Making College-University Cooperation Work: Ontario in a National and International Context

report

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Introduction

The debate over how universities and colleges should relate to one another has been lively in Ontario for at least two decades.[1]

This year marks the twentieth anniversary of the commissioning of a province-wide review of the colleges' mandate whose report recommended greater opportunities for advanced training – defined as "education that combines the strong applied focus of college career-oriented programs with a strong foundation of theory and analytical skills." The report envisaged that some advanced training would be undertaken by colleges alone, and some would be offered jointly with universities and would lead to a university degree (Vision 2000 Steering Committee 1990, 16-17). A follow-up report in 1993 found that opportunities for advanced training remained "isolated and not part of an integrated and planned system of advanced training, with equitable student access" (Task Force on Advanced Training 1993, 11-13).

By 1999, Ontario's colleges and universities entered into a province-wide agreement, the "Port Hope Accord" (CUCC, 1999) to facilitate the transfer of college diploma graduates into university programs. Yet the Honourable Bob Rae's recent report found that "nowhere near enough progress has been made" (Ontario Postsecondary Review, 2005, 14). Meanwhile, student demand for combined diploma-degree programs appears to be increasing (CUCC, 2007).

In this paper we consider the supply side of the equation: under what conditions does institutional cooperation blossom? How successful have college-university partnerships in Ontario been to date? How do the results of Ontario's approach to college-university relationships differ from those of jurisdictions with a system-wide approach to promoting student transfer?

We argue that in jurisdictions like Ontario where collaboration is voluntary, universities and colleges face a set of incentives that make partnerships difficult to initiate. Partnerships develop through a trial-and-error process in which institutions attempt to identify prospective partners with complementary interests. These institutions face the hurdles of imperfect and costly information-gathering, financial and reputational risk, potential internal opposition, and difficulty in forming effective dispute resolution processes, especially with partners who may also be competitors. Despite these hurdles, some relationships have developed that are of significant benefit to students. The nature of the intended benefit varies from case to case. The successes of these voluntary partnerships seem small if judged from the perspective of jurisdictions whose system-wide transfer arrangements benefit tens of thousands of students each year. The expected growth in Ontario's postsecondary education system over the next 10 to 20 years presents an opportunity to clarify the public's objectives in encouraging college-university partnerships and put in place appropriate financial or governance arrangements to achieve them.

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[1] Our approach to this debate is shaped in part by our direct experience in it. Andrew Boggs was formerly a Senior Policy Advisor in the Postsecondary Education Division of the Ontario Ministry of Training, Colleges and Universities. David Trick was formerly Assistant Deputy Minister, Postsecondary Education Division, Ministry of Training, Colleges and Universities, and was subsequently Vice Provost and Chief Executive Officer of the University of Guelph-Humber.

Literature review

Higher education perspective

Researchers have shown an increasing interest in the topic of college-university cooperation in Ontario. Most notably, Michael Skolnik (and Jones, 1993; 1995, 2002, 2004a, 2004b, 2005 and *unpublished*) has written extensively on the history of the colleges in Ontario and non-degree granting institutions in other jurisdictions, focusing on the evolution of new institutions in "degree-monopoly" environments. Skolnik finds that Ontario's colleges were created to be distinct from and independent of the province's university sector, with vocational, locally-focused terminal diploma programs. However, Skolnik points out that the vocational focus of the new colleges was not intended to preclude degree completion arrangements for diploma graduates (Skolnik, *unpublished*).

Wendy Stanyon (2003) and Danielle Renaud (2000) have addressed the systemic and institutional barriers to greater college-university articulation and cooperation particular to Ontario. They found that the barriers include government funding formulae that differ between the college and university sectors, differing academic traditions and differing institutional governance structures. More recently, Henry Decock (2006) has examined the profile of the 'typical' college-to-university transfer student through a case study of a large Ontario college. Dale Kirby (2007) and Cassandra Thompson (2007) have discussed the lessons learned from Ontario's government-imposed collaborative nursing experience, the result of making a Bachelor of Nursing Science the entry to practice threshold for the province's nurses, which compelled colleges to partner with degree-granting institutions.

Most of the literature on college-university collaboration and degree articulation in Ontario has focused on the barriers and difficulties faced by institutions in forging new relationships which allow movement between diploma and degree-stream programs or even creating new, collaborative programs. A number of case studies of successful projects have been undertaken, typically based on a single collaborative arrangement, institution or academic program.

Some insights from economics

One way of illuminating the challenges of collaboration is to look at higher education institutions as economic producers. An economic producer that wishes to produce a new good or service will typically do so by itself – for example, by hiring more employees, buying inputs, and opening a new production facility (expansion). Other options are to buy the finished good or service from another firm and re-sell it (contracting out), or to buy another producer (mergers).

An alternative is to enter into an agreement with another producer to jointly produce the good or service, with each of the producers having some control over the venture, and each sharing in the costs and benefits. These relationships – commonly known as joint ventures[2] – are the subject of the Ontario case studies in this paper.

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[2]In the business literature, a "joint venture" is normally defined by the purpose of the relationship rather than its legal form, which may be a corporation, partnership or other legal structure. In the higher education literature, "joint venture" and "partnership" are often used interchangeably, and we do so in this paper.

The challenges of reaching stable agreements between producers are well known to economists and business researchers. Studies have suggested that between 50 and 70 per cent of joint ventures do not succeed (Park & Russo, 1996). This figure does not take into account potentially beneficial joint ventures that were never started.

These challenges may be explained by an important stream in the economics literature that considers the strategic behaviors of economic players who have opportunities to compete or to cooperate with others in order to advance their self-interests. Typically this literature concerns itself with cases where the number of players is small enough that they are aware of each other, recognize their interdependence (i.e. the fact that each player's behavior may affect the others), and develop expectations about each other's behavior. This literature was pioneered by Thomas C. Schelling (1960, 1978), a 2005 Nobel Laureate in Economics, with important contributions from Mancur Olsen (1965), Robert Axelrod (1984) and others.

This literature advances a number of reasons to explain the difficulties in forming and maintaining cooperative relationships:

- Imperfect information: The potential partners may be unaware of each other's goals and capacities, and learning such information may be costly or impossible.
- Uncertainty and immeasurability: The partners may not be able to accurately assess the quality of each other's potential contribution and so may tend to undervalue it.
- Third-party effects: A partner may be reluctant to conclude an agreement with a partner if the relationship negatively effects how the partner is perceived by customers or other influential actors and so causes losses for the partner exceeding the gains from the relationship.
- Irreversibility: The partners may be reluctant to make contributions to the relationship that cannot be reversed if the relationship ends (for example, the sharing of intellectual property).
- Absence of focal points: Partnerships are facilitated when the partners can see points of likely agreement even before they communicate with each other. For example, precedents or common interests may make certain points of agreement seem natural or obvious. If there are no such points (known as focal points or Schelling points), agreements become less likely.
- Non-unitary actors: The governance processes of one or both parties may allow constituencies within the organization to veto arrangements that might otherwise produce a net benefit for the organization as a whole.
- Disincentives to share gains: Each partner may have an incentive to overstate the value of its contribution to the venture (as a way of claiming a higher share of the net gains). The aggregate effect of this behavior will be to overstate the costs of the venture, so the gains appear small or non-existent.
- Enforcement difficulties: The nature of the relationship may be such that it cannot be fully described in a contract that could be enforced by an authoritative third party (such as a court). This means that the parties themselves must find ways to resolve disputes.
- Uncertainty about external authorities: An external authority (such as a regulator) may play a constructive role in creating incentives for cooperation. But an authority whose future behavior is unpredictable may have a dampening effect on cooperation, as players fear changes in the rules of the game.

Despite these difficulties, cooperative relationships do develop and persist. Axelrod (1984) demonstrated that cooperation does not depend on altruism, or on trust between the parties, or on the presence of an external authority. Instead, he found that cooperation arises by trial and error, as individual actors experiment with cooperative behavior and reward others who reciprocate. Cooperation persists because the actors expect to continue to interact for the indefinite future, and each fears that cheating will lead to the end of the partnership and a return to a purely competitive relationship. "The foundation of cooperation is not really trust, but the durability of the relationship" (Axelrod, 1984; 182).

Empirical research has demonstrated how these factors have affected the ability of businesses to reach agreements on cooperative ventures. For example, there is evidence that businesses consider each other's reputation before approaching partners (Dollinger, Golden & Saxon, 1997); that joint ventures arise from self-interest, with trust developing later as the relationship proceeds (Boersmaa, Buckley & Ghauri, 2003); that joint ventures are vulnerable to failure when the partners are also competitors (Park & Russo, 1996); that the financial incentives in a joint venture may discourage cooperation (Hennart & Zeng, 2005); and that failure may arise because the partners have no internal procedure for jointly solving problems (Mohr & Spekman, 1994; Lin & Germain, 1998).

This literature suggests that we should re-frame the way we look at college-university cooperation. Typically policy analysts have asked: why don't institutions cooperate more? Our approach here is to ask: of the various ways to satisfy the demands of students, why do some institutions choose to partner with others rather than to expand their own capacity?

Methodology

To explore these questions, we looked at seven cases involving Ontario institutions. These cases were selected to represent the different types of college-university activity currently in place. We categorized Ontario's collaborative college-university arrangements into three types:

- Bilateral agreements: Students seek to apply some portion of the credits earned toward a college diploma toward a degree program at a university.   Institutional agreements are deliberately designed to coordinate and govern the flow of students from a diploma to a degree program.
- Multilateral (or 'open') articulation strategies: A single university opens its doors to accept diploma graduates from a select group of programs into a specific degree program. This may or may not involve a formal agreement with the colleges sending students.
- Concurrent use campuses: Colleges in this model work in collaboration with one or more universities to locate joint diploma/degree programs and/or degree articulation opportunities on the college campus itself.

This typology of college-university cooperation models is adapted from Deborah Floyd (2005). Writing from a United States perspective, Floyd described three prevailing models of college-university cooperation in degree programs: the "articulation model", the "university centre" or "concurrent-use campus" and the "university extension model"[3]. We have divided the articulation model in two – bilateral and multilateral. While both of these models represent articulation from the standpoint of the student, we wish to explore whether they pose different and distinct challenges for the institutions. Floyd's concurrent-use campus model, in which both a college and a university offer activity on the same campus, also has an Ontarian application. We found that Floyd's university extension model – in which the college campus is essentially an offshoot of a parent university – does not exist in Ontario.

The seven Ontario cases were chosen primarily based on their renown in Ontario as examples of college-university collaboration. Each has achieved a size and level of complexity that distinguishes it from most of the program-specific collaborative arrangements that are in place between many Ontario colleges and universities. We hasten to add that there are other cases that would be well worth analyzing in a more exhaustive study.[4] Collectively, our seven Ontario cases provide two or three examples of each of our models of collaboration.

Our typology of college-university cooperation and the cases we examined are shown in Table 1.

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[3] Floyd's fourth model of baccalaureate programs offered through colleges – the "Community College Baccalaureate" -- is analogous to Ontario colleges' applied degrees. This aspect of the Ontario system is outside the scope of this paper as it does not involve collaboration with another institution.
[4] The Ontario College-University Transfer Guide identifies 281 collaborative agreements currently in place (www.ocutg.on.ca, accessed May 15, 2008). In particular, we have chosen not to investigate the collaborative programs in Nursing now in place in Ontario. These programs were developed in unique circumstances and so it is difficult to extrapolate from them to other programs. The Nursing case is distinctive in that there was an independent body that regulated entry to the profession, and that mandated that all new entrants to the profession hold a university baccalaureate after a specified date; there was an independent body to accredit the quality of the programs; and there was special government funding to facilitate the transition. For detailed discussions of collaborative Nursing programs in Ontario, see Kirby (2007) and Thompson (2007).

Table 1: A TYPOLOGY OF COLLEGE-UNIVERSITY COOPERATION

	BILATERAL ARTICULATION	MULTILATERAL ARTICULATION	CONCURRENT-USE CAMPUSES
Sequential attendance at college followed by university	TYPICALLY	YES	SOMETIMES
University uses college property or facilities	NO	NO	YES
Students complete baccalaureate degree at a campus other than the conventional university campus.	NO	NO	YES
University controls baccalaureate degree requirements.	YES	YES	YES
Formal relationship between one college and one university	YES	NO	SOMETIMES (may be multilateral)
Cases	Mohawk College - McMaster University Seneca College – York University	Ryerson University (Business program) Lakehead University (Engineering program)	University of Ontario Institute of Technology – Durham College University of Guelph-Humber Georgian College University Partnership Centre

These models are ideal types, and the cases often show elements of more than one model. Where such overlaps between categories exist we have attempted to assign a case study to the model that best represents the essence of the collaboration in place.

Jurisdictional Case Studies

While we are interested in these individual cases, we are also conscious of the call for – as the Task Force on Advanced Training put it – an "integrated and planned system" of programs with both an applied and theoretical element, with broad geographic access across the province. To explore whether the advances in college-university collaboration in Ontario are putting the province on the path to such a system, we look at five jurisdictions with a history of sector-wide institutional collaboration and/or articulation or have emerging policy in these areas: Florida, California, British Columbia, Alberta and Scotland.

We chose these jurisdictions based on their success in fostering collaboration and the comparability of their higher education systems to Ontario's in terms of size and complexity. Alberta, British Columbia, California and Florida have colleges which act as feeder institutions to universities and may also have hybrid institutions, such as university-colleges. Scotland is different in that it has deferred to its universities'

autonomy while increasing students' pathways between sectors through the creation of a credential and qualifications framework devised in large part by the sectors themselves.

Research Questions

Through reviews of public documents, supplemented by interviews with participants where appropriate, we attempted to answer these questions:

- What is the purpose of the collaborative arrangements now in place?
- Is there evidence that they are achieving their intended purposes?
- For the Ontario arrangements: what are the prospects for expanding the current arrangements or replicating them at other institutions?
- For the non-Ontario arrangements: What are their critical factors for success? What are the prospects for replicating these arrangements in Ontario? What impediments might stand in the way of adopting elements of these arrangements in Ontario?

Findings

Purpose and scope

We found important differences among the seven Ontario cases in the purpose of the collaboration.

The four articulation partnerships all have the purpose of facilitating transfer to a university degree program for college graduates. They differ in their strategies for doing so.

The bilateral partnerships typically offer advanced standing to students with previous academic training in a given discipline.[5] For college graduates, this may entail achievement of a particular academic average in their diploma studies as a precondition to acceptance into a university program, subject to availability of space. Articulated students then study alongside direct-entry university students. Participating institutions report that, by working bilaterally on a range of programs, the participants from each institution have gained experience with the culture and processes of the other, and this experience has facilitated the addition of new programs to the relationship. In each of the bilateral partnerships we studied, the two institutions are geographically close and draw on a large urban commutershed. This proximity provides convenient access for a large pool of potential students, and so these arrangements can function well without expanding them to include other institutions.

The multilateral articulation arrangements offer entry to the third year of university for college graduates from a large number of colleges who achieve a specified academic standard, subject to availability of space. They focus on a single program or group of closely related programs. In both of the cases we studied, interviewees cited an institutional commitment to providing access for qualified college graduates as a motivation, and they noted that admissions are selective and that the college graduates who are admitted tend to perform well academically. In each case the university devotes considerable effort to keeping informed about college programs and working collaboratively with colleges to ensure that students can transfer successfully. In the case of Lakehead University's transfer arrangement in Engineering, this effort involves almost all Ontario colleges with an Engineering Technologist diploma program (reflecting the relatively small local pool of potential students in northwestern Ontario), and it is carried out in the level of detail necessary to satisfy the national engineering accrediting body. In the case of Ryerson University's transfer arrangement in Business, the effort focuses on the colleges in the Greater Toronto Area, who provide an estimated 85 per cent of the college graduates entering the program.

For the concurrent-use campuses, the purposes are more complex. The Georgian College University Partnership Centre has the mission of providing university degree opportunities to the largest urban area in the province lacking a stand-alone university. It does so by hosting several universities, each offering a selection of programs based on its own strengths. The University of Guelph-Humber began with the primary purpose of providing university-bound students with distinctive programs that combine theoretical and applied education and that would lead to both a university degree and a college diploma. A secondary purpose was to extend the availability of a University of Guelph degree to commuter students in the Toronto area. Over time, the offering of transfer opportunities to college graduates has become an important purpose as well. The University of Ontario Institute of Technology (UOIT) was created to help meet specific economic needs, and its legislation calls on it to "offer programs with a view to creating opportunities for college graduates to

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[5] In the case of McMaster-Mohawk's bilateral arrangement, students enter both the diploma and degree streams of their program at the same time, more closely mirroring the experience of the University of Guelph-Humber.

complete a university degree" (UOIT 2002). This has led UOIT to build special arrangements with Durham College, with which it shares campus facilities.

It is often claimed that a purpose of collaborative programs is to combine the benefits of applied education (provided by the college) and academic or theoretical education (provided by the university). We found this to be true in some cases but not others. Some collaborative programs are based on the college's comparative advantage in applied education, with the college offering courses with a strong hands-on element, using specialized laboratories and faculty with industry experience, while the university offers complementary academic instruction. In other cases this division of labour is less clear. Many collaborations involve Business or Applied Science, where the difference between a college program and a university program relates primarily to the depth of knowledge rather than the extent to which the education is "applied" or "hands-on."[6] Universities have offered Business and Engineering for more than a century, so we do not see this as evidence of mission drift on the part of the participating universities. Indeed, universities' growing interest in experiential learning – in the form or co-op placements, internships, research experiences, community engagement and similar activities – suggests that the perception of university education as being purely theoretical is likely to be even less true in future.

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[6] Another example may be the University of Guelph-Humber program in Psychology, which offers students a college diploma in general arts and science and a university degree in psychology.

Table 2: ONTARIO CASES: SCOPE AND PRINCIPAL PURPOSE

		SCOPE	PRINCIPAL PURPOSE
Bilateral Articulation	McMaster-Mohawk	Target 1,300-1,500 FTEs across four years of study.	Unique programs designed to increase program choice for university-bound students. Also provides opportunity to simultaneously complete two credentials.
	Seneca-York	Target is 300-400 students participating across all articulation and joint programs.	Degree access for college graduates.
Multilateral Articulation	Lakehead Engineering	Admit a maximum of 200 students annually.	Degree access for college graduates.
	Ryerson Business	Admit 250-300 students annually.	Degree access for college graduates.
Concurrent-Use Campuses	UOIT-Durham College	Aiming for 100-200 successful transfers to degree programs annually.	Reducing geographical barriers to degree program access, and increasing opportunities for diploma-degree articulation.
	University of Guelph-Humber	Target 3,000 FTEs across four years of study.	Unique programs designed to increase program choice for university-bound students.
	Georgian College University Partnership Centre	Approximately 1,700 FTEs in degree-level study and growing.	Reducing geographic barriers to degree program access.

Key Success Factors

In assessing the reasons why these partnerships have survived and developed over time, we first consider the policy environment in which they operate. While Ontario governments of all three parties have advocated college-university collaboration, governments historically have not been willing to offer enhanced operating funding for the costs of collaborative programs; instead governments have expected programs to operate based on the normal per-student grants and tuition fees that fund other postsecondary programs. Governments have also been reluctant to introduce special legislation or regulations to facilitate collaboration. These decisions have been justified on the grounds that special operating funding and legislation were unnecessary and might create an unwarranted policy bias favouring collaboration over single-institution programs.

An exception was the special legislation and funding provided to support the launch of UOIT. Even in this case, the legislation and funding were primarily directed at creating a university in a growing urban area where no university existed, with the collaboration with colleges being a related but secondary purpose.

Governments have been much more willing to use capital grants as a way of supporting the development of collaborations. Capital grant programs in 1994 and 2000 gave special support to collaborative projects, and five of the seven cases benefited directly or indirectly from these decisions. (The exceptions – the multilateral arrangements at Lakehead and Ryerson – are much older and so missed out on this funding.) Participants say that this funding was essential to cementing newly-formed partnerships and encouraging the timely introduction of new programs.

Apart from providing selective capital funding, government policy has primarily aimed at providing a stable environment in which individual institutions could make their own decisions about whether to cooperate, and if so with whom and for what purpose. This approach means that much of the success of these partnerships has depended on the ability of the partners to develop and execute an agreed plan. Their approach to doing so differs markedly depending on the number of partners involved in the relationship and the extent of integration in the offering of academic programs.

The multilateral partnerships may be seen as the simplest to govern because, while effective working relationships are essential, one partner is clearly the dominant actor. Each of the other partners can choose to participate or not, but none by itself can prevent the partnership from continuing. Governance primarily takes the form of consultation between the dominant partner and the others to ensure that students can successfully move from one program to another (in the cases of Lakehead Engineering and Ryerson Business) or to ensure that the university participants have adequate facilities and support on the college's campus (in the case of the Georgian College University Partnership Centre). It should not be inferred that multilateral partnerships are easy; quite the contrary, they may experience significant challenges relating to attracting the desired number of students or ensuring that enrolled students succeed in their programs. Nevertheless, some evidence of durability can be seen in the fact that two of the multilateral partnerships have endured for an estimated 30 years or more, with continued strong commitments by their dominant partners.

In the bilateral partnerships, the ability of the partners to plan together, to resolve disputes and to operationalize their plan becomes a more critical factor for success. All of the bilateral partnerships reported that initiating the partnership required an extensive commitment of time from academic leaders. This time commitment continues at a somewhat reduced level once the partnership is established, and is especially pronounced when there is a high level of academic integration to be maintained or when new programs are being added to the partnership.

Our interviews found confirmation of many of the barriers to bilateral partnership that have been identified by economists and business researchers. Partners often found that success came only after earlier attempts at partnership were explored and then abandoned when the partners gained more information about each other's goals and capacities and identified incompatibilities. Some partners reported extensive efforts to ensure that the partnership did not, and would not in future, diminish the partner's reputation with prospective students; this observation was made by both universities and colleges. Some partners reported difficulty in sharing resources; this was attributed to the lack of clear precedents (focal points) and to the difficulty of objectively valuing in-kind contributions from each participant. Some partners reported that considerable effort was made to win the support of internal constituencies with a potential veto over the partnership, including governance bodies and organizations representing faculty and staff that may have had concerns about reputation, sharing of resources, and sharing of work.

The high barriers to exiting a partnership after it has been formed were an initial concern for some partners. Once the partnership was formed and students were enrolled, these barriers have served to help maintain the partnership. These findings are consistent with Axelrod's view that partnerships begin through trial and error and that, while many fail before they are launched, those that succeed do so at least in part because the actors expect to continue to interact for the indefinite future.

Table 3: ONTARIO CASES: SOME SUCCESS FACTORS

		SPECIAL LEGISLATION	GOVERNMENT CAPITAL FUNDING	GOVERNMENT SPECIAL OPERATING FUNDING	SPECIAL INTERNAL GOVERNANCE
Bilateral Articulation	McMaster-Mohawk	NO	YES	NO	YES, governance of programs by joint committees. The shared building is also administered jointly.
	Seneca-York	NO	YES	NO	YES - governance by joint committees.
Multilateral Articulation	Lakehead Engineering	NO	NO	NO	NO, however, the Faculty of Engineering expends significant effort in maintaining a database on Engineering Technologist programs at colleges across Canada to facilitate the admissions process.
	Ryerson Business	NO	NO	NO	NO, but extensive consultation with colleges.
Concurrent-Use Campuses	UOIT-Durham College	YES	YES	YES, start-up funding for the university.	YES
	University of Guelph-Humber	NO	YES	NO	YES, bilateral governance of the joint venture.
	Georgian College University Partnership Centre	NO, but required special permission to use term 'university'.	YES	NO	YES, a separate administrative unit.

System-wide transfer arrangements

Do the cases we have looked at, and others like them, provide a basis for Ontario to move to a province-wide system of college-university transfer? We compared five jurisdictions with system-wide transfer arrangements to determine the purpose and scope of these arrangements and to identify the key policy elements that have allowed these systems to succeed in serving large numbers of students. Table 4 summarizes these findings.

Table 4: SYSTEM-WIDE ARRANGEMENTS

JURISDICTION	PURPOSE AND SCOPE	KEY SUCCESS FACTORS
Alberta (1971)	Rationalizing of provincial higher education sector to focus activities and resources. System designed to maximize geographic access to different program types and offer multiple entry points and pathways between sectors.	Alberta Council on Admission and Transfer (ACAT) founded (1971) to facilitate institutional transfer arrangements and prior-learning assessment. Institutions govern ACAT, but there is an increasing governmental presence. In 2006, all Alberta higher education institutions were put into one of six institutional categories. Each category involves boundaries on mission and academic activity.
British Columbia (1989 - but origins date to mid-1960s)	System designed to maximize geographic access to different program types and offer multiple entry points and pathways between sectors. Now considering the addition of the private career college sector to BCCAT (BC Council on Admission and Transfer) framework on credit and credential transfer.	Higher education system designed for articulation between institutions (introduction of colleges in 1964 as potential feeder institutions to universities – province looked to California model of system design). Institutional (i.e. university) buy-in to process, including role in governance of BCCAT. Still considerable institutional autonomy within BCCAT structure – institutions still have final say on student admissions and articulation of programs between institutions. Projected enrolment drop in British Columbia acts as incentive for greater articulation and collaboration as means of increasing pool of potential students.
California (1960)	College transfer is used to maintain accessibility to university degrees while reducing the overall cost of higher education to the government and the student. In the 1999 college entry cohort, about 11 per cent of first-time college students transferred to a four-year institution within six years. Another 8 per cent became "transfer ready" (but did not transfer)	Colleges' transfer role is mandated by legislation. General education courses are articulated for transfer at a system-wide level, through the Chancellor's Offices of UC and CSU. Pre-major courses are articulated at the institution level. Entry to university is not guaranteed, but legislation requires universities to give

JURISDICTION	PURPOSE AND SCOPE	KEY SUCCESS FACTORS
	within that time period. Of the 2000-01 cohort of college graduates who transferred to University of California, 86.5 per cent graduated within five years. Of those transferring to California State University, 70.5 per cent graduated within five years. Transfers from California Community Colleges accounted for 15,000 students (almost one-third of new undergraduates) at UC and 60,000 students (about two-thirds of new undergraduates) at CSU in 2004-05.	qualified college transfer students priority over new first-year students.
Florida (1971)	College transfer is used to maintain accessibility to university degrees while reducing the overall cost of higher education to the government and the student. College transfer students account for approximately half of baccalaureate degree recipients within the state university system. 80 per cent of college Associate in Arts graduates who enroll in university either graduate or are continuing their studies four years later.	The right of college graduates holding an Associate in Arts degree to transfer to university is mandated by legislation (not necessarily to the university or program of first choice). Legislation mandates block transfer of general education credits. A state-wide Articulation Coordinating Committee manages academic recognition issues. There is mandatory state-wide math and English testing for college students and lower-division university students.
Scotland (2001 – but origins date to late 1980s)	Scottish Credit and Qualifications Framework (SCQF) created to unify various postsecondary education credentials under one framework, allowing movement between credentials for students and clarity around meaning of credentials for employers. Now part of Scotland's compliance with the Bologna Accord to increase mobility between European higher education sectors.	Process initiated and driven by institutions (starting with credit transfer between Further Education [FE] colleges). Universities indicated an interest in joining the framework. SCQF grew through increasing partnerships between institutional, sector and governmental organizations in Scotland. Institutions are now mandated to map existing and new programs on to the SCQF through Scottish higher education quality reporting and assessment requirements.

California and Florida have the longest-established transfer systems, and the most successful in terms of the share of university degree recipients who began their postsecondary education in the college system. In each case the state government decided in the post-war period to limit the number of universities in the state and to restrict the number of secondary school graduates who would proceed directly to university. The college systems were designed to have both a vocational function and a university transfer function, and the size of the college systems reflects these dual roles. All universities are required to accept large numbers of college transfer students; in other words, no university can attempt to differentiate itself by opting out of this role. State-wide governance bodies limit the competition between the college and university sectors (although in Florida this limitation has been weakened over the past decade as some colleges have won the right to grant four-year degrees). System-wide bodies of qualified academics are in place to resolve academic issues relating to which courses should be recognized for transfer (although in California these arrangements have been weakened by universities that impose institution-specific prerequisites for specific programs of study).

British Columbia's higher education system was influenced by the California system. British Columbia's universities played a key role in the formation of the province's colleges and, consequently, were intimately involved with the evolution of British Columbia's province-wide transfer and articulation policies. Following the 1962 report, "Higher Education in British Columbia and a Plan for the Future", the government created 2-year colleges that would offer the first two years of university programming as well as vocational training (Garber, 2005, 2). BCCAT, created in 1989, replaced earlier attempts by the government to coordinate articulation and transfer of credits between institutions. Although BCCAT is entirely funded by the provincial government, the BCCAT governance membership is comprised exclusively of institutional representatives in an effort to build institutional support of and control over province-wide transfer arrangements. A projected enrolment decline is expected to increase institutional interest in transfer arrangements.

By comparison, the government of Alberta appears to be much more interventionist in its efforts at inter-institutional cooperation. ACAT was created in 1974. Like BCCAT, the role of ACAT is not regulatory, but to provide support and improve communication between institutional actors as they work towards new or more expansive transfer agreements (ACAT, 2007). However, two recent government-led initiatives have a profound impact on the province's higher education system and its coordination. The first of these initiatives was "Campus Alberta", introduced in 2002, followed by the Alberta government's response to a 2006 sector revue titled "A Learning Alberta". The cumulative effects of these initiatives are more clearly defined roles for Alberta's institutions of higher education in relation to one another. All of Alberta's institutions fall into one of six tiers:

- Comprehensive Academic and Research Institutions
- Baccalaureate and Applied Studies Institutions
- Polytechnical Institutions
- Comprehensive Community Institutions
- Independent Academic Institutions
- Specialized Arts and Culture Institutions

Each of these institutional types has specific functions and goals within Alberta's higher education sector. Transfer and articulation is intended to occur between all levels and in all directions. However, Comprehensive Community Institutions have been given primary responsibility for university transfer/academic upgrade programming. Overall, transfer and articulation within Alberta has evolved to include a strong government coordination/facilitation role within the context of a system defined by specifically mandated institutional sectors.

Scotland's universities and further education colleges enjoy a level of institutional autonomy analogous to that in Ontario. The Scottish Credential and Qualifications Framework's objective is to "make the relationship between qualifications clearer… assist learners to plan their progress and learning", illustrate educational pathways, illustrate student exit and starting points and increase opportunities for credit transfer between

institutions (SCQF, 2007, 3). The SCQF arose from an institutional initiative in the late 1980s and was formally established in 2001. The framework includes a map of how various higher education credentials may be equated between sectors, as well as a credit transfer guide for students and institutions. However, transfers and articulations are still ultimately at the discretion of institutions. Unfortunately, lack of system-wide data means there is little data outside of institutional figures with which to measure the magnitude and success rates of the students who take part in transfers between sectors. Scottish institutions, including universities, are showing an interest in increased pathways between sectors. This may be in response to an anticipated demographic trend of a diminishing 'college/university age' population. Institutions, particularly universities, see students from other sectors of postsecondary education as a potential untapped market.

These cases suggest the wide gap between Ontario's approach of encouraging bilateral or multilateral collaboration and the approach of jurisdictions that encourage system-wide collaboration. Historically Ontario governments have been reluctant to articulate the public purposes that collaboration would be intended to serve, or to set out goals that would allow the measurement of whether those purposes were being achieved. The large number of full-fledged universities created prior to 1964, and the occasional willingness of governments in subsequent years to create new universities in response to local demands, has reduced the need to develop a college transfer system as a major route to the provision of university degrees. Ontario institutions' historical opposition to the creation of system-wide bodies to regulate or adjudicate credit recognition has meant that there has been no authoritative way to resolve the key academic issues in system-wide credit transfer.

Conclusions

Successive Ontario governments played a relatively small role in initiating collaborative relationships between the province's colleges and universities. Government provided capital funding that was essential in some cases. With the exception of UOIT, the government did not provide special operating funding or make other policy changes. In other words, the task of building and maintaining collaborative relationships fell to the institutions themselves. Universities and colleges have a financial incentive to identify new student markets and to seek to serve them, since much of an institution's funding is based on student tuition and enrolment-driven government grants. This incentive to enroll more students is bounded by capacity constraints, the institution's understanding of its own mission and professional commitments to academic quality. How severely these boundaries limit an institution's incentive to admit students varies by institution and by program or department.

Even if an institution wishes to accept more students, it has many options for how to do so. Forming a partnership with another institution may be an attractive way of accessing the other institution's expertise (such as specialized faculty or equipment), but the process of forming and maintaining partnerships presents many challenges. Where partnerships are essentially voluntary, there are strong theoretical reasons to believe that the role of formal partnerships (as measured, for example, by number of students enrolled) will be small relative to the role of single-institution programs. In this policy environment, partnerships are likely to develop through trial and error, and many potentially successful opportunities are likely to fall by the wayside.

Public policy may reduce some of the barriers to formal partnerships by offering financial incentives. Nevertheless, many of the barriers have little to do with finances. Lack of knowledge about opportunities, difficulties in negotiating agreements, lack of support from major stakeholders within the institution, disincentives to share gains, difficulties in resolving disputes, and the potential irreversibility of agreements may all discourage agreements from forming or continuing. The prospect that two institutions may cooperate in some areas while competing in others, either now or in future, has the potential to be destabilizing.

Where formal relationships between institutions are voluntary, the purpose of the relationship is likely to be determined by the institutions themselves, within the constraint of needing to attract students to the program. Our case studies suggested a number of purposes in Ontario: to facilitate access to a university degree for college graduates; to offer distinctive academic programs to secondary school graduates who are university-bound; or to provide access to university in a geographic area not served (or underserved) by universities.

Even the largest of the voluntary relationships we studied is intended to serve a niche relative to the size of the system. The largest single relationship will eventually enroll approximately one-half of one per cent of Ontario's postsecondary students. More such relationships may develop in future, but collectively they are unlikely to satisfy those who believe that college-university transfer should form a large part of the higher education system.

The system-wide partnerships we examined outside of Ontario tended to have a single purpose: to facilitate transfer from one institution to another, and especially transfer from a college to a university. Most system-wide partnerships were characterized by an authoritative third party (such as a legislature) that mandated cooperation by all institutions and prohibited free-riding; provisions to define the mandate of each segment of the higher education system and define appropriate areas for cooperation and for competition; and a governance body to oversee the implementation of the transfer arrangements. With this framework in place, higher education systems have succeeded in facilitating the transfer of large numbers of students from the college system to the university system, where the majority of transfer students perform successfully. Notwithstanding these successes, system-wide transfer systems require ongoing leadership from the center, backed by legislative or other authority, to prevent the centripetal forces of institutional differentiation from undermining the public interest in facilitating transfer to a degree-granting university for large numbers of students.

These findings suggest some important opportunities for those responsible for planning higher education systems. The most important of these is to define the public policy purposes of college-university relationships and the measurable outcomes that are to be achieved. The projections that Ontario's higher education system may grow by 100,000 students or more by 2021, principally in southern Ontario, suggest that the public purposes of college-university collaboration may differ in the future from those of the past. These future purposes may include providing a route into university for students who cannot be accommodated directly from secondary school at existing universities; providing university access for students from underrepresented groups who may initially choose to enroll in college rather than university; providing an enhanced mission for colleges as the economy moves increasingly towards knowledge-based employment; creating new system efficiencies through collaboration between institutions in communities with growing populations and other institutions facing population declines; and providing a form of postsecondary education that is more affordable for governments and for students than that provided by research-intensive universities. Achieving these purposes will require a more vigorous role for system managers than has historically been characteristic of Ontario.

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