

Minority Language e-Learning Services in Canada

August 2017

Randy LaBonte & Michael Barbour
Canadian eLearning Network (CANeLearn)

TABLE OF CONTENTS

INTRODUCTION.....	3
METHODOLOGY	3
K-12 DISTANCE EDUCATION IN CANADA	4
SUMMARY OF DATA	10
SUMMARY	17
REFERENCES	18

Introduction

The Canadian eLearning Network (CANeLearn) was selected by the Centre francophone d'éducation à distance (CFÉD) to conduct a study of distance learning services offered by providers in minority language communities across Canada to determine a comparison of equity, funding and parity between francophone programs and equivalent Anglophone programs. The study examined a variety of programs across Canada, the scope of services offered, the type and availability of resources required to support provision of services, as well as models of financing, and government or other agency support.

The CANeLearn research team conducting the study had considerable direct experience in K-12 online and distance education, having conducted numerous studies and projects across Canada with province-wide, district-based, private, and First Nations K-12 online programs. This experience provided the team with a critical understanding of the Canadian education system and the challenges of policy and funding, but most importantly issues related to the provision of online education services for minority language students in Canada.

Methodology

Quantitative data collection began with an online survey to determine the scope of needs of distance and online education service providers for minority language students. Surveys were sent to leaders of distance learning programs in key roles in francophone and minority language education settings in Canada, and to select Alberta distance learning providers, to determine needs and issues related to online and distance learning with a specific focus on:

- Curriculum;
- Course development;
- Educational services;
- Resources and assessment tools;
- Funding models;
- Programming;
- Staffing;
- Quality standards;
- Delivery models; and
- Delivery mediums (including synchronous and asynchronous delivery).

The second phase included interviews with leaders of online services for francophone and Anglophone K-12 using a case study methodology (Yin, 2013). The goal of the case study was to deepen the understanding and description of unique cases as comprehensively as possible (Merriam, 2009; Shank, 2002). Data collection was through telephone, and was expanded to include national and international contacts as well as with leading researchers in the field of K-12 online and distance learning.

The interviews focused on:

- identifying needs, current and future, for both schools and learners;
- collecting data on learner performance, engagement and program completion;
- understanding learner access to quality learning resources and learning environment; and
- collecting information on current funding models, strengths and limitations.

The final stages of the research included analysis of the data and concluding statements about the state of distance education services for minority language students in the country.

K-12 Distance Education in Canada

The first estimate of the level of ICT-supported K-12 distance education activity in Canada was presented by the Canadian Teachers Federation (2000) who estimated that there were approximately 25,000 K-12 students enrolled in online or distance education courses during the 1999-2000 school year. In 2015-16 this activity was estimated to be over 293,401 or 5.7% nationally, with some jurisdictions that actively collect such data reporting over 12% of K-12 students learning online (Barbour & LaBonte, 2016). Further, there were an additional 405,319 or 7.9% of students known to be engaged in blended learning. There are gaps in how data is collected and reported across the country, so it is not inconceivable to estimate the level of active learning in online and blended environments across the country to be as high as one in four students engaged in some form of e-learning.

The number of students engaged in K-12 distance education during the 2013-14 school year was about 332,000, roughly 6.2% of the approximately 5.4 million K-12 students (Barbour & LaBonte, 2014). The highest level of activity in distance education by raw numbers is in Ontario (based on recent estimates), but by proportion of students involved British Columbia continues to lead the country with close to 20% of students enrolled in one or more distance education courses (Barbour & LaBonte, 2015). In both the Ontario and British Columbia jurisdictions there are a substantial number of district-based public programs, along with a significant number of independent or private programs.

K-12 e-learning encompasses an increasing variety of programs and technologies. Programs range from traditional distance learning models such as distance education, which evolved from correspondence models, to learning exclusively online or through a blended model where some of the instruction occurs online and in a face-to-face learning environment. This report uses the term "e-learning" to describe distance learning, online and blended learning. This definition is consistent with other Canadian organizations. The Canadian Council on Learning (2009), defines e-learning as:

The implementation of computer technologies to education. E-learning can take many forms, whether it is used face-to-face in classrooms, as a share of required classroom activities or stroke work (e.g., online discussions), or to deliver a fully online course. E-learning can include distance education as well as traditional in-class instruction. (p. 4)

The recently formed Canadian eLearning Network (<http://CANeLearn.net>), including the annual *State of the Nation: K-12 E-Learning in Canada* report that CANeLearn is a partner of, use the term e-learning to include all forms of education delivered remotely or at a distance to students (e.g., correspondence, audiographics/telematics, video conferencing and e-learning).

An overview of e-learning services provided in several provinces is provided here as background to the discussion section that follows. The information has been drawn from the 2016 *State of the Nation: K-12 E-Learning in Canada* report (Barbour & LaBonte, 2016).

Nova Scotia

There are two distance education programs in the province. First, the Nova Scotia Virtual School (NSVS) provides online courses to approximately 1300 students from the seven English-speaking school boards and the Conseil scolaire acadien provincial during the 2015-16 school year. Second, the correspondence studies program provided courses to approximately 1200 students enrolled in courses through the correspondence study program. Close to half of these 1200 students attend a public school, while the other half are adult students, home-schooled students or students living outside of Nova Scotia. Currently, work is ongoing to transition these correspondence courses to an online delivery format.

New Brunswick (also providing services to Prince Edward Island)

Both the Anglophone and francophone sectors of the Department of Education and Early Childhood Development manage K–12 distance learning programs. These programs service secondary students in New Brunswick in either of the province's two official languages. During the 2015-16 school year, there were approximately 1800 students enrolled in the Anglophone program and 727 students enrolled in the francophone program.

Quebec

During the 2015-16 school year, there were four e-learning programs in the province of Quebec. The largest distance education program was the Société de formation à distance des commissions scolaires du Québec (SOFAD) that primarily develops and produces correspondence distance learning materials that school boards utilize in their own district-based programs. SOFAD also provides an e-learning platform (i.e., EduSOFAD) that offers many of the courses online for the students who prefer to work online. SOFAD served 30,072 adult students who are 16 years or older during the 2015-16 school year, including 3231 course enrollments in EduSOFAD). The Centre d'apprentissage en ligne de la CSBE is the distance education program offered by the Beauce-Etchemin School Board and had 1041 students enrolled in 21 remedial and 10 full-time online courses. Finally, the Leading English Education and Resource Network (LEARN) provides a variety of distance learning opportunities to approximately 9,400 English-language students from all nine English-speaking school boards in the province.

Ontario

Each of the 60 English-speaking and 12 French-speaking school boards offer some form of online learning using the Ministry-sponsored learning management system combined with the online curricular materials provided by the Ministry or their own. Many of the school boards also participate in one or more consortia designed to allow its school board members to work together to maximize their online offerings by sharing course offerings, resources and students. Additionally, the Independent Learning Centre (ILC) continues to provide correspondence distance education opportunities to adolescent and adult students throughout the province. Finally, there are as many as eight different private or independent K-12 online learning programs, some of whom have formed their own consortium. The last year the Ministry of Education provided data to researchers was for the 2013-14, when they reported that there were approximately 52,095 students taking e-learning courses (including summer school). Based on an individual program survey, researchers estimated that there were approximately 60,000 students taking e-learning courses during the 2014-15 school year and that those programs have experienced a 30% to 35% growth in enrollment over the past two years. Based on this information, it is estimated that there are approximately 67,000 students taking e-learning courses during the 2015-16 school year. It is also estimated the ILC had approximately 20,000 students enrolled in their correspondence courses. Finally, the most recent data available indicated there were approximately 7,500 students enrolled in private online schools.

Manitoba

Manitoba Education and Training continued to support three distance learning options in 2015-16: Independent Study Option (ISO), Teacher Mediated Option (TMO) and Web-Based Course (WBC) Option. The ISO (i.e., print) continued to offer 52 courses in English and 11 courses in French for grades 9-12 students. The TMO, which is managed by rural school divisions through the TMO Consortium in partnership with Manitoba Education and Training, offered 19 English courses for grades 9-12 students. The WBC Option provided access to 43 courses in English and 4 courses in French. Each school division in the province has participated in one or more of the above distance education program options; however, participation varies from year to year depending on the changing needs of students and schools. The numbers outlined for the 2015–16 school year indicate 1596 students accounted for 2668 enrollments in the ISO, approximately 100 students from 23 different schools accounted for 421 enrollments in the TMO and 6500 student enrollments in the WBC Option. Overall, there were approximately 9589 distance education enrollments in programs directly supported by Manitoba Education and Training, and students could be enrolled in more than one program.

Alberta

It is believed that approximately 20 school divisions in the province offer an assortment of online learning, catering mostly to students in their own geographic jurisdiction. Some of these district-based programs manage students in other regions of the province, but at present there is only one single province-wide program (i.e., the Alberta Distance Learning Centre [ADLC]) that offers courses to over 44,000 students in the province. The Ministry reports that the provincial student information database indicated that there were 9,985 students enrolled in online programs during the 2015-16 school year, but many school authorities currently do not code their students as being online. Accordingly, the actual number of students engaged in some form of distance or online learning across all education authorities is unknown. Based on the most recent responses of the annual individual program survey from 11 of the e-learning programs, there were approximately 50,000 students engaged in distance and/or online learning.

Issues in K-12 Distance Education in Canada

Based on the annual *State of the Nation: K-12 E-Learning in Canada* reports (see <http://k12sotn.ca/reports/>), as well as the limited research literature that does exist, we are able to provide some context to the current needs and issues related to e-learning across the country. For example, the nature of regulation for e-learning programs across the country varies from no regulation at all to significant regulatory requirements in legislation and collective agreements. The two most common ways that e-learning programs are regulated include no regulation at all (i.e., NL, QC, SK, AB, and federally) or the use of policy handbooks (i.e., NB, ON, MB, and NT). Two provinces that are unique in their regulatory context are Nova Scotia, which is governed by provisions in the Nova Scotia Teachers Union collective agreement, and British Columbia, which has significant provisions for the operation of e-learning programs in the *School Act* and *Independent School Act* and in policy. The nature of provincial, territorial, and federal (in the case of First Nations, Metis, and Inuit programs) provides a framework for how programs can operate.

How individual programs are funded is an example of one of the issues that would fall under this regulatory framework. For example, the e-learning programs in the Atlantic Canadian provinces operate as an entity within the Ministry of Education and, as such, are funded as a part of the Ministries overall operations. Quebec is unique within the Canadian context in that e-learning programs are funded through a variety of individual project sources. For example, the LEARN program (<http://learnquebec.ca/>) is largely funded through the Canada-Quebec Entente on minority language education and second-language instruction, which is under the responsibility of the Ministère de l'Éducation, du Loisir et du Sport. British Columbia is also unique as e-learning programs are funded based on their direct enrolment (i.e., full-time equivalent) in the same way that brick-and-mortar schools are funded. In the remaining provinces, e-learning programs are primarily managed by individual school districts and are funded internally within the district. In some of provinces the Ministry does provide support for funding for e-learning content and technologies (e.g., Ontario and Manitoba), while in other provinces the Ministry does not resource district-based programs at all (e.g., Saskatchewan and Alberta).

The overall regulatory framework, as well as the nature of funding, allows or limits the resources that e-learning programs can access. For example, in Ontario the Ministry of Education – through e-Learning Ontario (<http://www.edu.gov.on.ca/elearning/>) – provides district-based e-learning programs with asynchronous course content for complete courses, as well as a learning management system to deliver that content to students that have enrolled in a school board's online and blended learning courses. The responsibility for maintaining and updating these e-learning courses falls upon the Ministry and its team of subject matter experts. Newfoundland and Labrador, as another example, directly contract with individual course designers to develop their asynchronous course content (see Barbour [2005; 2007] for an overview of this process). In Manitoba, school divisions and schools develop their own blended learning programs and determine how to infuse technology into their classrooms to best suit the needs of their learners, as the Ministry provides teachers with access to the provincial learning management system and asynchronous course content. However, in Saskatchewan, Alberta and British Columbia individual e-learning programs must allocate internal district resources for the development

of their asynchronous course content (although in British Columbia, these programs do generate funding based on their level of enrolment).

The level and specific source of funding also permits e-learning programs varying abilities to provide educational services and programming. For example, through the Canada-Quebec Entente the LEARN program in Quebec is able to provide a virtual school for students attending any of the English school boards at no cost to the individual school board. In addition to the Entente funding, LEARN also receives individual contracts from the Ministère de l'Éducation, du Loisir et du Sport that allow them to provide a provincial database of curated educational resources available to the English school boards to use in their own blended learning activities. In Alberta the Alberta Distance Learning Centre (ADLC – <https://www.adlc.ca/>), which has a mandate to “fill the gaps” and provide educational services to unserved students, presently receives a recently renewed two-year direct service contract with Alberta Education to provide services to Alberta students not serviced by their local education authority. Other education providers in the province receive core funding determined by the number of credits a student completes. As most e-learning programs across Canada are either funded by the district or Ministry that operates the program, the nature of services and programming is either focused on specific district or provincial needs, or limited due to allocation of funding for other district or provincial programs and mandates.

Similarly, the level and sources of funding also affect the nature of staffing. For example, in Newfoundland and Labrador teachers are directly seconded to the Centre for Distance Learning and Innovation (CDLI) by the Ministry to teach online full-time. However, most of these teachers remain physically located in the schools they were seconded from to provide the CDLI a presence throughout the province. In Ontario, teachers in the district-based e-learning programs are also generally located in the schools where they are employed, but their e-learning teaching assignment is only a portion of their overall assignment (i.e., the teacher teaches some courses in the traditional classroom for their school, and one or more courses online for their district's e-learning program). On the other hand, many of the district-based e-learning programs in British Columbia had full-time e-learning teachers centrally located, but some e-learning programs have started to diffuse their e-learning teachers throughout schools in the district.

Interestingly, there is only one jurisdiction that includes any form of quality standards as a part of its regulatory regime. According to Winkelmans (2010):

[the] development of the standards began with an environmental scan: two working groups researched global standards and then chose a “made in British Columbia” approach that included involvement from distributed learning [i.e., e-learning] school educators, education content providers, the post-secondary sector, and industry. The current versions are based on recent additional field consultation development and new online learning standards from [the International Association for K-12 Online Learning] (iNACOL), [International Society for Technology in Education], and others. (p. 21)

Beyond the British Columbia example, there are no Canadian-specific e-learning quality standards. Outside of the Canadian context, early K-12 e-learning initiatives, such as the Virtual High School Global Consortium (Yamashiro & Zucker, 1999) and Electronic Classroom of Tomorrow in the United States, developed their own standards to measure the quality of their online course content. Since these early e-learning programs, numerous organizations like the National Education Association (Fulton, 2002; National Education Association, n.d.) and the Southern Regional Education Board (Thomas, 1999; 2000; 2003) released “national standards” to measure the quality of online course content and/or online teaching. More recently, iNACOL released their own “national standards” focused on online course design, online teaching, and online programs. It should be noted that none of the iNACOL standards have ever been validated from a research perspective (Adelsteing & Barbour, 2016). In fact, to date one of the only research-based initiatives examining the quality of online course content has been the proprietary Quality Matters program (Shattuck, 2015; Shattuck, Zimmerman, & Adair, 2014).

While we have used the term e-learning throughout this environmental scan, it should be noted that this is a generic term that can have many meanings (see the “Defining E-Learning in Canada” section of Barbour & LaBonte

[2015] for a comprehensive discussion of this term). Broadly speaking, e-learning refers to a range of delivery models from traditional forms of distance education to online learning to blended learning. The nature of delivery medium varies from jurisdiction to jurisdiction. For example, most e-learning programs in Atlantic Canada are delivered through an online learning medium. However, Nova Scotia continues to maintain a well subscribed correspondence education program. While Nova Scotia and New Brunswick utilize an asynchronous model of online delivery, Newfoundland and Labrador relies upon a primarily synchronous model of online instruction. In fact, according to Barbour (2013b), beyond individual remediation and small group tutoring, other than the “real-time blended” courses offered to Anglophone students in Quebec as a part of LEARN, the CDLI in Newfoundland and Labrador is the only online learning program in North America that utilizes a primarily synchronous model through a software-based virtual classroom environment, as well as individual site-based Polycom video units. Further, in both Newfoundland and Labrador and New Brunswick the asynchronous course content and learning management system from the Ministry-managed online learning program can also be used by classroom teachers for blended learning purposes; similar situations exist in Ontario and Manitoba.

Across the country correspondence education is typically limited to province-wide programs focused on learners that have dropped out of the traditional K-12 environment or K-12 students who are enrolled in elementary level distance programs (although there is a growing number of elementary-focused programs that are transitioning to an asynchronous, online environment). Further, the small, often pilot, programs in the northern territories generally utilize some form of video conferencing within their distance delivery model. The majority of remaining e-learning programs across Canada are using either an asynchronous, online delivery medium (primarily used with distance education students) or a blended learning format (solely used with local students enrolled in brick-and-mortar settings).

Minority Language Education in Canada

Each province and territory provides both majority language instruction as well as official minority language instruction within its public-school system. Section 23 of the Canadian Charter of Rights and Freedoms constitutionally guarantees the right to minority language education in all provinces and territories (Ménard & Hudon, 2007). This guarantees public francophone education for French-speaking families outside Quebec, and public and private Anglophone education for families in Quebec. While most provinces and territories maintain at least one public francophone school board, this does not assure all students access to francophone education. School boards, like all public education organizations, face funding issues with provincial funds that are allocated to them. In some cases, this has led to legal action on the part of francophone boards, citing the Section 23 guarantee¹.

Rappelons que l'article 23 de la Charte canadienne des droits et libertés stipulant qui sont les ayants droit à l'instruction dans la langue de la minorité. S'agissant tout particulièrement du fait « *droit reconnu aux citoyens canadiens [...] de faire instruire leurs enfants, aux niveaux primaire et secondaire, dans la langue de la minorité francophone ou Anglophone d'une province s'exerce partout dans la province où le nombre des enfants des citoyens qui ont ce droit est suffisant pour justifier à leur endroit la prestation, sur les fonds publics* », il va sans dire que l'enseignement à distance est un service idéal pour transformer un droit *de jure* en un droit *de facto*.

In 2013-14 the *Protocol for Agreements for Minority Language Education and Second-Language Instruction 2013-2014 to 2017-2018* was signed between Canadian Heritage and the Council of Ministers of Education, Canada (Canadian Heritage, 2009; Council of Ministers of Education, Canada, 2013). The protocol stipulates that the Government of Canada will contribute more than \$743 million over five years to the provinces and territories to

¹ In 2010, the Francophone School Board in Saskatchewan sued the provincial government for failing to respond to rising enrolment with adequate schools and facilities and a British Columbia Supreme Court judge ruled that inadequate space in the Francophone elementary school in Vancouver qualified as a violation of Section 23 guarantee for Francophone education that is 'equivalent' to the Anglophone (van Pelt et al., 2015).

provide minority-language education to young people from minority communities. Following the signing, Canadian Heritage and the 13 provincial and territorial governments negotiated bilateral agreements enabling the Government of Canada to support each province and territory in educating students from minority communities. Funds are allocated by each provincial or territorial Ministry of Education.

In Quebec, the Entente funds destined to the Anglophone community are distributed through the Ministry of Education. Some of the funds are provided as direct grants to organizations and for projects while the balance is distributed as Service Contracts. The Ministry of Education in Quebec has a separate department called the Direction des services à la communauté Anglophone and they are responsible for the portion of the Entente funds that remain. The underlying philosophy in the use of the Entente funds in Quebec is to attempt to level the playing field in terms of services and resources with the francophone majority.

In Alberta, the *Framework for French First Language Education in Alberta* (Alberta Learning, 2001) outlines the mandate for francophone education to “provide a schooling experience built around francophone language, culture and community as provided for under section 23 of the Charter” and to “help correct the linguistic and cultural erosion suffered by students and the community in a predominantly English milieu” (p. 11). As a result of this mandate, it is expected that francophone students “gain the knowledge, skills and attitudes prescribed in the Alberta Program of Studies” (p. 13). Alberta Education manages the federal Entente funds provided to the province under the Section 23 of the Charter under an agreement with the federal government. Provincial funds are dispersed to school jurisdictions according to the *Funding Manual for School Authorities* (Alberta Education, 2016).

The funding levels set in the *Protocol for Agreements for Minority Language Education and Second-Language Instruction 2013-2014 to 2017-2018* (Council of Ministers of Education, Canada, 2013) indicate both annual and total 5-year budgeted amounts for each province and territory. According to the Fédération nationale des conseils scolaires francophones (2016) how these funds are allocated by each provincial Ministry of Education is not clear, consistent, nor inclusive of the needs of local communities. Some Ministries make public the priorities for the allocation of these funds², while most choose to set priorities through internal budget processes that can lead to differences in how the Entente funds are allocated to distance education services for minority language students. For example, in Quebec the annual federal contribution for minority and second language education is \$64,932,135 while in Alberta the amount is \$14,205,828 (Council of Ministers of Education, Canada, 2013, p. 22), while the Entente funds allocated to distance education services for English minority language students in Quebec is \$750,000 to \$800,000 (M. Canuel, personal communication, January 4, 2017) and \$100,000 for French minority language students in Alberta (J. Mongrain, personal communication, October 12, 2016). This means that 1.15% of Entente funds flow to minority language distance education students in Quebec while only 0.7% flow to francophone distance education students in Alberta.

The Program for International Student Assessment (PISA) provides a measure of how minority language students perform in core subjects of math, reading and the sciences. An analysis of the 2015 PISA results by the Council of Ministers of Education, Canada found that majority language students tend to outperform minority language students (O’Grady et al., 2016). Students in Quebec, Ontario, Alberta, and British Columbia performed above the OECD average in both reading and mathematics. However, majority-language students in Alberta significantly outperformed francophone students in reading, and only slightly outperformed them in mathematics.

Shipley’s (2015) analysis of the 2009 PISA results found that the differences between majority and minority language student performance in Quebec were minimal or insignificant, while the differences in Alberta were among the highest in Canada with francophone students performing poorly. Minority language students in Quebec not only outperformed their counterparts in the other provinces in reading but also scored significantly

² See British Columbia’s grant allocation for an example at <http://www2.gov.bc.ca/gov/content/education-training/administration/kindergarten-to-grade-12/french-federal-funding>

above the OECD average. In all other provinces, students attending minority-language schools scored below the OECD average, whereas the scores for students in majority-language schools were equal to, or higher than, the OECD average. Similarly, in all provinces except Quebec and Manitoba, the scores for students in minority-language schools on the PISA reading assessment were significantly lower than the scores for students in majority-language schools.

Summary of Data

Each province and territory is unique, as are the policy, funding and legislative requirements for distance education. This has led to a variety of different program approaches, successes and challenges. As part of this research study for the Centre francophone d'éducation à distance (CFÉD), interviews with leaders from comparable francophone distance education programs were undertaken to determine a comparison of equity, funding and parity between francophone programs as well as compared to equivalent Anglophone programs. Program administrators from the Consortium d'apprentissage virtuel de langue française de l'Ontario (CAVLFO, ON), the École virtuelle du CEF (CEF, SK), Centre francophone d'éducation à distance (CFÉD, AB) the École Virtuelle du Conseil scolaire francophone (CSF, BC), were interviewed by telephone. The focus of this research was on provinces offering distance education services to minority language students, however information about distance education services from the only official bilingual province, New Brunswick, is included in the report for comparative reasons.

Discussion of similarities and differences have been organized under the following sections:

1. Policy and Funding;
2. Accountability and Achievement;
3. Quality Assurance;
4. Leadership and Governance;
5. Instruction (Teaching);
6. Staffing and Infrastructure; and
7. Program Organization, Management and Improvement.

Policy and Funding

While most program administrators stated there was a rationale for the program, many reported it was not necessarily well understood by all stakeholders across the general education system. In most cases, it was noted the courses offered were not able to meet all aspects of the provincial program of studies given the inability to offer all required courses. Most courses offered were at the secondary level (grades 9-12) and in core subjects such as Math, English, French, Sciences or Social Studies. Teachers hired typically had specific experience or expertise related to distance learning and were required to participate in ongoing professional development specific to distance learning.

Most francophone program administrators reported that funding allocated was not adequate to meet all student needs, including a growing list of courses students desired to have access to online at a distance. In some cases, once a course was offered the funding that followed to support it was deemed to be inadequate. In others, funding was not secured until the start of the school year making it difficult to plan and secure adequate teaching and curricular resources, given most had already been allocated to regular classroom settings.

These challenges were not found in Anglophone programs. For most of the programs reported on in the *State of the Nation: K-12 E-Learning in Canada* publications³ funding was predictable and based on expected student enrolment. In the case of ADLC in Alberta, a renewed two-year funding agreement allowed for adequate planned

³ See <http://k12sotn.ca>

allocation of staffing to meet provincial services (under its mandate ADLC is required to service students who's needs are not met by their local school). In the case of Quebec minority language services, LEARN receives its funding annually in the spring from the Ministry of Education's allocation of the Ententé funds. LEARN submits a yearly plan of action that is reviewed and approved by the Ministry, and because the amounts are substantial, each year the Council of Ministers must issue a decree approving the transfer of funds to LEARN. Staffing is allocated in the spring based on the yearly plan and approved funding. In British Columbia funding is guaranteed as soon as the student enrolls in a course as the funding follows the student. Data from previous years is used to ensure sufficient staffing for the number of registrations. In this way, the CSF Virtual School in British Columbia plans its staffing needs on the basis of funds received for students enrolled in distance learning courses.

In Saskatchewan École Virtuelle du CEF is operated by the Conseil des écoles francsaskoises (CEF)⁴, a consortium of boards supporting educational services for the 14 francophone schools across the province. All funding for the program comes directly from the CEF, no funding from the provincial Ministry is provided directly to the distance education program, with all Ententé funds allocated to local school boards. While the program is not meeting all student needs, nor offering a full program of provincial courses, in combination with the services provided by the local home school they are providing enough of a program for francophone students such that they remain in a francophone, not Anglophone, school. While the CEF's distance education program has the largest reported percentage of francophone students enrolled, this is likely due to the lower population of K-12 students in the province and the geographic distribution of those students (by way of example, Alberta has over three times the number of K-12 students than Saskatchewan).

In Ontario, the Consortium d'apprentissage virtuel de langue française de l'Ontario (CAVLFO) is funded by the Ontario Ministry of Education for the staffing of 14 teachers in the program. Funding for any additional teachers is provided by the 12 Franco-Ontarian boards. Regular meetings are held by CAVLFO with representatives of all boards where projections for new courses and student enrolments are presented and funding allocations from the boards agreed to. Planning is typically done in the spring prior to the close of the school year, long before the start of the new school year. Boards pay CAVLFO for course services provided based on a percentage of courses accessed from CAVLFO, not on a pro-rated or 1/12th funding formula. For the course services provided it was reported that funding was adequate. However, the process does not enable CAVLFO to grow during the school year as funding is allocated at the start of the year without opportunity for increase. As well, the funding provided does not allow CAVLFO to offer all new courses and curriculum as it is released by the Centre franco-ontarien de ressources pédagogiques (CFORP) throughout a school year. There is a growing need for additional staffing and resource acquisition, as the number of student enrolments increases every year. As such, CAVLFO is questioning if the model they have is adequate to meet the growing demand for online courses and access that is required to service francophone students in Ontario.

For Alberta school authorities, the funding manual describes how education programs and services are supported by the province (Alberta Education, 2016). Funding for secondary or high school courses is managed through credit enrolment units (CEU) funding. A regular course is funded after a student receives a final mark of 50 percent or greater, or if the mark is less the student is funded if they attended at least 50 percent or greater of classes or accessed over half of the course content. When compared to ADLC and CFÉD, which receive grants to support their programs regardless of the number of CEUs completed by students, the different funding formulas create imbalances in distance education program services for both the Anglophone and francophone provincial programs as well as local school authority programs. Concerns about inequity in the current funding model have been raised in the past. Distance education program administrators across the province have expressed a clear need for a provincial funding model that recognizes the unique characteristics of distance education and emerging, flexible learning approaches that do not fit into the traditional classroom funding structure.

⁴ See <http://ecolefrancophone.com/fr/>

The majority of CFÉD's funding is based on a conditional grant from Alberta Education. Unless the conditions are met to the satisfaction of the funder, Alberta Education, the funding is not guaranteed. Interestingly, ADLC was also funded by way of conditional grant. This is no longer the case as ADLC obtained a two-year service agreement with Alberta Education with secured funding based on a fixed number of teachers to offer distance education services, similar to the model in operation for CAVLFO. The agreement was recently renewed for another two-year term, assuring administrators at ADLC the ability to predict staffing and service levels they will offer to students in the province well in advance of a new school year.

It is also worth noting that for both ADLC and CFÉD, because funding for their programs is fixed as a lump sum, it does not anticipate any growth or increased demand for distance education services from students, limiting school administrator's ability to adapt to growing student enrolment. CFÉD reported an increase in student registrations from 308 in 2009/10 to 458 in 2014/15 – close to a 50% increase in student enrolment in 6 years (personal communication, J. Mongrain, October 12, 2016). While increasing enrollment is also a challenge for CAVLFO, it is not for programs in British Columbia, which has the most flexible and adaptable funding model where if the educational service is provided to the student then funding is provided.

Accountability & Achievement

Most programs reported that student results were comparable with the results of other brick and mortar education programs, all had data to back up their claim. Of note in all programs was a strong tie to the local home school. Communication was frequent between educators in the distance education program and at the school. As well, onsite support for students taking a course through the distance education program was a central part of the overall service, and likely the reason for a high success rate. Francophone schools in the programs reviewed have teams in place locally to support students, and to ensure they are accountable to their online teachers and courses. Most local schools have a designated room with a teacher or non-certified staff allocated for students to report to for completing their online courses. Finally, all programs examined indicate they provide timely communication of information about student completion, achievement, and satisfaction to stakeholders. However, all distance education program administrators noted it was difficult to incorporate all the suggestions or the changes proposed by stakeholders due to financial and human resource limits inherent in their programs.

Quality Assurance

All programs indicated there was an established framework or process to manage the quality of the course and its instruction, along with regular collection of data to inform the program. The programs all provided staff ongoing professional development specific to the program, and many have implemented protocols to check the quality of distance education services provided.

Leadership & Governance

For most programs, there were clearly identified leaders responsible for meeting online or distance learning program goals, and governing bodies were knowledgeable, informed, and familiar with the program and involved in establishing strategic goals. Most programs have some type of governing body and oversight, and program leaders meet regularly to provide achievement and completion updates and to determine strategic goals for the program.

Instruction (Teaching)

All programs reported that course information was clearly communicated and that students understood course expectations. In most programs, students were informed about how to work in a digital learning environment, and assessment strategies and tools that enabled students to monitor their own learning progress were utilized. However, for most programs a sense of belonging and community to support social interaction between and

among teachers and students in the online learning environment was not created due to the asynchronous nature of course delivery. While a community approach may not be provided now, several programs indicated they were attempting to find viable strategies to address this and were planning more live and synchronous teaching sessions. The exception to this were the francophone programs which worked closely in partnership with the student's school and staff.

Staffing & Infrastructure

While most programs did report that staffing levels were adequate to meet program goals and that the working environment was conducive to the provision of a quality program, the largest issue facing all programs was the ability to service increasing student demands and need for new course offerings at a distance. For many programs support services were provided for students, including advising, counselling, and technical support either by the distance education program or the local home school the student was attending. Many programs reported providing services for special needs students, and if unable to offer such service the local home school would provide it. In the case of larger programs like ADLC, the greater staffing allocation available (145 listed at the time of this report) allowed for staff specialization in curriculum development, professional development, technology support, counselling, and administrative support⁵. In smaller programs, such as CFÉD, which has only 6.5 FTE staff⁶, teachers or the school administrator took on responsibility for these specialized responsibilities in addition to administration and/or teaching duties.

All francophone programs reported increasing numbers of students enrolling, or wishing to enrol, in distance education courses and they all reported they were unable to adequately service that growing demand. This is not the case reported in most of the larger Anglophone distance education programs, and notably ADLC. For the most part students that sign up for programs or courses at a distance are accommodated. LEARN also reports that it is able to service all Anglophone students in need of an online course.

Of note in comparing the francophone distance education programs is the fact that CAVLFO is the only program that is not required to create most, or all, of its courses and online resources. These are created for all francophone schools in Ontario by CFORP which receives its own, separate, funding. In Alberta, while LearnAlberta.ca provides digital learning and teaching resources correlated to Alberta Education's kindergarten to Grade 12 programs of study, most have been found not suitable for the online and distance learning environment. Also, only one third of the resources are in French (i.e., 6,714 English resources, 2239 French), despite the need for francophone schools to cover the same curriculum as Anglophone schools.

Also of note in comparing programs, in Ontario the Ministry of Education has purchased a provincial license for all schools for *Brightspace*, *Desire2Learn's* learning management system. All other francophone, and Anglophone programs for that matter, are required to secure licenses and support their own learning management systems. The costs for this varies according to the size of the program and platform selected, but are not incurred by CAVLFO which has two distinct advantages over all of the francophone programs – free access to core technology for distance education delivery and free resources for use in that system.

Program Organization, Management & Improvement

Distance education programs across Canada are tightly integrated with other school or district programs. Other than CAVLFO, all programs indicated that funding was required for course development. As well, program administrators reported that many courses and resources need to be adapted to be available for access from all devices. Currently, some of course resources cannot be accessed on tablets or smart phones, now more

⁵ See ADLC staff listed and the breadth and specialization of staff here <https://www.adlc.ca/staff/>

⁶ See <http://www.cfed.ca/personnel>

commonly used by students to access online course materials. Teaching occupies most staff time, making it difficult for teachers to maintain and create new resources. Many program administrators indicated they were searching for a better platform or model for distance education services as their current staffing does not allow for program adaptation or the ability to meet the specific programming needs requested by stakeholders.

Parity, Funding, and Equity Among Francophone Programs

Few minority language programs offer a full provincial program of secondary (i.e., grade 9-12) curriculum, nor do they offer an elementary program. Most, particularly those in western Canada, can only augment existing school programs. This is not the case in the Anglophone distance education programs operating in these provinces, which typically are designated schools that receive the same funding as regular schools and can offer a full curriculum. Francophone distance education programs operate as ancillary or 'add on' services as a supplement to francophone schools, and this funding model 'caps' or limits the growth of these programs. In Alberta, the same model is used to fund ADLC, but other education authorities can offer both local home school and/or distance education programs for majority language students such that all curricular needs can be met. Essentially, Anglophone local and home schools take advantage of the offerings of ADLC to supplement their core face-to-face offerings. However, the smaller francophone schools cannot offer a full curriculum and turn to CFÉD for this core programming, and, unlike ADLC, CFÉD is not able to offer all required courses. The result calls into question whether the provision of minority language education programs guaranteed under Section 23 of the *Canadian Charter of Rights and Freedoms* is being met for online students.

One other consideration is the number of teachers available to students through distance education programs. In the larger Anglophone programs there are many teachers with a variety of curricular backgrounds and strengths available to students, whereas in smaller francophone programs, particularly in western Canada, only a handful of teachers are assigned to the program creating challenges and limitations in covering even part of the curriculum.

Table 1 provides an overview of the number of students by annual headcount that were enrolled in distance education programs or courses in selected provinces during the 2013-14 school year. This has been compared to the total enrolment of all students in any K-12 school program to determine the percentage of students enrolled in distance education. The table also lists the number of francophone (Anglophone for Quebec) students in each province and the number reported enrolled in distance education programs to determine a similar percent involvement in distance education programs for just francophone students.

Based on the data in the table, comparisons can be made regarding the extent of involvement of all students in distance education, as well as minority language students. To begin, it is interesting to note the percentage of enrolment of K-12 students in all distance programs, Anglophone and francophone combined, is the least in the eastern provinces and most in the west. However, the same cannot be said for the enrolment in distance education for minority language students. Quebec has a larger distance education program that serves over 10% of minority language Anglophone students, double that of the majority language distance education programs. In Quebec, any minority language Anglophone student requiring a secondary course to complete graduation that is unable to enrol in the course in their local school can take it from LEARN either in one of their "real time blended" course offerings, or as a self-paced course (M. Canuel, personal communication, January 4, 2017).

Table 1.

Summary of the K-12 distance education population by jurisdiction for 2013-14

Province	Number of K-12 students (Barbour & LaBonte, 2016)	Number enrolled in DE	Percent involvement	Number of K-12 francophone students (2013-14) (van Pelt, Clemens, Brown, & Palacios, 2015)	Number of francophone students in DE ⁷	Percent involvement
NB	98,906	2,527	2.5%	29124	900	3.09%
ON	2,003,253	~94,500	4.7%	98697	2500	2.53%
SK	176,301	~12,000	6.8%	1460	250	17.12%
AB	691,876	~60,000	8.7%	6277	450	7.17%
BC	635,037	69,735	11.0%	4744	150	3.16%
Province	Number of K-12 students (2014)	Number enrolled in DE	Percent involvement	Number of K-12 Anglophone students (2013-14) (van Pelt et al., 2015)	Number of Anglophone students in DE	Percent involvement
QC	1,003,322	~41,000	4.1%	87850	9,400	10.70%

In British Columbia and Alberta, despite over 11% of K-12 students enrolled in distance education in 2015-16, the corresponding francophone student involvement was far less, not more as in Quebec. Accordingly, in British Columbia and Ontario (as well to a lesser extent Alberta) francophone students appear to be underserved relative to other minority language students in other parts of the country. Also, in Quebec the LEARN program (like CFORP in Ontario) is funded to produce learning resources for minority language students in the province. As such it is estimated that LEARN's impact on students in the province is far greater than the reported 9,400 taking a distance education course, with estimates of 39,500 students benefiting from use of LEARN's digital learning resources, similar to francophone students in Ontario who use CFORP courses and resources in their home school (Barbour & LaBonte, 2016).

This is not the case in Alberta where French language resources suitable for use in distance education courses are produced by the program, CFÉD, without additional funding to do so. While Learn Alberta does produce some digital resources that could be used in distance education courses, a search of the 6685 resources found only 84 "French Language Arts" resources compared to 259 "English Language Arts" resources, or about three times the number of resources⁸. The same can be seen when comparing distance education course offerings. The CFÉD website lists 67 courses available⁹, the LEARN website (Quebec) lists a full curriculum of studies¹⁰, and the CAVLFO website (Ontario) lists 101 course offerings for minority language students¹¹. By way of comparison, the majority language distance education program in Alberta, ADLC, lists 299 courses on its website, over four times that of the minority language CFÉD¹². Accordingly, minority language students in Alberta are underserved not only relative to the majority language students in the province, but also compared to other minority language programs in Ontario and Quebec.

⁷ Source: Information provided by programs via survey and/or interviews – approximations only

⁸ <http://www.learnalberta.ca/Search.aspx?lang=fr&search=&grade=&subject=>

⁹ <http://www.cfed.ca/cours>

¹⁰ <http://learnquebec.ca/en/content/curriculum/>

¹¹ <http://www.apprentissageenligne.org/>

¹² <https://www.adlc.ca/courses/>

When comparing staffing levels in the programs, differences are clear. While CFÉD has the smallest staff allocation of any of the minority language programs studied, the program attempts to offer a large and robust program and courses. With a smaller staff, it is difficult to meet the needs of all students in Alberta and CFÉD falls well short of this when comparing course offerings between programs. Yet the demands for services are not significantly different among provinces. CFÉD has 6.5 staff allocated to teach, lead and support its technology, infrastructure and program operations. The CFÉD staff comprises a 0.4FTE administrative assistant, and one staff member responsible for course development, media and learning management system to support the four teachers and one administrator who are responsible for teaching all the courses provided. By way of comparison over half of the staff at ADLC are allocated to administration, support and technology services. ADLC has 71 non-teaching staff supporting the 70 teaching staff. Four administrators are responsible for leading the programs meaning that over half of the staff are not providing teaching services to students. CFÉD has 1.4 non-teaching staff, 4.0 teaching staff and 1.0 director who is also teaching, meaning that most staff are teaching. CAVLFO in Ontario has 25 teaching staff supported by 9 administrative and support staff including counsellors and four directors.

Finally, comparing program enrollments in K-12 online or distance education programs across Canada, while most are challenged to meet growing demands, the success of doing so varies widely across Canada. The Anglophone programs appear to be more effective at meeting the growing demand for online courses. When compared to the penetration of K-12 students in the latest State of the Nation report (Barbour & LaBonte, 2016), the number of K-12 students enrolled in a distance education program has grown in both British Columbia and Alberta to over 20% in public and independent school programs. Yet, as reported by program administrators, enrolment has remained relatively static in the francophone programs. The corresponding increase seen in majority language distance education programs is not occurring in the francophone programs in British Columbia and Alberta. Francophone programs in western Canada are losing ground as the majority English language programs continue to expand and increase online course and distance education offerings. As such, there is a widening gap between Anglophone and francophone distance education services in both British Columbia and Alberta, further illustrating the underservice in distance education in both provinces.

Summary

Each province and territory is unique, as are their policies, funding and legislative requirements for distance education. In addition, the various *Protocol Agreements for Minority Language in Education* between the provinces and the federal government are also unique. As each province sets its own priorities when negotiating these agreements, this can result in provincial differences in how funding for minority language students flows to the schools and the purposes it is used for. In all cases provinces need to 'top up' the federal minority language funding contribution and how this is done and the amount the province contributes also leads to the differences between provinces. Accordingly, different funding models in each province have resulted in a variety of unique program approaches, successes and challenges, and inequities in francophone distance education programs across Canada.

Most francophone programs reported that the funding allocated was not adequate to meet all student needs: e.g., programs were unable to offer a full elementary program, a full secondary program, or to meet the growing list of elective courses secondary students desired to have access to at a distance. Other than CAVLFO, all programs indicated that funding was required for course development, including adapting resources for the online learning environment and its accessibility from all devices (e.g., computer, tablet and smart phone), and for the technology required to provide access. All francophone programs reported increasing numbers of students enrolling, or wishing to enrol, in distance education courses and they all reported they were unable to service that need.

These challenges were not found in most of the Anglophone distance education programs, including the minority language distance education program in Quebec (i.e., LEARN). For the most part students that sign up for programs or courses at a distance from any English-language distance education program are accommodated. If one of the online programs was unable to offer certain course services for a student, there would often be another provincial program available to provide the educational service. Also, in Quebec LEARN and in Ontario CFORP produce learning resources for minority language students in their provinces, and as such their impact on students in the province is far greater than any distance education program.

While the percentage of both majority and minority language student enrolment in distance education is the least in the east and largest in the west, in Quebec the Anglophone distance education program is double that of the majority language distance education programs. In British Columbia and Alberta, despite reporting the highest percent enrolment in all distance education programs, the corresponding francophone student involvement is far less. In addition, while the number of K-12 students enrolled in a distance education program continues to grow in both British Columbia and Alberta, the corresponding enrolment has remained relatively static in the francophone programs, creating a widening gap between Anglophone and francophone distance education services in both provinces. Clearly, distance education services for francophone students are not keeping pace with other provinces, nor with their Anglophone counterparts.

References

- Adelstein, D., & Barbour, M. K. (2016). Building better courses: Examining the construct validity of the iNACOL national standards for quality online courses. *Journal of Online Learning Research*, 2(1), 41-73.
- Alberta Education. (2016). *Funding manual for school authorities 2015/2016 school year*. Edmonton, AB: Author. Retrieved from <https://education.alberta.ca/media/158750/2015-2016-funding-manual-v1.pdf>
- Alberta Learning. (2001). *Framework for French First Language Education in Alberta*. Edmonton, AB: Author. Retrieved from <https://education.alberta.ca/media/563440/affirming-francophone-education.pdf>
- Barbour, M. K. (2005). The design of web-based courses for secondary students. *Journal of Distance Learning*, 9(1). 27-36.
- Barbour, M. K. (2007). Principles of effective web-based content for secondary school students: Teacher and developer perceptions. *Journal of Distance Education*, 21(3), 93-114. Retrieved from <http://www.ijede.ca/index.php/jde/article/view/30>
- Barbour, M. K. (2013a). *State of the nation study: K-12 online learning in Canada*. Victoria, BC: Open School BC. Retrieved from <http://k12sotn.ca/wp-content/uploads/2016/09/StateOfTheNation2013.pdf>
- Barbour, M. K. (2013b). The landscape of K-12 online learning: Examining what is known. In M. G. Moore (Eds.), *Handbook of distance education* (3rd ed.) (pp. 574-593). New York: Routledge.
- Barbour, M. K., & LaBonte, R. (2014). *State of the nation study: K-12 online learning in Canada*. Cobble Hill, BC: Canadian E-Learning Network. Retrieved from <http://k12sotn.ca/wp-content/uploads/2016/09/StateOfTheNation2014.pdf>
- Barbour, M. K., & LaBonte, R. (2015). *State of the nation study: K-12 e-learning in Canada*. Cobble Hill, BC: Canadian E-Learning Network. Retrieved from <http://k12sotn.ca/wp-content/uploads/2016/09/StateOfTheNation2015.pdf>
- Barbour, M. K., & LaBonte, R. (2016). *State of the nation study: K-12 e-learning in Canada*. Cobble Hill, BC: Canadian E-Learning Network. Retrieved from <http://k12sotn.ca/wp-content/uploads/2016/12/StateNation16.pdf>
- Barbour, M. K., & Stewart, R. (2008). *A snapshot state of the nation study: K-12 online learning in Canada*. Vienna, VA: North American Council for Online Learning. Retrieved from http://canelearn.net/wp-content/uploads/2015/07/state_of_nation-2008.pdf
- Canadian Council for Learning. (2009). *State of e-learning in Canada*. Author: Ottawa, ON. Retrieved from <http://www.nald.ca/library/research/ccl/elearning/elearning.pdf>
- Canadian Heritage. (2009). *Protocol for agreements*. Ottawa, ON: Government of Canada. Retrieved from <http://www.pch.gc.ca/eng/1357333464982/1357333580511>
- Canadian Teachers Federation. (2000). *Facts sheets on contractual issues in distance/online education*. Ottawa, ON: Author
- Centre franco-ontarien de ressources pédagogiques. (2014). *Le CFORP à 40 ans*. Ottawa, ON: Author. Retrieved from <http://www.cforp.ca/a-propos/le-cforp-a-40-ans/>
- Constitution Acts, 1867 to 1982*. Ottawa, ON: Government of Canada. Retrieved from <http://laws-lois.justice.gc.ca/eng/Const/page-15.html>
- Council of Ministers of Education, Canada. (2013). *Protocol for agreements: For minority-language education and second-language instruction*. Ottawa, ON: Author. Retrieved from http://www.cmec.ca/docs/programsInitiatives/olp/protocol/Protocol_2013-2018_EN.pdf

- Fédération nationale des conseils scolaires francophones. (2016). *Modernizing and dividing up the Protocol for Agreements for Minority-Language Education and Second-Language Instruction to enhance the vitality of francophone and Acadian community*. Ottawa, ON: Author. Retrieved from http://fnscf.ca/wp-content/uploads/2016/06/Memoire_FNCSF_CNPF_FCFA_modernisation_morcellement_Protocole_V_EN-1.pdf
- Fulton, K. (2002). *Guide to online high school courses*. Washington, DC: National Education Association. Retrieved from <http://www.nea.org/assets/docs/onlinecourses.pdf>
- Ménard, M., & Hudon, ME. (2007). *Les langues officielles au Canada: La politique fédérale*. Bibliothèque du Parlement. Retrieved from <http://www.pch.gc.ca/eng/1356640308088/1356640399461>
- National Education Association. (n.d.). *Guide to teaching online courses*. Washington, DC: Author. Retrieved from <http://www.nea.org/assets/docs/onlineteachguide.pdf>
- O'Grady, K., Deussing, M., Scerbina, T., Fung, K., Muhe, N. (2016). *Measuring up: Canadian results of the OECD PISA Study*. Toronto, ON: Council of Ministers of Education, Canada. Retrieved from http://cmec.ca/Publications/Lists/Publications/Attachments/365/Book_PISA2015_EN_Dec5.pdf
- Shattuck, K. (2015). Focusing research on Quality Matters. *American Journal of Distance Education*, 29(3), 155-158.
- Shattuck, K., Zimmerman, W. A., & Adair, D. (2014). Continuous improvement of the QM rubric and review processes: Scholarship of integration and application. *Internet Learning*, 3(1), 25-34.
- Shipley, L. (2015). *A profile of minority-language students and schools in Canada: Results from the Programme for International Student Assessment (PISA), 2009*. Ottawa, ON: Statistics Canada. Retrieved from <http://www.statcan.gc.ca/pub/81-595-m/81-595-m2011092-eng.htm>
- Thomas, W. R. (1999). *Essential elements for web-based courses for high school students*. Atlanta, GA: Southern Regional Education Board. Retrieved from http://publications.sreb.org/1999/99T03_EssentialElements.pdf
- Thomas, W. R. (2000). *Essential principles of quality: Guidelines for web-based courses for middle and high schools*. Atlanta, GA: Southern Regional Education Board. Retrieved from <http://files.eric.ed.gov/fulltext/ED475676.pdf>
- Thomas, W. R. (2003). *Essential principles of high-quality online teaching: Guidelines for evaluating K-12 online teachers*. Atlanta, GA: Southern Regional Education Board. Retrieved from http://info.sreb.org/programs/edtech/pubs/PDF/Essential_Principles.pdf
- Winkelman, T. (2010). British Columbia's quality framework for distributed learning. In M. K. Barbour (Ed.), *State of the nation: K-12 online learning in Canada* (pp. 20-24). Vienna, VA: International Association for K-12 Online Learning. Retrieved from http://canelearn.net/wp-content/uploads/2015/07/state_of_nation-2010.pdf
- van Pelt, D. N., Clemens, J., Brown, B., & Palacios, M. (2015). *Where our students are educated: Measuring student enrolment in Canada*. Vancouver, BC: The Fraser Institute. Retrieved from <https://www.fraserinstitute.org/sites/default/files/where-our-students-are-educated-measuring-student-enrolment-in-canada.pdf>
- Yamashiro, K., & Zucker, A. (1999). *An expert panel review of the quality of Virtual High School courses: Final report*. Arlington, VA: SRI International. Retrieved from <http://www.thevhscollaborative.org/sites/default/files/public/vhsexprt.pdf>