THE SKY HAS LIMITS ONLINE LEARNING IN CANADIAN K-12 PUBLIC EDUCATION

by

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Technology may be transforming the everyday life of Canadians and particularly the younger generation, but Canada's Kindergarten to Grade 12 (K-12) public schools are lagging in fully embracing the potential of the Internet and in integrating online learning into the public school system. Over the past decade, online resources, such as e-learning courses and programs as well as virtual schools, have either proliferated or popped-up in Canada's remarkably diverse provinces and territories. Among Canadian educational authorities and teachers, there is a growing realization that online learning can be a powerful learning tool with the potential to expand educational opportunities and to enhance learning for students. At the elementary and secondary school level (K-12), regular "brick-and-mortar" schools are acquiring computer hardware and software, connecting them to the Internet, installing wireless networks, and offering in-service training in Information Communication Technologies (ICT) to both novice and experienced teachers. Across Canada, from Newfoundland and Labrador to British Columbia, the infrastructure in most schools now enables Internet access, student portals, digital libraries, and networks that support laptops, handheld and other portable devices.¹

Today's Canadian students are widely recognized as being "cyber-savvy" and hungering for more opportunities to use technology *inside the schools*. Popular books like Don Tapscott's *Growing Up Digital* (1997) and others with titles like *Millennials Rising* (2000) go so far as to suggest that the "Net Generation" (born to Baby Boomers) and the Millennials (most of today's students) have turned the "generation gap" into a "generation lap" when it comes to the mastery of technology. ² Such broad generalizations about the generational differences may well be exaggerated and, as the University of Georgia's Dr. Tom Reeves has shown, the technical fluency and knowledge of today's students runs far

broader than it does deep. The new generation of learners may now inhabit a "digital world" but they are also hobbled by a strain of narcissism and dogged by the legacy of "parental perfectionism." Introducing technology alone in schools has not proven enough without active teacher support and engaged, motivated students. ³

Mobile learning technology has been adopted almost *en mass* by the Net Generation and by today's so-called "screenagers." Yet many schools right across Canada still remain "locked-down" to the free use of such devices outside of designated rooms or access points.⁴ While the innovative use of online technologies has gradually penetrated into the publicly-funded school system over the past five years, the availability of, and access to, these technologies has not kept pace with student demand or expectations.

A comprehensive analysis of online learning, drawing upon recent authoritative research studies, provincial websites and reports, and key interviews reveals that the promise of online learning remains largely unfulfilled in K-12 education. In spite of the tremendous advantages afforded by introducing online learning programs, significant gaps exist in service levels and barriers stand in the way of expansion into unserviced frontiers. In all of Canada's provinces and territories, including Alberta, school choice is rationed or channelled, learning conditions are carefully state regulated, and the delivery of education limited by teacher union contracts. Some private sector virtual schools have recently arrived, but no full-time online public charter schools exist, even in Alberta, the only province with Charter School legislation. Distance education and online learning student enrolments plateaued in 2010-11, largely as a result of limits imposed by structural

impediments, regulatory constraints, and – in some "have not" provinces – budgetary restraint programs.⁵

Background - The Canadian Educational Context

Education is strictly a provincial government responsibility in Canada and the country, alone among the OECD member states, has no national Department of Education or policy standards. Some coordination is provided by the Council of Ministers of Education, Canada (CMEC), supported by comparative research conducted until 2010 by the Canadian Council on Learning, based in Ottawa.⁶ All ten provinces and the three territories have established and maintain "distance education" programs within their K-12 publicly-funded school systems. The Western province of British Columbia (BC) has the most extensive online presence, in terms of numbers and percentage of student participation. The smallest of the ten Canadian provinces, Prince Edward Island (PEI), has the least participation. Although BC has the largest online learning program, it also has the most extensive regulatory regime. Canada's top performing province on international tests, Alberta, is reviewing its traditional distance education strategy is under review and considering a transformational shift to online and "blended learning" combining regular inschool coursework with online courses. Recent initiatives in Ontario have helped to advance e-learning in that province. ⁷

The shift to online learning in Canada has met with resistance from some Canadian teacher unions, varying in degree from one province to another. In British Columbia, distance learning is more widely accepted, and the BC Teachers Federation now funds some of the research. ⁸ The tepid initial response of teacher unions is rooted in labour

rights and workload concerns. When presented with innovative online programs, the instinctive response is to defend existing teacher contract provisions, limiting workload and hours of instruction to those established for classroom-based teachers. ⁹Another line of defence is to resist online programs, unless and until they can be offered equally to all students. Education school research conducted by Dianne Looker and the Equity and Technology Research Alliance has served to focus resources on "the inclusion of marginal youth" using ICT to build upon their "distinctive cultural knowledge" and serve their "economic interests." ¹⁰

Distance education remains essentially a supplementary program in most of Canada's provinces and territories. In 2010-11, some provinces continue to deliver distance education in the static form of e-links to web postings of print-based learning materials. Growing numbers of schools are making use of synchronous tools such as traditional video conferencing or virtual classroom software. Across Canada, however, K-12 distance education is often used interchangeably with online learning even though most such learning does not actually take place online. Surveying the various provincial and territorial programs, it is clear that distance education is little more than a substitute when face-to-face learning is not feasible of affordable, or for students requiring alternative delivery methods for remediation or course credit recovery purposes.¹¹

Distance or online learning may be growing modestly, but it still continues to represent a tiny proportion of the total Canadian school enrolment. Out of a total student population of some 5 million in 2010-11, distance education enrolment was estimated by Michael K. Barbour to be 207, 096 students (or about 4.2% of all students). Some 88,000 of

the unique students (representing 13% of the total provincial enrolment) were from BC and enrolled in its 68 "public distributed learning schools." Enrolments are growing dramatically in BC with the support of government policies or funding incentives. Student enrolment has stagnated in Alberta, Manitoba, Saskatchewan, New Brunswick, and Newfoundland/ Labrador, an early leader in online learning. In the case of Ontario, the province has been moving, since 2006, to centralize its formerly school-district- based system under the auspices of a provincial consortium, *e-Learning Ontario*. Nova Scotia has only 650 students enrolled, but plans are underway to convert the traditional correspondence courses, adding some 1,800 students. Some 66 students are enrolled in P.E.I. and in the three territories, student enrolments range from none in Nunavut to 95 in the Yukon, in spite of the demonstrable advantages of online learning for rural and remote communities. ¹²

The Regional and Provincial Situation

Canada's public education system can only be understood through the lens of its discrete regions, composed of provinces and territories. Following the example of the International Association for Online Learning (iNACOL) reports, this comparative analysis will highlight the regional and provincial variations in the current provision of online education. Nine of the ten Canadian provinces have their own K-12 distance education exception Prince Edward Island. programs; the being Two provinces, Newfoundland/Labrador and New Brunswick maintain single, centralized, province-wide systems. Nova Scotia has its own system, but it is built in collaboration with a small number of regional school boards. Ontario and Saskatchewan are remarkably decentralized, delegating much of online learning to consortia or remote school districts.

Online learning in PEI and the territories might be described as limited in its reach. ¹³ Only British Columbia, Ontario, and Alberta have, so far, proven to be fertile ground for private school ventures in the form of virtual or online schools. ¹⁴

Atlantic Canada

Canada's four eastern-most provinces, Nova Scotia, New Brunswick, PEI, and Newfoundland/Labrador, compose the Atlantic region and do co-operate on joint curriculum projects, given their relative close proximity to one another. Province-wide distance learning programs exist, managed by the Departments of Education, and all except Newfoundland have regulatory regimes to govern the provision of online education. All online programs are sponsored by the provinces, some in collaboration with district boards serving rural areas.

Distance education in **Newfoundland and Labrador** originated in 1988-89 with the advent of a single advanced Mathematics course, involving 13 schools and utilizing a telematics or audiographics delivery system. A Centre for Distance Learning and Innovation (CDLI) was established in 2001-2 with 10 different courses field-tested enrolling 200 students in 76 different rural schools. In its first decade, DLCI expanded to offer 38 courses with some 1,600 enrolments each year. The Newfoundland high school program offers synchronous instruction matching regular school times and using *Elluminate* software and asynchronous instruction supported by the *Desire2Learn* course management system. Some online instructional support is also offered in the lower grades. That province is also home to the Killick Centre at Memorial University, a leading

online education research centre. The Ministry of Education tracks online education delivery and maintains a K-12 School Profile System, but remains very light on provincial regulations.¹⁵

Nova Scotia has initiated and is developing its own province-wide online learning program – the *Nova Scotia Virtual School* (NSVS). It provides a central course management platform and delegates to the eight school boards the responsibility for providing course content written by practicing classroom teachers. The province's French school board, *Conseil scolaire acadien provincial* (CSAP), has a longer history of offering online courses, shared jointly with New Brunswick. Since Nova Scotia has tended to lag behind in providing province-wide high speed Internet access, concerns about the urban-rural "digital divide" exert considerable influence on educational policy-making. Although Nova Scotia has no K-12 distance education legislation, it is heavily regulated in the Teachers' Contract with the Nova Scotia Teachers Union (NSTU). ¹⁶

The Nova Scotia regulatory regime respects negotiated teacher rights. Some 11 specific clauses in the Agreement limit the provincial government's freedom of action in providing online learning. All online instructors must be certified teachers, employed by one of the 8 boards, and are protected by provisions limiting their number of instructional days and working hours and guaranteeing them personal days as well as dedicated preparation and marking time. Distance education is treated like a regular in-school program with supervisors, dedicated facilities space, and class groups limited to 20-25 students. A provincial Distance Education Committee, with teacher union representation (four of 8 positions) exists to address "issues surrounding distance education." ¹⁷

Prince Edward Island is geographically small and makes minimal provision for distance or online education. Two Ministerial Directives, issued in 2001 and in August 2008, set out the provincial guidelines and authorize, for PEI credit purposes, distance education courses offered by New Brunswick and other provincial jurisdictions. A provincial video conferencing system exists, but it is little utilized by the Education Department or students in local schools. In 2010-11, only 66 students out of a 21,126 total student enrolment were enrolled in online courses.¹⁸

Two online learning programs are offered in **New Brunswick**, one in the English language, the other in French, and serving the dual linguistic school system. While the program reflects the province's bilingual reality, it is delivered by the same Ministry learning management system (LMS). Student enrolment consists mostly of students supplementing their regular in-school studies and it has been relatively static or slightly declining since 2007-08, in both the Anglophone and Francophone sectors. While New Brunswick has been recently championing "21st Century Learning," provincial budget restraints from 2007 to 2011 actually reduced access to online courses. 19

Central Canada

Canada's two most populous provinces, Ontario and Quebec, are home to some 20 million people or 60% of the nation's total population and the lion's share of its K-12 students. Distance education programs in Ontario and Quebec are province-wide, but mostly offered at the district or school board level. Ontario has a strongly rooted tradition of locally managed district programs, while Quebec has only recently begun to devolve management from the Ministry of Education to the district level. The provision of such

programs in Ontario is now undergoing a shift in management and control with the emergence of two distinct e-learning consortia and the expansion of rural distance learning projects.

Quebec is a distinct, unique French-speaking province with a majority Francophone K-11 school system and a separate one for the Anglophone minority population. Secondary school extends from Grade 7 to 11 and thereafter students attend a two-year *College d'enseignment general et professional* (CEGEP) to secure a university-preparatory diploma. The earliest distance education courses originated as part of the vocational studies movement back in 1946. In April 1996, Quebec school boards took the big step on establishing a provincial non-profit organization to produce online resources known as *Société de formation a distance des commissions scholaires du Quebec* (SOFAD). That organization now produces distance learning materials in French for students 16 and over, offered through district-based programs in some 57 regional centres.

Quebec's English sector developed its own Distance Education and Community Network, founded in 1999-2000. Over the next six years, it grew to encompass all nine English-speaking school boards and morphed into *Learn Quebec*. The Quebec English distance education agency specializes in producing asynchronous course content online tutorials, enrolling over 4,000 students, and a much smaller synchronous program using *Wimba* as a learning tool and *AKAI* as a learning management system.

Even though Quebec's Education Act makes no reference to distance education, the province is emerging as a leader in promoting online learning in small rural schools. The Ministry of Education has funded *Écoles éloignées en réseau* (Remote Networked Schools)

since 2002 and that initiative has broken new ground in distance education. Instead of simply compensating for the absence or closing of a school, the program serves existing schools by "networking" certain learning activities in an effort to enhance the quality of education by broadening access to resources. ²⁰ By 2009-10, the RNS initiative had expanded to some 20 Francophone school boards encompassing 70 schools and involving about 90 teachers. To date, the RNS has remained focused on teacher professional development and technology integration projects. ²¹

For all its PD success, the Quebec RNS project still faces familiar structural and organizational culture barriers. While linking recognized mentor teachers and subject specialists, particularly in Maths and Sciences, has great appeal, it has run up against opposition from reactionary forces, fearful of change. Teacher unions resist changes potentially impacting upon contract guarantees (class size, student-teacher ratios, hours of instruction), while progressive educators recoil at the prospect of direct instruction delivered by recognized subject experts in networked schools. ²²

Canada's most populous province, **Ontario**, spent \$21 billion on education in 2009-10, operating 4,931 schools and serving some 2 million students. While it's a massive province geographically, distance education has lagged and, for the most part, suffered from a confused sense of direction. Since 1994-95, many of the province's school boards have established their own district programs and 20 of the boards have formed the Ontario e-Learning Consortium (OeLC). That joint venture has helped increase course offerings and the sharing of resources with positive results. From 2008-09 to 2009-10, online student enrolments in OeLC boards jumped from 6,276 to 9,695. The consortia model has

also been replicated by Ontario's French language boards and by the province's constitutionally guaranteed separate Catholic school boards. In 2010, a Northern e-Learning Consortium (NeLC) was established to allow remote northern Ontario school districts to address shared challenges. ²³

Growing demand in Ontario for online student learning has manifested itself in the recent emergence of private venture virtual schools. Three different private K-12 online learning programmes are flourishing outside the state regulated school system: Virtual High School (Ontario), Ottawa Carleton e-School (Ottawa), and Keewaytinook Internet High School (Nishnawbe Aski Nation)²⁴ Each of these private operations has found a niche by serving needs being unmet in K-12 Ontario public education.

Virtual High School, founded in 1995 by Huron County public school educator s and based in small town Bayfield, Ontario, has grown significantly with a clear "quality education" philosophy and focus. "The Virtual High School (Ontario)", its website proclaims, "has made a commitment to providing the best education possible via the Internet. Students and parents alike may be assured course content is second-to-none and administered in a secure and professional manner." Freed-up from the normal public school delivery model, it offers classes "24 hours a day, 365 days a year," an emphasis upon "student initiative" and self-reliance, continuously updated "cutting-edge content," "pioneering and enthusiastic teachers", and individual attention. Offering courses in competition with Ontario's traditional "correspondence courses," VHS (O) has cracked into the market with what are billed as "fully accredited and award-winning courses" and utilizing *Desire2Learn's* learning

management system Some 3,140 of the 4,700 students in private online schools (or two-thirds of the total) are enrolled at the phenomenally successful VHS(O).²⁵

Ontario's regulatory regime, outlined in the 2006 *E-Learning Strategy* and codified in school regulations initially imposed limits on the delivery of online learning. "In some instances," North American online learning expert Michael K. Barbour reports, "the Ministry requirements were once quite restrictive." Originally, the Ontario provincial LMS could not be used for either blended learning or the professional development of teachers. That led school districts to run parallel systems, the provincial LMS as well as their own separate LMS for those other purposes. Starting in September 2011, Ontario now allows blended learning as part of its system.

Much of the tension in Ontario is rooted in conflicting priorities. The leading Ontario teachers' union, the Ontario Secondary School Teachers Federation, weighed in on this matter at their 2010 annual meeting. The big issue, for the OSSTF, is not quality programming but rather closing the so-called "digital divide" separating students fully equipped with the latest e-tools and those without such access. While there is an "ICT competency divide" between urban and rural Ontario, opinions differ on whether it should limit the pace and scale of the online learning movement. Vocal defenders of Ontario public education, based in the OSSTF, insist that the system should promote "equality of education for all students." If that view prevails, progress will be determined by how quickly the province can guarantee "equal access" to online tools and courses.

Western Canada

Western Canada is home to Canada's fastest growing, resource producing provinces, Alberta, British Columbia, and, more recently, Saskatchewan. Vast stretches of the region's northern frontier would seem to be prime territory for the introduction of remote online learning. Two of the four provinces, BC and Manitoba, have centralized K-12 distance education programs. The leader in providing distance education remains British Columbia, while Saskatchewan has lagged behind in terms of student enrolment. Without the financial resources of its neighbouring provinces, Manitoba has still managed to demonstrate some ITC innovation and to enrol a steady 8,000 students per year. The Western provinces also show a marked tendency toward regulating online learning. The recognized leader, BC, continues to outpace Alberta, even after Alberta's much ballyhooed renewal of its online learning strategy and policy positioning.²⁹

Manitoba has developed its own online learning strategy and mix of support programs. The Department of Education, known as Manitoba Education, operates two distance education programs: Independent Study Option (ISO), with print-based delivery for Grade 9 to 12 level students; and an alternative, the Teacher Mediated Option (TMO), which uses audio conferencing. Some experiments are underway with ISO using web conferencing tools, such as *Elluminate*, and with TMO utilizing the province's own learning management system and a few web-based synchronous tools. A third program, Web-Based Course (WBC), is jointly operated by Manitoba Education in collaboration with local school districts. With WBC, the Department develops the approved courses, supervises teacher training and support, and finances the learning management system. Schools are left to implement the WBS's, including the hiring or assigning

of teachers, and the costs are covered by regular per-student block funding from the province. A separated Francophone Division of Manitoba Education offers ISO and WBC courses for students registered in French first language or French immersion programs. Manitoba's distance learning policy, written in 2000, is now undergoing much-needed review aimed at making it more *au courant* with recent developments. ³⁰

Saskatchewan's K-12 distance education program was once centralized and much like that of Manitoba. Under the aegis of the Ministry of Education, the province developed courses delivered online, televised via satellite, or using print-based materials. In 2009-10, the province delegated most of the responsibility to its 29 school divisions. Some 71 provincially approved courses are now offered in print-based, blended, online synchronous, online asynchronous, and televised synchronous formats. Responding to public concerns about the "digital divide," Saskatchewan continued in 2009-10 to invest in providing print-delivery to students unable, for whatever reason, to access the Internet. ³¹

Alberta stands out as a relatively prosperous Canadian province and the one most committed to school choice. "Choice," Alberta Education proclaims on its website, "is one of the important principles Alberta's education system is built on." When it comes to selecting schools, parents and students can choose from a wide range of options and among the publicly-funded choices are regular public schools, separate Catholic schools, Francophone schools, and charter schools. Parents can also secure grant support to home school their own children. That overall philosophy of choice is also reflected in the province's online learning programs. ³²

Distance learning in Alberta has evolved in form to the point where the province, in 2009-10, operated over 20 K-12 distributed learning programs. Flexibility is the

overriding philosophy and Alberta Education professes a commitment to support "learning environments" which allow teachers and students to utilize a wide range of teaching and learning resources in "a regular classroom setting or in different, noncentralised locations" while "separated by time and/or place for some or all of their learning activities." A provincial Alberta Distance Learning Centre (ADLC), based in the Pembina Hills school district, offers courses in the full range of formats from print correspondence courses to online formats blended with in-school programs to full day virtual schools. School districts are also free to offer their own online learning programs and many exist in the state-funded Catholic school system as well as the standard public system. District-based programs come in many varieties. Sixteen different virtual school programs enrolling a total of 6,883 students now exist, including one online school for aboriginal students, SunChild E-Learning Community. 33

Alberta's school choice philosophy encourages innovation and this is reflected in a recent K-12 online learning provincial review. Since 2007, Alberta Education has been moving to develop a *Distributed Learning Strategy* and then a broader "open access" policy initiative. In June 2010, Alberta Education unveiled its *Inspiring Action in Education* discussion paper charting future directions. It is attempting to re-frame educational innovation, opening the way for a renewed system where teachers are prepared to design and deliver instruction "face-to-face, online, and in other non-traditional environments." The legislative program was announced in the spring of 2011, but it will take some time before it has an impact on the scope of online and blended learning. 34

British Columbia continues to lead in the provision of K-12 online learning for students. With a total student population of 649,952 in 2010-11, BC ranked first in online registration with 88,000 unique students enrolled in one or more online courses. The primary distance learning programs, unlike many other provinces, are district-level based and offered in some 53 public "distributed learning schools" as well as some 12 independent or private "distributed learning schools." The province also has a single, onestop portal, *LearnNowBC*, for students, parents, and teachers to use when accessing information about all publicly-funded distributed (online) learning in BC. That portal provides a complete catalogue of courses, a searchable database, and access to free services, including tutoring, advising, and homework advice for elementary as well as secondary level students. Another online resource, *Open School*, originally developed by BC Education, is also available, on a cost-recovery basis, providing provincial curriculum content and hosting services to district boards in need of such support.³⁵

British Columbia's school law has recognized and enabled "distributed learning" since 2006. Under the School Act, BC lets the school districts decide on how to deliver online learning. Students in public schools are permitted, with prior approval of the Ministry, to enrol in educational programs falling under multiple jurisdictions or boards of education. Schools authorized as "distributed schools" offering online programs are subject to regulations, including the stipulation that boards only employ "BC certified teachers." While the BC Teachers' Federation is more open to "distributed learning," the union is still trying to decide on an overall strategy. Since 2006, the provincial funding model has been implemented, based upon student course load, and pro-rated based upon who is delivering the courses. Neighbourhood schools receive a "DL Support Block" grant

to compensate them for accommodating online courses and each online course is designated as worth 1/8 FTE in the funding formula. Given the size of the BC online learning program, regular quality assurance audits now include a review of alternative online programs.³⁶

Northern Canada

Canada's northern territories face many social challenges that impact upon the delivery of not only online courses, but most regular education programs. All three of the territories, the Yukon, North West Territories, and Nunavut, are on the Canadian educational frontier and far removed from the main southern population centres. Student attendance and teacher turnover are critical factors affecting the delivery of public education.³⁷ Without the capacity or resources to develop their own learning programs, the territories utilize the K-12 curriculum from one of the southern provinces. The same is true for distance learning. The Yukon has utilized the BC curriculum, while North West Territories and Nunavut use the Alberta Education program. While each of the territories has established pilot projects, tackling the underlying social challenges takes precedence over online learning initiatives.

The Yukon, the smallest of the Northern territories in size and population, currently has only 28 K-12 schools serving some 2,933 students (20010-11). It has, according to Statistics Canada, a student/computer ratio of 2.9:1, but that does not translate into higher levels of connectivity. Distance education began in 1998-99, with the introduction of a Yukon Grade 11 pilot course in Information Technology with a dozen students. Since 2004, the territory has operated a territory-wide video conferencing

program, linking Whitehorse schools with outlying remote communities. Yukon students are also able to take advantage of BC's *Open School* program. In 2008-09, Yukon had agreements with eight distance education schools, including the Northern British Columbia Distance Education School (NBCDES) and the Alberta Distance Learning Centre. During 2010-11, some 80 students were enrolled in one or more of 29 different courses offered in Yukon under inter-provincial agreements.³⁸

The Northwest Territories lags behind the Yukon in the provision of distance education. In 2010-11, its population totalled 42,940, living in the Yellowknife and widely scattered native communities. Although the Territories had 49 schools, the student population only numbered 8,576. One post-secondary institution, Aurora College, offers a Grade 10 Northern Studies distance education course with limited enrolment. Completion rates in online courses, according to a 2005 report, were very low, with only 1 out of every 3 recording a passing grade.³⁹ The most northerly school board, the Beaufort-Delta Education Council (BDEC), has now introduced its first online (Internet-based) courses. Grade 10 Science and Biology 20 were offered in 2009-10, delivered on the Internet with teachers using *ElluminateLive* software and whiteboard technology.⁴⁰

Canada's youngest northern territory, **Nunavut**, was granted sovereignty and partitioned from the Northwest Territories in 1999. With its small population of 33,413 this territory had 42 schools in 2010-11 enrolling 8,855 students. Nunavut schools follow the Alberta K-12 school curriculum. In the most recent 2011 iNACOL study, no active K-12 distance education courses were reported for the whole territory.⁴¹ One promising initiative in continuing education was the 2009 *Together at a Distance* pilot project, headed

by Neil Burgess, an IT consultant, and former ICT Manager in Nunavut's Department of Education. Out of that initiative came the *Pan-Arctic Learning Portal* employing *Moodle* software as a means of delivering content to students. Its initial goals were to tap more fully into learning technologies to "avoid falling deeper into the 'digital divide'" and to generate "made-in-Nunavut" learning resources.⁴²

Summary Observations

Online learning in Canada's K -12 public school systems now lags in North America. After enjoying an initial advantage, Canada has been surpassed by the United States in its growth over the past two years. Writing on the *Education Week* Blog in December 2010, Ian Quillen accurately predicted that the traditional educational boundaries between "online and brick-and-mortar learning" would blur in 2011 resulting in an upsurge in "blended learning" programs across the United States.⁴³ America's leading private enterprise promoting online public schools, K12 Inc., founded in 2000, has expanded into 28 different states and the company claims to have delivered over one million online courses to students, and forecasts continued growth. ⁴⁴ A newly acquired Division of Pearson Education, Connections Education, now operates in 21 states and forecasts unlimited growth potential.⁴⁵ Such claims and predictions would seem outlandish in Canada when it comes to the K-12 public education.

This comprehensive, province-by-province analysis, of the current state of Canadian K-12 online learning yields not only more modest claims, but sobering lessons about the priorities of Canadian educational authorities. With the exception of British Columbia, the Canadian system remains on another wavelength. Ontario's flagship provincial program, e-

Learning Ontario, proclaims "The sky is the limit!" in its marketing, but the reality is markedly different. While unlocking the potential of online education appeals to a small band of ITC innovators, Ontario authorities, like those in most provinces and even the northern territories, remain wedded to modes of teaching and learning circumscribed by the 'brick and mortar' model of public schooling. Innovative online learning projects are viewed as potential threats to the prevailing status quo, exemplified by a resistant organizational culture, public sector contract entitlements, and regulatory regimes designed to manage the growth of e-learning. ⁴⁶

Canadian students are primed to seize the potential of the latest learning technologies. Computers, multimedia programs, smart phones, iPods, and other such mobile devices are transforming childhood and youth culture, giving rise to virtual "online adolescence." Since 2006, Canadian 15 year old students reportedly run well ahead of the OECD average in daily use of the Internet for information. A comprehensive 2009 E-Learning study, conducted by the Canadian Council on Learning (CCL), urged policy-makers and education leaders to "evaluate how we can best harness the ICT interest of this group – the leaders, parents, and workers of tomorrow." ⁴⁷ While inflated expectations are common when it comes to describing the technical prowess of today's students, there is no denying the potential for these so-called "digital natives" to advance 21st century learning.

Canada once enjoyed a competitive advantage in e-learning as a result of its initial public investments in infrastructure, its pioneering methodologies and tools, its focus on accessibility, and the priority assigned to research on learning objects and repositories. ⁴⁸ Over the past decade, however, the CCL reports that Canada is "starting to trail behind the

efforts of other countries," such as Sweden, South Korea, Australia, and the UK, "in this very important sector." In Canada, levels of adoption of e-learning have been slower than predicted in K-12 education, and more so at the post-secondary education level.⁴⁹

Since a 2001 report to the Canadian Ministers of Education, Canada (CMEC) produced a broad action plan for e-learning, the national initiative has faltered. Without a national Department of Education or any standards, such matters are often subject to the vagaries of inter-provincial relations. As this pan- Canadian comparative analysis amply demonstrates, Canada lacks a comprehensive or coherent approach to align provincial initiatives with measurable goals in preparing Canada for success in the "knowledge-based," networked global economy. "E-learning" in Canada, in the words of the 2009 CCL report, "consists of loosely connected provincial, territorial, and federal e-learning networks, educational providers (public and private) and targeted initiatives." Instead of coherence, the overall approach has resulted in "duplicated efforts, fragmented goals and objectives, and sporadic and short-term objectives." There is, at the very least, lots of room for improved coordination among provincial and territorial governments.

Online learning is accepted in Canada as a critical component of the future in K-12 education. So why the hesitance to move forward? Much of the answer lies with the first instinct of the public sector interests -- educational policy-makers, senior administrators, and teacher unionists. That reflex reaction is to monitor, regulate and control the educational domain. It is particularly pronounced when it comes to a dynamically changing field of e-learning and the mushrooming domain of mobile social media.

Educational officialdom in Canada, spearheaded by the Canadian Education Association, the Canadian School Boards Association, and provincial teacher unions, can speak glowingly about the potential of unlocking "21st Century Skills" in our classrooms. Yet they also see uneven student access to information technology as a source of social inequality rather than a liberating, energizing force essential to success in the global marketplace. Few recognize that some of Canada's poorest communities, such as Labrador, actually enjoy the best access to ICT as a result of federal infrastructure investments in remote areas.⁵¹

Whether it is Ontario, Nova Scotia, or even Nunavut, educational researchers tend to focus on the so-called "digital divide" and to advocate policies aimed at promoting quality of access to ITC and measures to close the "competency gap" faced by students in lower socio-economic or remote communities. One such research venture, the Mount Saint Vincent University Equity and Technology Research Project, led by Dianne Looker, spends its time and resources studying the ways in which the shift to an "information-based economy" has affected "equity for subgroups of youth" in Canada and elsewhere. That research supports policy initiatives directed more at ameliorating social inequities and promoting computer access in distant communities than on generating prosperity and unleashing the potential of learning technologies. ⁵²

Teacher unions wield considerable influence in shaping Canadian online technology policy, as in most areas of educational policy-making. Most provincial teacher unions show tepid support for online learning, holding fast to labour contract agreements which effectively limit online learning to a supplemental role in the K-12 public system. The Nova

Scotia Teachers Union collective agreement, limiting the number of days of instruction, program hours, group sizes, and working conditions are a prime example. Under such conditions, the flexibility and choice afforded by open access online learning are completely nullified. When information technology innovations arise, implementation is stalled by public education promoters, such as those in the OSSTF, who resist the introduction of "lighthouse" ITC programs and insist in providing "equality of service" for all students.⁵³

Online learning has a world of potential for promoting freer, more open access to the Internet and opening the door to new innovations taking better advantage of "e-Learning 2.0." Conventional e-learning systems based upon instructional packets, delivered to students as teacher-evaluated assignments remain the norm in every Canadian provincial and territorial K-12 system. Given the priority assigned to controlling and regulating the diffusion of online learning and technologies, newer e-learning opportunities for students are few and far between in Canada's public schools and more likely to be found in private schools outside the state system. Social learning with *Facebook* and *Twitter* is extremely rare, as is the use of social media software such as blogs, wikis, podcasts, and virtual worlds. Few traditional classroom teachers promote social networking unless they are communicating with their own professional colleagues.⁵⁴

Looking ahead, virtual schools are on the horizon in Canada and offer a glimmer of hope for realizing the enormous potential of online learning. The highest quality online courses and programs, according to Michael K. Barber, can be found in a variety of different places, most notably some of those offered by CDLI in Newfoundland and e-Learning in

Ontario. Two of the most promising initiatives are now found with Blended Learning in the Calgary Board and at the Christian Heritage School in B.C. ⁵⁵

In the absence of purposeful national leadership and provincial regimes driven by regulatory concerns, private educational providers have jumped in to fill the need for innovative, online learning school options. A group of sixteen high-end Ontario academic schools have banded together to create the Conference of Independent Schools (CIS) e-Learning Consortium, a repository for exemplary online courses and learning programs.⁵⁶ In British Columbia, independent private schools are provincially-funded and this has greatly assisted in the spread of what are termed "distributed learning independent schools." In 2010-11, there were 14 such schools with three more seeking recognition, taking advantage of a 50% BC provincial grant to operate, in most cases, without charging tuition fees. In a province where independent schools compose 11% of the total K-12 student population, some 21% of all distributed learning enrolment (by 2009-10) was to be found in independent schools. The province's largest distributed learning school, Christian Heritage Online School in Kelowna, BC, now enrols 1,698 FTE students and has an additional 2,500 students taking one or two courses. Much of Heritage Christian School's runaway success, according to IT Director Greg Bitgood, is attributable to innovative technology which provides ongoing tracking of student progress and individualized programs of study for each student. 57

One long-established Ontario private venture initiative, Virtual High School (Ontario), may well be a "lighthouse project" for advances in K-12 online learning. In a province where e-Learning is trumpeted and the motto says "The sky is the limit," the

provincially funded learning management system (LMS) has been, since 2006, officially offlimits for those committed to "the establishment of a virtual high school." ⁵⁸

Without provincial sanction, VHS(0) has beaten the odds. Founded in 1995 to provide high school students with a Grade 11 biology course, the Ontario virtual school has grown to enrol over 4,000 students annually without the benefit of any conventional marketing. Its secret of success is rather simple, but it's one that eludes most public school systems. Virtual High School is "a school that fits the student rather than forcing the student to fit the school," Principal Steve Baker told the Goderich *Signal Star in* November 2010. Freed from the constraints of the system, VHS is accessible to students 24 hours a day, 7 days a week, opening up new lines of communication between teachers and students. It also serves the needs of all students, including students with special needs, homeschooled kids who have been bullied, and independent thinkers who require more tailored and flexible learning.

The success of VHS(O) directly challenges the 'one-size-fits-all' public system and extends school choice to small town Ontario, a place where school options are limited for students and parents. The founder of the Canadian Society for Quality Education Malkin Dare sees one further lesson: "The Virtual High School demonstrates as do other exceptional schools that all students can learn to a high standard." ⁵⁹ It offers a glimmer of hope that school choice, innovation, and quality, now seeded in Alberta, may yet spread to other Canadian provinces.

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ENDNOTES

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⁷ Barbour, State of the Nation: K-12 Online Learning in Canada 2011, pp. 31, 32, and 33.

⁸ Personal Interview, Michael K. Barber, 15 December 2011.

⁹ Barbour, State of the Nation 2010, pp. 7 (Canada) and 32 (Nova Scotia), 41 (Ontario), and 51 (British Columbia).

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¹² Distance education enrolment in Canada is difficult to quantify without a national reporting or regulatory body. From 2009-10 to 2010-11, the estimated total numbers rose slightly from 150,000 to 200,000 (2.8 to 3.7 % of total school enrolment) to 207, 096 (or 4.2% of total enrolments). All 13 educational jurisdictions voluntarily reported enrolments to iNACOL for 2011. The most recent reported student enrolments based upon a national estimate of 207,096, in rank order, are: BC (88,000), Ontario (50,000), Quebec (30,000), Alberta (21,339), Manitoba (9,000), Saskatchewan (3,285), Nova Scotia (2,450), New Brunswick (1,841), Newfoundland/Labrador (1,000), Yukon (95), P.E.I. (66), North West Territories (20+), and Nunavut (0). Source: Barbour, *State of the Nation 2011*, p. 31...

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²³ See e-Learning Ontario, Ministry of Education (2011), http://www.elearningontario.ca (03/04/2011); and Barbour, *State of the Nation 2010*, p. 40-1; and *State of the Nation 2011*, p. 43.

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