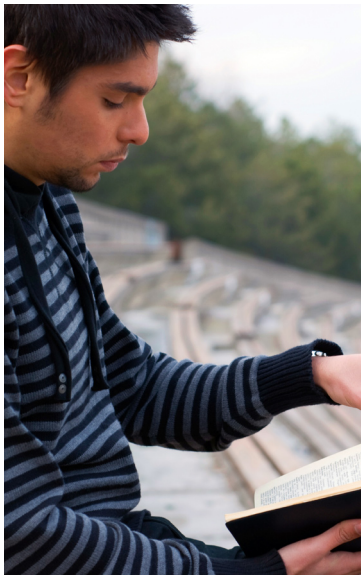
CHALLENGES IN CANADIAN POST-SECONDARY EDUCATION



UP TO PAR

The Challenge of Demonstrating Quality in Canadian Post-secondary Education

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www.ccl-cca.ca

Canadian Council on Learning

Ottawa office
1410 – 50 O'Connor Street
Ottawa, ON K1P 6L2
613.782.2959
Fax: 613.782.2956

Vancouver office
1805 – 701 West Georgia Street
P.O. Box 10132
Vancouver, BC V7Y 1C6
604.662.3101
Fax: 604.662.3168

E-mail
info@ccl-cca.ca

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Introduction

When viewed holistically, Canada lacks a clear and common understanding of the future directions and top priorities of its post-secondary education (PSE) sector. Perhaps as a result, Canada has not yet comprehensively addressed a fundamental question: How do we demonstrate quality in PSE? To answer this question requires clarification of many issues, including the roles that various institutions and sectors play. It also requires the development of a shared vision of PSE, of what can and should be achieved. Despite much discussion among leaders of various education sectors in Canada, an agreement on a plan of action has yet to be reached. Indeed, a national dialogue on this critical issue is needed.

As a starting point for a national dialogue, the Canadian Council on Learning (CCL) has published three annual reports on the state of post-secondary education in Canada over the last four years. These reports provided an overview of the Canadian PSE landscape while highlighting various issues common among education jurisdictions and institutions. For instance, CCL's 2006 report, *Canadian Post-secondary Education: A Positive Record—An Uncertain Future*, identified eight goals common among the post-secondary strategies of provinces and territories. One of these common goals was addressing the issue of quality in PSE.

CCL's new monograph series, *Challenges in Canadian Post-secondary Education*, focuses on important considerations identified in our previous reports. Here, with the inaugural monograph, "Up to Par: The Challenge of Demonstrating Quality in Canadian Post-secondary Education," CCL discusses the complex challenges associated with defining and demonstrating quality in PSE. As the monograph asserts, a necessary step toward understanding and demonstrating quality in PSE is clarification of the overarching purposes and objectives of Canada's collective post-secondary efforts. The common goals identified by CCL suggest convergence among Canadian education jurisdictions upon which a pan-Canadian strategy for PSE could be built. Nevertheless, debate persists on how best to structure institutions and systems—debate which further confuses our understanding of quality in PSE.

Acquiring PSE has been linked to a number of individual benefits, such as better health and quality of life, and a greater likelihood of increased lifetime earnings. In turn, countries with higher levels of PSE participation enjoy greater economic prosperity, employment stability, labour flexibility, productivity and civic participation.[1] Increased PSE enrolment rates reflect a growing awareness of the economic benefits of a PSE qualification. Following a period of decline in the 1990s, university enrolment has increased markedly. Between 2001 and 2007, total university enrolment in Canada rose by 19.2%, from 886,700 to over 1 million. Over the same period, the level of graduate studies enrolment grew by 25.3% to over 150,000.[2] This increase has not been limited to universities. In fact, the share of the working-age population in Canada with any type of post-

secondary qualification increased significantly over the last 15 years, from 42.8% in 1993 to 60.3% in 2007. College and university credentials grew at a similar rate over this period.[3]

Increased demand for PSE has coincided with mounting pressures on the sector, including shifting demographic trends, the emergence of new types of institutions, and an increasingly mobile pool of students and faculty worldwide. The recent global recession has significantly strained the budgets of families, institutions and governments, resulting in the need to make ever more difficult decisions about the allocation of resources. These challenging circumstances heighten the importance of demonstrating the quality of the Canadian PSE sector.

While Canadian post-secondary education enjoys a reputation for quality, Canada lacks an informational framework through which to understand, measure or clearly demonstrate the quality of its PSE sector. This situation poses challenges on several fronts for institutions that want to demonstrate clearly the quality of their services to the public, for students who need to access the information they require to make the right PSE choices, and for governments who are accountable to the public for the systems under their stewardship. Developing a pan-Canadian framework for understanding quality in PSE may be necessary to promote and improve Canada's PSE sector, while ensuring also that students can make decisions about how best to meet their educational aspirations.

The concept of quality is elusive and often subjective. As Harvey and Green (1993) note, "we all have an intuitive understanding of what quality means but it is often hard to articulate." There are numerous approaches to defining quality in PSE, each of which is contextualized according to its own set of sought-after outcomes. For an institution, that outcome may be a reputation for world-class education or research. A government's view might see an indication of quality PSE systems in the cultivation of a productive workforce that can compete in the global economy. For students, quality arises in the educational experience and preparation for the world of work.

Imprecise or incompatible notions of what constitutes quality in PSE confound efforts to measure and promote it. While many definitions have been suggested, the most commonly accepted approach is referred to as *fitness for purpose*, which measures how well a program, an institution or a system is achieving its stated purpose or mission.[4] Adopting this approach on a Canada-wide scale would require a clear identification of the purpose of PSE and agreement as to how *fitness for these purposes* might be accurately assessed and assured.[5]

Finnie and Usher (2005) assert that "while the country may sorely need some greater certainty concerning the definition of quality, the job of determining the ultimate goals of post-secondary education, from which quality measures ought

to derive, properly belongs to governments, institutions and stakeholders."[6] However, the task of determining these goals will be challenging. Governments, students, employers and educators each have a particular perspective on the purpose of PSE, and these perspectives do not typically or necessarily align.

CCL recognizes that all issues in PSE are highly complex. For example, tensions can arise between the tradition of institutional autonomy and the need for transparency and accountability. Agreement on how to understand and assess quality across Canadian PSE is particularly challenging because of jurisdictional issues. There are 13 educational jurisdictions in Canada (provinces and territories), each with different types of institutions whose mandates and missions vary. In this context, a single approach may not be appropriate or acceptable. Further, indicators that are comparable across institutions may not be readily available.

The following monograph investigates these issues in depth, beginning with a review of key concepts and approaches to defining and measuring quality. The next section provides a contextual framework by examining the various trends and pressures that affect quality in the PSE sector, such as the increasing diversity of systems, rising costs and expanding demand for PSE among mobile students worldwide. The third section provides examples of how quality-measurement and quality-assurance approaches have been used in different contexts. Next follows an examination of various methods of quality assurance that are currently in place in Canada. The monograph concludes with a view to the future, and a brief look at options that provide a means to demonstrate and improve the quality of Canada's PSE systems.

Defining and Demonstrating Quality in PSE: Key Concepts

Canada needs to develop a framework that will enable us to understand the quality of our PSE sector. Imprecise definitions of quality hamper our ability to document this quality. In addition, the complexity of Canada's PSE sector, and its multi-jurisdictional structure, often complicate efforts to provide simple, clear and comprehensive information about any particular aspect thereof, let alone a concept so vague as quality. A framework to understand quality requires both an operational definition of quality in PSE, and appropriate practices and procedures for demonstrating quality.

Approaches to defining quality: Bogue's three theories

Among the numerous approaches to defining quality in PSE are three distinct theories proposed in 1998 by Bogue:[7] *limited supply, quality within mission,* and *value added*.

The *limited-supply* approach is consistent with a conceptualization of *quality as excellence* and views higher education as a "positional market" in which institutions compete for status. In this positional market, Bogue explains, universities compete for students with the highest entry scores, while students compete for entry to preferred institutions. "Prestige sustains high student scores, competition drives them higher, and scarcity reproduces the prestige of elite universities, in the kind of circular effect that always drives the reproduction of hierarchy."[8] In elite universities, "research status and degree status feed into each other,"[9] not least because research status attracts top professors to elite institutions, which in turn attracts top students. The link between research, institutional reputation and prestige figures prominently in institutional rankings, in themselves a type of *quality measurement* (discussed elsewhere in this monograph). Quality measurement is thus one method of demonstrating quality.

Bogue's *quality-within-mission* approach recognizes "the potential for high quality in a variety of campus missions and insist[s] on quality in relation to those missions."[10] Post-secondary education consists of a collection of institutions undertaking different activities—including teaching different programs to different students in different places. The quality-within-mission approach aligns with the fitness-for-purpose approach described in the introduction. It does not seek to rank institutions, but rather to establish whether institutions are achieving their stated goals. Quality within mission is used predominantly in another approach to demonstrating quality—*quality-assurance* processes, which generally involve the validation of institutional or program quality defined in terms of the institutional mission or program objectives; these are assessed against an established set of minimum standards.

Bogue's *value-added* approach assumes that "quality is to be found not in resources and reputations but in results." This approach focuses on the learning and outcomes achieved by students, i.e., the value added as a result of the education process. The value-added definition can be applied in the *quality-measurement* and *quality-assurance* processes used to demonstrate educational quality. Quantifying value added (in terms of student learning) in a manner that institutions commonly accept and understand well can enable the creation of indicators that can be used to measure the quality of educational programs. Where standards have been established for the expected learning outcomes that a graduate of a particular program or course should be able to demonstrate, institutions can evaluate whether those standards are being met.

Demonstrating quality: Purposes and practices

The purpose of demonstrating quality in PSE is one of either *improvement* or *accountability*. From the improvement perspective, quality assurance seeks to understand current performance with a view to future enhancements. Quality assurance for the sake of improvement is often a process internal to an institution. Quality assurance and quality measurement for the purpose of accountability, on the other hand, examines " what one is doing in relation to goals that have been set or legitimate expectations that others may have … [and] is usually linked to public information."[11] The Organisation for Economic Co-operation and Development (OECD) suggests that it is essential to balance interests in both improvement and accountability in systems designed to demonstrate quality.[12]

Quality assurance and quality measurement can offer valuable information about PSE quality. However, these two methods of demonstrating quality are sometimes confused. While quality assurance requires the establishment of standards against which quality may be assessed, quality measurement requires the selection of various metrics or performance indicators. Indicators generally fall into one or more of the following three categories:[13]

> **Inputs**—Inputs include those financial, human and material resources that support and form the educational experience. Input indicators might include faculty–student ratios, the number of research grants awarded and the number of library holdings. Students are also inputs because of the tuition revenue they provide, and because of peer effects, as "both individual students and the student body as a group count for a great deal in the quality of educational services the institution delivers."[14]
>
> **Outputs**—Outputs are the products of PSE such as graduates—and their qualifications and skills—research publications and patents. Student satisfaction and engagement may also be viewed as an output measure.
>
> **Outcomes**—Outcomes are the ultimate ends to which institutions and educational systems may contribute, such as system-wide participation and graduation rates, labour-market outcomes, graduates' earnings and job satisfaction.

Regardless of how quality is defined or demonstrated, it arises within institutions through the activities and interactions of faculty and students, in research capabilities, in libraries, labs and other facilities, and in other institutional processes. Although quality is manifested in different ways across various types of institutions, the responsibility for delivering and assuring the quality of education rests with institutions. Through levers such as funding, regulations, accountability and quality-assurance frameworks, governments may influence the quality of PSE, but institutions are obliged to deliver it. Internal quality assurance is generally focused on improvement, and refers to institutions' internal efforts to monitor and improve the quality of courses, programs or services offered.

However, while internal institutional processes promote quality and improvement in education and services, they can not provide sufficient documentation of quality or accountability if they are not transparent or reviewed by external bodies. As Woodhouse (1998) states, government or another authority "may decide it is necessary, desirable or helpful to have an agency, also external to the institutions, with some responsibility for monitoring the institutions' quality or quality assurance." Woodhouse suggests that such an authority may, for example, "be the government, a statutory body or the institutions acting collectively; and the agency may be the authority itself or a separate body."[15]

Some provincial governments have chosen to open their post-secondary systems to allow new types of institutions to grant degrees. In turn, these governments have also set up external quality-assurance processes to ensure that these new programs meet established standards. Quality assurance is also important to student and graduate mobility because educational credentials must have a recognized value to be portable. If standards are assessed as being met, "the process may then, in some jurisdictions, culminate in 'institutional accreditation'," [16]—an authoritative third party's "seal of approval" that facilitates the recognition of institutions' programs and credentials. As Dennison (2005) notes, the recognition of a degree is normally "a function of institutional accreditation" or some other type of generally accepted system of external quality assurance.[17]

Governments may also be interested in implementing quality measurement of their PSE systems to assist in the stewardship of these systems and with policy development. In such cases, governments are generally concerned with monitoring whether system-wide objectives are being achieved through institutions' collective efforts. However, they may also seek to understand the performance of the institutions to which they provide funding. It should be noted that quality measurement is generally conducted through the collection and analysis of institutional data. Effective quality measurement requires robust, comparative, credible data that institutions are willing to share.

Clarifying the overarching purposes and objectives of Canada's collective post-secondary efforts is a necessary first step toward understanding quality in Canadian PSE. Once this goal is achieved, it then becomes possible to identify the correct definitional and methodological approaches for demonstrating quality in Canada's multi-dimensional post-secondary sector.

CCL's 2006 report, *Canadian Post-secondary Education: A Positive Record – An Uncertain Future*, identified eight goals for PSE that are commonly held among provincial and territorial governments. Derived from the strategic plans of provincial and territorial ministries for education and training, these eight goals provide a strong foundation upon which to build a vision for Canadian PSE as a whole. However, they must be understood within the context of institutions' efforts to achieve their missions and governments' objective to satisfy system-wide goals.

The eight goals and objectives for PSE in Canada include:

1. A skilled and adaptable workforce able to meet the human-resource needs of the country
2. Capacity for innovation, knowledge creation and knowledge transfer
3. Active, healthy citizenry
4. Quality PSE
5. Access for Canadians
6. Participation and success of under-represented groups
7. Lifelong learning
8. Affordable and sustainable PSE and training[18]

The Current PSE Context

The need for a more comprehensive understanding of the quality of PSE in Canada is recognized by many. Critical to this understanding is an awareness of the major pressures that are impacting PSE in this country, including labour-market demands, an increasingly diverse Canadian PSE sector, student mobility, capacity, affordability and public accountability, and broadening access and diversity. Each of these issues is discussed briefly in the following section.

Labour-market demands

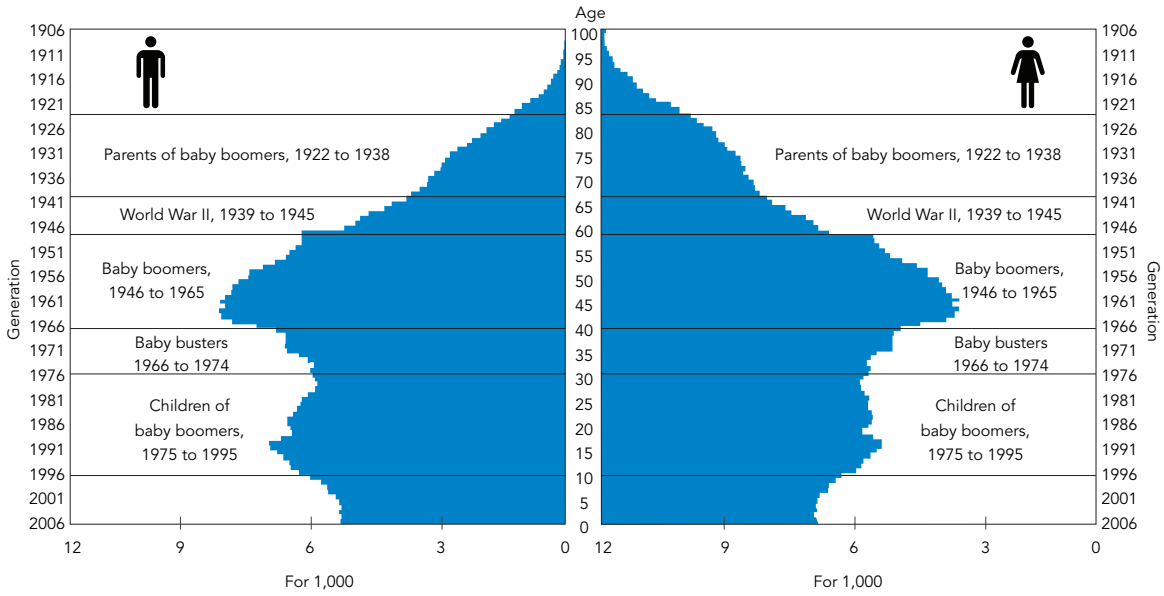
Competing views about the purpose of post-secondary education can complicate efforts to understand and measure its quality. However, a widely accepted goal of PSE—from a fitness-for-purpose perspective—is to support the development of a skilled and adaptable workforce that can respond to the demands of the labour market.

Over the past few decades, the Canadian labour market has undergone a significant shift as the international marketplace has increasingly become a knowledge-driven economy, one that "highlights human and social capital as the main resources for generational economic development, production and innovative capacity."[19] Today, more and more occupations require higher levels of PSE, whereas only a decade ago, a high-school diploma was sufficient to qualify for an entry-level position in many occupations.

At an individual level, acquiring some post-secondary education is now considered one of the most reliable means of achieving economic and professional success, a belief that helps boost demand for PSE. A broader range of individuals seeking PSE has resulted in a phenomenon known as *massification*, namely, the transformation of an exclusive, elite system of higher education into a more egalitarian system serving a significantly higher proportion of the population.

Massification has spurred growth in the number of individuals who pursue and possess PSE credentials. However, as Figure 1 suggests, our ageing workforce will bring about high levels of workforce attrition, particularly given that the youth cohort has been shrinking in size for several years. Despite job losses incurred through the recent recession, fears remain that rapid expansion in PSE participation will not be sufficient to produce enough skilled workers to meet the future demands of the labour market. To remain competitive, the Canadian labour force may require a greater number of PSE graduates who are more skilled and productive than their predecessors.

Figure 1:
Age pyramid of the Canadian population, 2006



Source: Statistics Canada, Census of Population, 2006, Table 7: Different cohort among the age pyramid of the Canadian population in 2006, www12.statcan.ca/census-recensement/2006/as-sa/97-551/figures/c7-eng.cfm (accessed Aug. 18, 2009).

In this context, it is not surprising that governments are setting system-wide goals of increasing participation and completion rates in PSE. From this perspective, a quality post-secondary system might be viewed as one that has the capacity to attract and retain large numbers of students from a wide variety of backgrounds. It should also lead to outcomes, skills and qualifications highly sought by Canadian employers. Meeting this objective, however, requires a more flexible and diverse system than existed prior to the phenomenon of massification.

An increasingly diverse Canadian PSE sector

Until quite recently, the Canadian PSE sector functioned within what is referred to as a binary system found commonly throughout the country's many educational jurisdictions. In this system, delivery of post-secondary education was primarily performed through two institutional sectors with a generally understood division of labour. Public colleges provided career, trade and technical programming leading to a certificate or diploma, while public universities offered degree-level education in academic disciplines and professions. In this model, universities emerged as the locus of graduate-level studies and scholarly research, while colleges focused on teaching.

Among provincial systems, there were variations on this binary theme. For instance, in Quebec, CEGEPs (Collège d'enseignement général et professionnel) continued to offer programming that would lead to university study in addition to career and vocational programming. Students in British Columbia and Alberta have been able to build upon courses earned in college and apply these to university degrees. These variations notwithstanding, institutions and their credentials were easily understood within the binary-system context. While some institutions may have enjoyed more prestige than others, similar credentials were generally considered on par with those earned at similar public institutions across the country. However, beginning in the 1990s, new types of institutions ~~in~~cluding public colleges and private for-profit institutions ~~w~~ere granted the opportunity to apply for degree-granting status. These changes began to challenge the binary system's predominance.

With increasing frequency, Canadian post-secondary institutions have begun to evolve from comprehensive, vocational and career-oriented institutions into degree-granting institutions. Some of these institutions have transitioned into small, undergraduate-focused universities. However, this evolution has also resulted in a number of innovations that no longer fit within the binary system. Among these are "several types of non-traditional bachelor's degrees delivered entirely outside the framework of a university, and the creation of new types of universities which offer everything from vocational apprenticeship to master's degrees." [20] The resulting growth in complexity and variability of PSE options currently available in Canada has created confusion in both educational and labour markets about how best to assess certain education credentials. This complexity has implications for understanding and demonstrating quality.

Student mobility

Massification in post-secondary education is not limited to Canada or North America. Growth in worldwide demand for advanced education, globalization and technological innovation, have boosted student and labour mobility. Increasing numbers of learners now seek PSE credentials outside their national borders. In 2009, the OECD reported that three million students were enrolled in PSE outside their country of citizenship in 2007, an increase of 58% since 2000.[21]

Canada has been increasing its recruitment of visa students—the most significant increases have occurred during the past 10 years. Between 2000 and 2006, these increases were of sufficient magnitude to expand Canada's share

of the worldwide market from 2% to 4.4%.[22] This growth in market share, in turn, has had significant economic impacts for institutions as well as provincial and national economies. Qiang (2003) notes that "the recruitment of foreign students has become a significant factor for institutional income and of national economic interest."[23] Various estimates put international students' annual contribution to the Canadian national economy at between $3 and $5 billion.

Increased student mobility and growth in international demand for PSE have created additional challenges for quality assurance and measurement. Throughout the world and among different jurisdictions, PSE systems have different structures, varying standards and inconsistent labels. The network of national and regional regulations governing the international education market is incongruent and, at times, ineffective. Under these circumstances, substandard providers and "degree mills"—fraudulent operations that essentially sell degrees in exchange for little or no academic effort—are able to exist.* Credentials achieved while studying abroad are ultimately of little value on the global marketplace if they are not understood, considered valuable, and portable. Yet, international students often lack a frame of reference for evaluating the quality of institutions in other countries.

Increased student mobility is one of the driving forces behind the increasing worldwide attention being paid to issues of quality assurance in PSE. For instance, harmonized approaches to quality assurance emerging among European countries are a type of response to increased student mobility, part of an initiative known as the Bologna Process, discussed in later sections of this monograph.

As Canadian PSE becomes more internationalized (i.e., increasing student mobility and growing international reach), it will be important for Canada to develop a quality-assurance approach comparable to those of countries with whom we compete as a desirable post-secondary destination. A quality-assurance approach will assist in the recruitment of international students and enhance the mobility of Canadian graduates.

Capacity

Costs, access and quality—which have been referred to as post-secondary education's *iron triangle*—operate as a triple constraint. As Immerwahr, Johnson and Gasbarra (2008) note, "if one wants to improve the quality of higher education, one must either put more money in the system or be prepared to see higher education become less accessible to students. Conversely, cutting costs in higher education must eventually lead to cuts either in quality or access."[24] According to this view, dwindling institutional resources, coupled with an imperative to increase access, will necessarily result in declining quality.†

* Degree-mill experts John Bear and Allan Ezell estimate the worldwide market for fake degrees at $1 billion annually. More information on degree mills can be obtained from the Oregon Office of Degree Authorization at www.osac.state.or.us/oda/diploma_mill.html (accessed Oct. 5, 2009).

† However, many in PSE believe that the iron triangle effect can be mitigated by finding ways to deliver PSE more efficiently to a wide audience, such as through e-learning and other technological advances.

Current economic pressures add to the need for a better understanding of quality in PSE. Institutions are facing unprecedented and largely unforeseen financial challenges. Usher (2009) notes that "money for higher education comes from three sources, which in order of importance are: governments (or taxpayers) via grants voted by the legislature; students via tuition fees; and other … revenue generating ancillary operations."[25] However, governments—a large source of research, capital and operational funding for most PSE institutions—are also facing fiscal challenges as tax revenues fall and deficits rise.

In jurisdictions where tuition increases are regulated or prohibited, institutions are less able to increase tuition rates in response to declining revenues. Moreover, while the number of learners interested in pursuing PSE remains high, enrolment in some regions is expected to decline. For instance, in Atlantic Canada, post-secondary institutions are already planning for what is expected to be a marked and prolonged decrease in the number of high-school graduates over the next decade and are consequently increasing their recruitment efforts outside of their region.* As competition for domestic students intensifies, recruitment of international students will also become increasingly important.

Institutions competing for students often use marketing strategies to increase their attractiveness. Some attempt to establish niche positions through innovative programs and branding, potentially stimulating further differentiation in Canada's post-secondary systems. These shifting institutional identities can be confusing for Canadians and further complicate the challenge of documenting and demonstrating quality.

The polytechnic—an emerging institutional category in Canada—is one example of how PSE institutions are attempting to establish a niche position. According to Polytechnics Canada, these large public institutions "work closely with industry to enhance the professional skills and effectiveness" required to produce "career-ready graduates who combine critical thinking with theoretical understanding and practical competence."[26] The nine institutions that are now members of Polytechnics Canada operated as either colleges or institutes before the emergence of Polytechnics Canada. Regardless, they share certain unique characteristics that set them apart and seek a new label that will signal these differences to the Canadian public.

Branding and marketing are also used to enhance an institution's position in competition for other sources of revenue such as donations, research grants and cost-recovery activities. In the aftermath of the economic downturn, the endowments of many institutions became devalued. As economies recover, opportunities to replenish these endowments through donations and gifts will be limited in the short-term. Marketing efforts can be expensive, yet institutions are also facing rising costs in a number of other areas as a result of the recent recession, including the prospect of high expenditures related to faculty salaries. The abolition of mandatory retirement at 65 years of age has prompted many senior faculty—either by choice or because the economic downturn severely compromised their pension plans—to remain in the employ of their institutions.

* For more on this issue, see a recent *Maclean's* article entitled "Atlantic universities compete for students," oncampus.macleans.ca/education/2009/08/23/atlantic-universities-compete-for-students/ (accessed Aug. 23, 2009).

As Usher and Dunn (2009) note, "this means that institutions will have to pay more for older, more expensive staff instead of replacing them (as they do on a regular cycle) with younger, less expensive labour."[27]

In short, many institutions in Canada are being asked to accomplish much more with less. In response, some may decide to cancel programs or curtail other activities. Class sizes may increase and reliance on less-expensive instructional staff, such as part-time and sessional instructors, may become more frequent.[28] However, Canada lacks a framework within which to understand the implications of such changes on the quality of PSE.

Affordability and public accountability

Also increasing are the financial costs borne by PSE participants. Statistics Canada estimates that university tuition fees increased by approximately 50% over the last decade, with full-time undergraduate students paying on average $4,724 in annual tuition fees during the 2008–2009 academic year.[29] These figures do not take into account other PSE-related costs (e.g., books, lodging, food, transportation) that students incur, let alone the income they often forego in the pursuit of educational credentials.

Usher and Dunn (2009) suggest that allowing tuition increases is "the most obvious place to start" in response to the rising economic pressures faced by PSE systems, considering that rising tuition costs may be offset by programs such as tax credits and tuition rebates. However, tuition increases are generally highly publicized and contested. The perception that PSE is unaffordable is counterproductive to efforts to expand participation and access. In addition, the perception that continued cost increases may become unsustainable will invariably lead governments and the public to seek assurances that the significant public and private investments required for PSE continue to be worthwhile. These forces drive the demand for more and better information about institutions and post-secondary systems.

Broadening access and diversity

To paraphrase Trow (2005), post-secondary systems have expanded from "exclusive" or "elite", to "massive" or "universal" rates of participation (greater than 50%) among the relevant age group, which has many implications, not the least of which is a change in attitude toward PSE. When access was reserved for an elite, people tended to view higher education as a privilege. As more people participated in post-secondary education, access came to be viewed as a right. Today, attendance in higher education is increasingly seen as an obligation—the proportion of young adults attending post-secondary is approaching 50%.[30] In the context of universal participation and the demands of the knowledge economy, meeting the obligation of PSE participation is no longer solely the responsibility of individuals—society and government share the obligation to ensure equitable access. As PSE becomes more significant to labour-market development, society's potential may be undermined if large segments of the population are unable to access PSE.

The need to increase access to PSE for under-represented groups, such as Aboriginal students, students with disabilities and students from low-income backgrounds, is driven by social-justice values and economic imperatives.

However, access does not ensure success. In attracting, retaining and engaging non-traditional students, PSE is essentially entering new markets. Success in this endeavour may require a certain degree of re-tooling and reorganization. More support services may be required to facilitate success for new types of students, including: expanded financial and academic advising; language and tutorial support; and supports to accommodate students with disabilities.

Institutions that focus on teaching as their core business have a distinct role to play in increasing access for under-represented groups. However, according to Marginson (2006), "these institutions never receive full recognition for the quality of their work. In a positional market, in which everyone's [idea of] 'quality' is instinctively centred on the high-prestige universities, the classroom quality of teaching-oriented institutions is over-determined by their low social status."[31] Trow (2005) suggests that, in the context of universal access, a different criterion of student achievement is required: "not so much the achievement of some academic standards, but whether there has been any value added by virtue of the educational experience."[32] The value-added approach to understanding quality may be particularly useful in the context of teaching-focused institutions.

The need to expand access partially explains why PSE systems are increasingly seeking to integrate new forms of program delivery, many of which rely on information communication technologies that can often be costly to implement. E-learning and technology may provide opportunities to respond to the pressures outlined above in innovative ways. However, as Usher cautions, "notions of quality and processes of quality assurance may take some time to catch up with the possibilities of the technology."[33]

Making Quality Meaningful

Meaningful evaluation of quality in PSE is highly dependent on context. The methods appropriate for use in measuring or assuring quality depend on the particular aspect of PSE being assessed (e.g., programs, institutions, courses, systems), and on who is conducting the assessment and for what purpose. The following section discusses the various ways in which evaluations of quality are operationalized in different PSE contexts.

Quality measurement

The forces discussed earlier drive the demand for more and better information about institutions and post-secondary systems. In the governmental realm, calls for more information and data are generally linked to accountability and performance measurement frameworks. In such instances, governments are generally concerned about whether policy objectives are being met, and are thus likely to focus on outcomes such as overall PSE participation and completion rates, evidence of increased access for under-represented groups, and employment outcomes for PSE graduates.

To obtain measures of institutional accountability, governments may seek data from institutions such as the proportion of applications that are successful, the proportion of PSE students completing their educational programs on time, or the number of graduates of various programs who go on to find employment in a related profession. If these data can be aggregated among the universities and colleges in a given province, they may also provide an indication of system-wide performance. However, as previously discussed, all forms of quality measurement require robust, credible and comparable data shared by institutions, an area in which some provinces are further advanced than others.

Further, the general public would benefit from better information to support PSE choices, and these informational needs may extend beyond what is available in government reports. Some media outlets have taken advantage of this gap, publishing their own systems of quality measurement institutional *rankings* that are sometimes referred to as *league tables*.

Institutional rankings are developed using a mix of indicators (inputs, outputs and outcomes), and combining these into a scoring system that ranks institutions from best to worst. The indicators selected for use in this process, as well as the methodologies used to calculate scores, are controversial because they imply a definition of quality to which not all interested parties subscribe. Usher and Savino's review (2006) of the indicators and methodologies employed in various rankings around the world revealed "vast differences between university league tables in terms of what they measure, how they measure it and how they implicitly define 'quality'."[34]

Despite these vast differences, Dill and Soo (2005) suggest that there is some convergence among the input measures used in various rankings, particularly with regard to incoming-student grade point averages (GPAs), faculty qualifications and the ability to attract research grants. Assessments of teaching quality and of the learning process, however, receive far less attention.[35] According to a recent OECD report, "international rankings of higher education institutions … tend to over-emphasize research, using research performance as a yardstick of the institutions' value. If these assessment processes fail to appropriately address the quality of teaching it is in part because measuring teaching quality is challenging."[36]

Rankings, as a method of quality measurement, align with the *quality-as-excellence* approach to defining PSE quality. Not only are rankings evidence of a positional competition among institutions, rankings may create incentives for institutions to improve their position by responding to "a concept of educational quality embedded in rankings, which is not always aligned with public policy goals."[37] The link between research and prestige may also drive what Usher (2009) perceives as the "trend for more institutions in Europe and Canada to try to emulate the American research university."[38]

In the summer of 2009, the presidents of five of Canada's largest universities made a controversial claim: "their institutions must be given the means and mandates to set themselves still further apart from the rest of Canada's

universities—to pursue world-class scientific research and train the most capable graduate students, while other schools concentrate on undergraduate education."[39] This claim reflects the positional nature of the PSE market, as top institutions seek to become clusters of the best and brightest. Having emerged from a binary system, the institutional hierarchy in Canada may not be as pronounced as that of the highly differentiated institutions of the United States, but the hierarchy nevertheless exists.

However, the quality-as-excellence approach only really makes sense for institutions competing for status and prestige in the top echelons. This approach certainly does not signify that quality cannot or does not exist in smaller universities, colleges or polytechnics that focus more on teaching. Daniel et al. (2009) suggest that "a perception of quality based on exclusivity of access and high expenditure per student" is not consistent with PSE's emerging aims of wide access, high quality and sustainable costs. Instead, a perception of quality that is based on student achievement is favoured.[40]

Usher (2009) points out the resulting paradox of this approach: "Since institutions consider themselves to be in business precisely to help people learn, it seemed deeply unfair that 'quality' was being judged on measurements which effectively ignore the educational process."[41] Ramsden (1991) asserts that quality measurement in this context "faces severe practical difficulties," which "revolve around the lack of uniformity between institutions in measures of student achievement at entry and exit."[42] However, standardized entry and exit examinations are unlikely to be welcomed in Canadian PSE.

More recent efforts to include metrics, based on results from student satisfaction and engagement surveys, have sought to improve upon rankings in this regard. Canada-wide student engagement surveys, such as the National Survey of Student Engagement (NSSE) originally developed for use in the United States, may have potential for measuring the value added in learning processes. A workshop reviewing the use of NSSE in Ontario universities reached the following general consensus: "that NSSE could form part of the quality framework for post-secondary education in Ontario, but not as a direct indicator of institutional performance. The NSSE instrument clearly provides data on certain elements of the quality of the student experience, but it is extremely important to recognize that NSSE does not measure student learning.[43]

While NSSE does not directly measure student learning, it may at the very least be considered as a proxy indicator. Coates (2005) notes that "student engagement data has the potential to provide a highly sensitive index of the extent to which students are going about the kinds of things which are likely to generate high quality learning outcomes."[44] NSSE has been adopted widely among Canadian universities. A companion survey, the Community College Survey of Student Engagement, has been developed for use in the American college system. However, only a very small number of Canadian colleges participate.

Value-added approaches to defining quality may be more appropriate for colleges and other teaching-focused institutions, than approaches based on notions of quality as excellence, which are more aligned with the activities of large, research-intensive universities. Rankings and league tables would imply that indicators such as the average high-school GPAs of incoming students, financial and faculty inputs, and research inputs and outputs are quantifiable, more or less readily available and increasingly accepted as aligned with the quality-as-excellence view. However, it may neither be appropriate nor feasible to reduce complex notions of quality associated with the learning process into a small number of metrics or indicators.

Ultimately, rankings may not always provide the information about PSE that students and their families need to assist in their decision-making. Rankings often focus on universities and are limited by the indicators they use. However, comparing colleges and universities through the use of the same set of metrics would make little sense, as their respective programs and activities are quite different. Clearly, the emergence of new types of institutions and credentials further complicate quality measurement.

Quality assurance

People who invest in human capital through a purchase of higher education do not know precisely what they are buying until well after the investment is made.[45] As a result, there is significant public interest in more and better information about the wide and complex range of available post-secondary options and guidance as to how best to judge among these options. In considering PSE options, prospective students must evaluate a significant amount of information. However, little is known about what information prospective students and their families desire beyond program descriptions, tuition information and labour-market prospects. User-friendly, searchable information databases about PSE programs, such as British Columbia's Education Planner* and Alberta's Learning Information Service (ALIS)† represent important advances in addressing the informational needs of the Canadian public.

This approach to provision of information may not suffice, however, for international markets. As noted previously, increased student mobility is one of the driving forces behind the increasing prevalence of quality assurance. In fact, improving the international comparability of educational qualifications was a major impetus of the Bologna Process, an initiative among European nations to harmonize their national educational systems, creating a European Higher Education Area. According to Woodhouse (1996), "although education was not well-addressed in the initial declarations setting up by the [European Union], the agreements on mobility across Europe have obvious consequences for the mutual recognition of graduates, programmes, etc."[46]

* British Columbia's Education Planner is available at www.EducationPlanner.ca (accessed Oct. 28, 2009).

† The Alberta Learning Information Service is available at www.Alis.gov.ab.ca (accessed Oct. 28, 2009).

The Bologna Process had its origins in Erasmus, a program to encourage mobility among European students. As students in the Erasmus program began to circulate throughout Europe, it became apparent "how mutually unintelligible one country's university system [was] to another's," and that "methods for counting credits and assessing outcomes were all over the map."[47] Since its inception in 1999, the Bologna Process has resulted in a number of innovations for credential portability. A European Credit Transfer System was developed to ensure the recognition of portions of study taken abroad, through the adoption of common methods for describing an educational program and its components. In addition, because "original credentials alone [did] not provide sufficient information," a standard template, known as the Diploma Supplement, was developed for providing additional information along with transcripts and credentials.[48] The supplement, as described in Daniel et al. (2009), "accompanies individual credentials, … describes courses and provides background on the national higher-education context and benchmark assignments that the student has had to complete."[49,] *

With regard to quality assurance, the European Qualifications Framework (EQF), developed as part of the Bologna Process, defines standards for eight levels of education according to the learning outcomes and competencies that a learner should be able to demonstrate. Adopted in 2008 by the European Parliament and Council, the EQF is a standard against which the frameworks of various European jurisdictions can be mapped. However, it was also recognized that quality assurance would be a "crucial dimension" of the EQF and that a common approach to quality assurance would reinforce the comparability among similar credentials earned in different jurisdictions.

The *Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)* were developed by the European Network for Quality Assurance in Higher Education and approved in 2005. The ESG include standards and guidelines for both internal and external quality assurance, and for the review of the quality assurance agencies themselves.

In 1994, Van Vught and Westerheijden identified four common elements among national quality-assurance systems, which they used to represent a general model:

1. **Self-evaluation,** a mode of internal quality assurance involving a self-study or self-assessment report, undertaken at either the program or at the institutional level;

2. **An agent or organization managing the quality-assessment system**, the authority of which may come from government legislation or through a voluntary association among institutions;

3. **Peer review–site-visits** by external experts appointed by the external agency; and,

* For an example of a diploma supplement, visit http://europass.cedefop.europa.eu/img/dynamic/c1388/type.FileContent.file/DSupplementExamples_en_IE.pdf (accessed Nov. 2, 2009).

4. **Reporting**, which may involve numerous elements such as the external expert team reporting on the site visit, the agency reporting on its findings to the institution, or a report being shared with government.[50]

Also in 2005, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the OECD jointly published *Guidelines for Quality Provision in Cross-border Higher Education.* The guidelines aim "to protect students and other stakeholders from low-quality provision and disreputable providers as well as to encourage the development of quality cross-border higher education."[51] Under these guidelines, it is recommended that governments either establish, or encourage the establishment, of "a comprehensive capacity for reliable quality assurance and accreditation of cross-border higher education provision."[52]

There are also methods that employ the value-added approach, such as the measurement of student-learning outcomes, but these are difficult to apply at a system-wide level. Various methods exist for assessing the skills and knowledge gained through PSE, such as term papers, projects and end-of-course exams. However, few standardized examinations exist within post-secondary education that could enable comparison of the learning achieved by students in different institutions.*

Innovative new models, such as the Collegiate Learning Assessment (CLA) in the United States, are emerging for the assessment of learning at the post-secondary level. The CLA assesses the critical thinking, analytic reasoning, problem-solving and written communication skills gained in college. Although students themselves complete the test, the information is aggregated to the institution level, enabling comparisons between the cognitive skills of incoming versus outgoing student groups. Comparisons are also possible across institutions. For the individual institution, the aggregated measure becomes an indicator of the value added to cognitive skills by the post-secondary experience.[53]

In addition, the OECD initiative, Assessment of Higher Education Learning Outcomes (AHELO), is "assessing whether reliable cross-national comparisons of student learning outcomes are scientifically possible and feasible."[54] Information such as that generated in the CLA, and perhaps, in the AHELO initiative, may be valuable in both quality-assurance and quality-measurement frameworks.

* In the professions and skilled trades, student-candidates are typically required to complete an approved program of learning before being allowed to take professional entry-to-practice examinations. Professional associations, not post-secondary institutions, generally conduct these examinations.

Quality Assurance in Canada

Quality assurance at the institutional level

In the university sector, membership in the Association of Universities and Colleges of Canada (AUCC) has been accepted as a proxy for institutional accreditation. To be considered for membership, institutions must demonstrate that they meet a number of established criteria. According to Oldford (2006), the process through which an institution gains AUCC membership involves all four elements of Van Vught and Westerheijden's general model, including: "an agent responsible for the system, a self-evaluation process, peer review through a site visit, and published reports." With successful application for membership, the institution is then listed on the AUCC website as an institutional member. "Once a member," Oldford explains, "it is expected that the institution will adhere to [AUCC's] Principles of Institutional Quality Assurance in Canadian Higher Education; however, membership does not require further review or reaffirmation."[55]

The AUCC is not a quality-assurance agency, but "an organization in which institutions seek membership to benefit from its public policy, communications, research and advocacy roles."[56] Yet, perhaps because the process for gaining AUCC membership shares in the features of other quality-assurance models, membership in AUCC "provides instant recognition to the baccalaureate degrees awarded by the institution."[57] However, AUCC membership criteria preclude many institutions traditionally found in the college sector from gaining membership, and more and more of these institutions are beginning to grant baccalaureate degrees. Although the degrees granted by public institutions that are non-AUCC members are authorized by governments, it remains within the discretion of institutions to recognize credentials and credits that an incoming student or applicant has earned elsewhere.

Institutional quality-assurance processes outside of AUCC membership vary among provinces. All institutions have internal-quality processes, and public institutions must also report to provincial governments through existing accountability frameworks. Regulations governing private career colleges require these institutions to undertake measures to protect current students from losing their prepaid tuition should an institution be forced to close before a student's program is complete. Beyond this consumer-protection function, licensed or registered private colleges seeking authorization for their students to benefit from government financial aid are generally expected to undergo some sort of quality-assurance process. Still, in some provinces, some types of institutions remain largely unregulated, such as private language schools.

Quality assurance at the program level

In many provinces, quality assurance at the program level involves governmental review and approval of new programs of study at public institutions, particularly for degree programs. In provinces where private degree-granting institutions are sanctioned by governments (e.g., British Columbia, Alberta and Ontario),

degree programs must undergo quality-assurance processes: institutions must first demonstrate their capacity to deliver degree-level education, and then have each of their proposed degree programs reviewed against established criteria. As a result, Canada has witnessed the emergence of its first quality-assurance agencies. However, the scope of review of these emerging agencies does not extend to public universities and colleges that deliver most of Canadian PSE.

Program review is a common internal quality-assurance method in Canadian universities. Some institutions conduct reviews at the institutional, departmental and program level. Generally, these reviews will include a self-study and a review by external experts or peers.[58] Criteria for institutional membership anticipate that an AUCC member will have a "quality assurance policy that results in cyclical or continuous assessment of all of its academic programs and support services."[59] Accordingly, the AUCC has established Principles of Institutional Quality Assurance in Canadian Higher Education, providing universities with a common framework to undertake internal program reviews.[60]

There are a number of professional associations that serve to accredit professional programs in public, and where applicable, private post-secondary institutions, such as the Canadian Engineering Accreditation Board and the Association to Advance Collegiate Schools of Business. For some professions, particularly those regulated under law, graduation from an accredited program is a requirement for entry-to-practice. For other professions, accredited programs may be preferred, but not essential. For many programs, no such accreditation is available. In the absence of such formal mechanisms for accreditation and, thereby, quality assurance, rankings such as *Maclean's* "Guide to Canadian Universities" have become a well-known source of information about the quality of PSE. However, neither AUCC membership nor rankings extend to all institutions.

Quality assurance at the course level

In British Columbia and Alberta, long-established transfer systems allow students to earn credits at a college and, where appropriate, apply these toward the requirements for a degree program at another institution. Universities evaluate a given college course outline to determine whether the college course is equivalent to a similar course offered at the university. If so, the college course can be accepted in lieu of the university course, thus enabling the student to receive credit for the course toward a degree. This process is known as course-to-course articulation and can be considered as a quality-assurance process at the course level. As universities are unlikely to articulate with institutions that they do not recognize, institutional validation is therefore an inherent element in transfer systems. End-of-term course evaluation questionnaires, another method of internal quality assurance, are the most common tool for engaging students in the process.[61]

The challenge—Quality assurance at a system or sector level

While there is good reason to believe that quality-assurance methods currently established in Canadian post-secondary education are effective, many of these differ across provincial and territorial jurisdictions. The problem of demonstrating and monitoring quality across Canadian PSE arises from a wide variety of highly diversified uncoordinated approaches. Canada's numerous quality-assurance approaches evolved in different contexts and were established for various purposes. Some processes are currently managed by governments or government agencies, others by non-governmental organizations or institutions. Different standards, approaches and measures are in place in various contexts. Because of these technical differences, the mapping of various approaches against one another is a challenging exercise and provides little guidance for the development of a combined, comprehensive approach. Indeed, Oldford (2006) likens quality assurance in Canada to a patchwork quilt:

> The majority of post-secondary education in Canada is covered under some portion of this patchwork. However, there are areas where the fabric overlaps, and areas where there are gaps. Moreover, the fabric is strewn together in a fashion that lacks methodical intent: it is an amalgam of pre-existing parts, each with different shapes and consistencies, loosely fashioned into a composite whole. To a lay person, such as a prospective student, plain explanations of which institutions are recognized for what and by whom are difficult to find. For educational professionals, these explanations are difficult to provide.[62]

Canada continues to attract international students—Canadian credentials are considered valuable in the global marketplace. Canada has dealt with a very small number of rogue institutions purporting to operate within its borders, suggesting that degree mills are not a significant problem here. Canadians continue to pursue PSE in greater numbers year after year. Nevertheless, increasing global competition for, and mobility of, human capital requires that we not rely on our reputation as a country providing quality PSE to a broad range of our population. Canada must continue to improve its PSE sector and increase its abilities to demonstrate this improvement through better information about quality.

Conclusion: Options for Going Forward

An understanding of quality in Canada's PSE sector requires a clear and common appreciation of PSE's role and purpose within this country, and of the contributions of various institutions and sectors. As Luc Vinet, President of the Université de Montréal, asserts, "as a nation Canada should give itself some standards, some objectives, some goals."[63] The fact that Canada's PSE sector is complex, largely because of its multiple jurisdictions, does not nullify the sector's obligation to demonstrate its quality through methods that Canadians and the world can understand fully.

CCL is confident that a Canada-wide framework for demonstrating quality need not impinge upon provincial and territorial jurisdiction over education, or upon the autonomy of post-secondary institutions. Nor would such a framework necessarily require a single, all-encompassing approach. Different methods of defining and demonstrating quality will likely be necessary, depending on institutional type and focus.

The OECD affirms that a flexible approach to demonstrating quality PSE is entirely possible. Its 2008 report, *Tertiary Education for the Knowledge Society,* cites a number of countries that apply different quality criteria to various kinds of institutions. In some countries, the OECD notes, "different quality assurance agencies and bodies are responsible for different subsectors and categories [of institutions] even though [agencies] implement similar quality-monitoring criteria."[64]

Both of the above circumstances apply to the Australian PSE system, which, like Canada's, consists of several jurisdictions and institutional sectors. The Australian Universities Quality Agency (AUQA) provides external quality assurance to universities across the country. Registering bodies at the state and territory level audit vocationally oriented institutions according to nationally agreed-upon principles.[65] Because universities in Australia are established under Commonwealth, state or territorial legislation, they are considered to be self-accrediting, i.e., they practise a form of internal quality assurance. However, AUQA independently audits these institutions on a five-year cycle. Much like the European Higher Education Area, Australia has also developed a qualifications framework that consistently defines national standards for qualifications granted by accredited high schools, vocational institutions and universities, thus enabling the recognition and portability of qualifications.

British Columbia recently announced a new approach to simplify information about the many different approaches to quality assurance that apply to its public and private post-secondary institutions. Eligible institutions may voluntarily apply for designation so that they may use a newly registered trademark, the Education Quality Assurance (EQA) Brand. An institution is eligible if it has met government-recognized quality-assurance standards, and is in "good standing with both the Ministry of Advanced Education and Labour Market Development and the applicable quality-assurance bodies."[66] Through a recognizable brand

that signifies quality, prospective students will be able to quickly and easily determine which institutions have met established standards. However, the EQA designation process is not a quality-assurance process in itself.

The OECD recommends that countries consider the implementation of quality-assurance systems that combine internal and external quality-assurance mechanisms. A "balance between accountability and improvement is more likely to be successfully addressed," the OECD suggests, "through distinct evaluation processes."[67] Canada's colleges and universities have strong internal quality-assurance procedures, but external quality assessment agencies and processes are still emerging. This approach is not consistent with models of quality assurance emerging globally, and may have implications. To sustain a strong Canadian PSE sector and global recognition of its credentials, CCL believes it necessary to develop a more comprehensive system for external quality assurance that is consistent with emerging international frameworks.

The OECD notes also that many countries lack "relevant national and institutional data to assess the performance of the tertiary education system as a whole, as well as the performance of individual [post-secondary] institutions."[68] While Canada did not participate in this review, the statement applies nonetheless, particularly at the pan-Canadian level. Various provinces are developing more sophisticated, system-wide data-management strategies through which post-secondary systems may be better understood, a positive development toward better Canadian data. These initiatives promise the availability of better and more comparable metrics for measuring and demonstrating the quality and accountability of post-secondary systems. As well, new information generated through better data across provinces will help institutions to make improvements.

The OECD recommends also that countries design quality-assurance frameworks in a manner consistent with the goals of their PSE sectors.[69] Although education in Canada is the responsibility of many governments, CCL has already identified a number of PSE goals shared by provinces and territories. Where governments share similar goals for PSE, they will likely seek the same types of information to indicate the extent to which these goals are being achieved. This suggests that a common measurement system is possible.

As better data systems are developed, it should be possible—given the political will to do so—to design a Canada-wide quality-measurement system that aligns with the goals held commonly among Canadian jurisdictions. Provided that comparable data are available, governments need not administer a quality PSE-measurement system. A voluntary association of institutions might also contribute to this type of information.

Perhaps a good starting point for future discussions about quality assurance is the *Ministerial Statement on Quality Assurance of Degree Education in Canada* endorsed in 2007 by the Council of Ministers of Education, Canada (CMEC). The statement contains a qualifications framework for Canadian degrees (baccalaureate, master's and doctoral), and describes procedures and standards

for the evaluation of new degree programs in these categories, and for assessing any new degree-granting institutions.[70] It represents a significant advancement toward Canadian quality assurance, particularly because it shows that it is possible for Canadian ministers responsible for PSE to agree upon common standards of quality that can be applied Canada-wide.

If provincial and territorial jurisdictions choose to implement these standards of quality-assurance, they will have considerable latitude in designing processes that address their needs. Regardless, extensive consultations may yet be necessary to ensure that CMEC's statement brings Canada closer to a consensus on the features and indicators of quality PSE, beyond the small subset of institutions to which it currently applies. Consultations might clarify whether it is possible to integrate or align the quality-assurance system envisioned by the CMEC statement with the internal quality-assurance systems of long-established and emerging institutions alike. By taking these steps, Canada could better understand the quality in its PSE sector and communicate that understanding to the world.

The quality of Canada's post-secondary sector is intuited by many but understood by few. A high proportion (71%) of Canadians believes that post-secondary institutions in Canada are doing a good or excellent job in delivering quality education.[71] However, these same Canadians may not be able to explain the basis of their positive attitudes. They need to understand what quality is and why our post-secondary systems are of high quality. They need also to differentiate between the types of Canadian PSE institutions and their various purposes.

Measurements of quality are important for accountability, student and graduate mobility, and continuous improvement. An increasingly diverse milieu of PSE institutions and programs must continue to meet the needs and expectations of Canadians. Accountability measures will ensure that the quality of our PSE institutions will be sustainable in an increasingly competitive, mobile and global higher-education marketplace. Canada must be able to communicate clearly to domestic and international students why studying in Canadian institutions provides a high-quality education. We must understand where and how to improve our programs and institutions so that broader goals may be achieved. A pro-active stance is critical if Canada is to avoid the risk of falling behind other countries that embraced this important imperative of economic and social well-being-quality and improvement in post-secondary education.

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