



Sacred Heart University
DigitalCommons@SHU

Education Faculty Publications

Isabelle Farrington College Of Education


2-16-2013

Voracious Appetite of Online Teaching: Examining Labour Issues Related to K-12 Online Learning

Michael Barbour
Sacred Heart University

David Adelstein
Wayne State University

Follow this and additional works at: http://digitalcommons.sacredheart.edu/ced_fac

 Part of the [Educational Assessment, Evaluation, and Research Commons](#), [Educational Methods Commons](#), and the [Elementary and Middle and Secondary Education Administration Commons](#)

Recommended Citation

Barbour, Michael and Adelstein, David, "Voracious Appetite of Online Teaching: Examining Labour Issues Related to K-12 Online Learning" (2013). *Education Faculty Publications*. Paper 105.
http://digitalcommons.sacredheart.edu/ced_fac/105

This Presentation is brought to you for free and open access by the Isabelle Farrington College Of Education at DigitalCommons@SHU. It has been accepted for inclusion in Education Faculty Publications by an authorized administrator of DigitalCommons@SHU. For more information, please contact ferribyp@sacredheart.edu.

Voracious Appetite of Online Teaching: Examining Labour Issues Related to K-12 Online Learning

27 January 2013

Submitted to: Larry Kuehn
Director of Research and Technology
British Columbia Teachers' Federation
100 - 550 West 6th Avenue
Vancouver, BC, Canada
V5Z 4P2
(604) 871-2283
lkuehn@bctf.ca

Submitted by: Michael K. Barbour
Assistant Professor, Instructional Technology
Department of Administrative and Organizational Studies
365 Education Building
Wayne State University
Detroit, MI 48202
(313) 577-8349
Fax: (313) 577-1693
mkbarbour@gmail.com

Written by: Michael K. Barbour & David Adelstein

Distance education and online learning at the K-12 level is growing at dramatic rates in Canada, the United States and worldwide. Barbour (2012) estimated that there are approximately 245,000 Canadian students who are enrolled in one or more distance education courses. This figure represents approximately 5% of the total K-12 student population in Canada; up from the estimated 2.5% to 3% reported just two years earlier (Barbour, 2010). This is dwarfed by the rate of growth in the United States, where the Ambient Insights (2011) estimated there are 4,000,000 students engaged in online learning; up from 2,000,000 the previous year (Wicks, 2010).

Within the American context, online learning and the union movement have often been at odds. The statewide supplemental programs generally use part-time, contract-based teachers, while the full-time programs are often established under charter school legislation (and those who are attracted to teaching in this neo-liberal/conservative school choice option are generally looking to remove themselves from the perceived shackles of their union representation [Apple, 2001]). In fact, many in the educational reform movement in the United States see teachers' unions as an obstacle to improving schools (Peterson, 2010; Ravitch, 2010); and online learning – and in particular online charter schools – with the geographic spread of teachers are often seen as an effective way of preventing a collective identity (Moe & Chubb, 2009).

In the Canadian context, teachers' unions have been much more supportive of K-12 distance education and online learning. For example, the Newfoundland and Labrador Teachers' Association has partnered with the province's virtual school (i.e., the Centre for Distance Learning and Innovation [CDLI]) on several projects, including the 2005-2010 College and University Research Association award given to Memorial University of Newfoundland by the Social Sciences and Humanities Research Council. In Nova Scotia, the teachers' union formalized distance education as an accepted method of educational delivery through the inclusion of several provisions in their collective agreement related to how distance education

was to be delivered and supported, along with workload equivalency issues for distance education teachers. The Ontario Secondary School Teachers Federation, that province's largest teachers' union, passed a resolution in 2009 indicating that e-learning should be available to all K-12 students. Finally, the British Columbia Teachers Federation has conducted more research into distributed learning (which includes online learning and other forms of distance education) in that province than any other body – including the Government themselves.

However, there are still issues that remain unresolved for teachers when it comes to the design, delivery and support of K-12 online learning. While the collective agreement between the Nova Scotia Teachers' Union and the Government of Nova Scotia began to address issues such as defining the work day, professional development requirements, program oversight, class size, and management of the distance program; there are still many distinctions between the job of a classroom-based teacher and a distance education teacher that are unaddressed. In this report, we will explore labour issues related to teaching in K-12 online learning. First, we examine teaching in a distance or online environment with teaching in a traditional classroom environment. Second, we review the relationship of teachers' unions with K-12 online learning in Canada, the United States and other countries within the context of each jurisdiction.

Teaching in a K-12 Online Learning Environment

When considering the act of teaching in the K-12 online learning environment, one thing that scholars generally agree upon is that the traditional role of the teacher has changed. In a traditional classroom environment, the teacher is responsible for designing the instructional activities that the students complete (often using textbooks and other resources approved by the provincial Ministry of Education or state Department of Education). The classroom teacher is also responsible for the presentation of the content or the actual act of teaching the material (in whatever form that may take from direct instruction to collaborative learning activities). Finally,

the classroom teacher is responsible for facilitating the work completed by the students as they practice their mastery of the content. However, within the K-12 online learning environment each of these responsibilities often falls upon two or three different individuals.

In one of the first systematic initiatives to examine the role of the teacher in the K-12 online learning environment, Niki Davis and her colleagues oversaw the “Teacher Education Goes Into Virtual Schooling” (TEGIVS) – a U.S. Department of Education’s Fund for the Improvement of Post Secondary Education (FIPSE) funded project at Iowa State University. The goals of the TEGIVS project were to introduce and orient new and current teachers to the three different teacher roles performed in the K-12 online learning environment:

- Virtual School Designer – Design instructional materials. Works in team with teachers and a virtual school to construct the online course, etc.
- Virtual School Teacher – Presents activities, manages pacing, rigor, etc.. Interacts with students and their facilitators. Undertakes assessment, grading, etc.
- Virtual School Site Facilitator¹ – Local mentor and advocate for students(s). Proctors & records grades, etc. (Davis, 2007).

While there have been more recent, and more developed classifications (e.g., Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009), the Davis (2007) taxonomy has become the most commonly used one within the literature.

Virtual School Designer

Of the three roles that a teacher in the K-12 online learning may undertake, the least is known – from a literature standpoint – about the role of the Virtual School Designer or the teacher that is responsible for the actual design of the distance education materials. Historically, the Ministry of Education in a given province or some government body responsible for the development of print-based distance education materials (e.g., Open School BC) would develop

¹ Also called mentor teacher, mediating teacher, learning coach, or eDean – depending on the particular jurisdiction and the specific literature.

and update these materials in-house or contract individuals under work-for-hire agreements. Under either scenario the course materials were owned by the Government and provided to students or distance education programs for their use by students enrolled in distance education environments (in some instances free-of-charge and in other instances at a cost to the student and/or program).

As K-12 distance education began to transition to an online delivery model, many programs continued to follow this model of intentioned course development. For example, Barbour and Reeves (2009) describe the course development process utilized by the Florida Virtual School (FLVS) as such:

The FLVS uses a team of individuals to create each of its web-based courses. The team consists of instructors who act as subject matter experts, web development specialists, project managers, and external instructional designers (Johnston, 2004). The team approach allows each group of individuals to focus upon their area of expertise, for example, instructors can focus upon what students need to be able to learn or do, instructional designers can focus upon engaging activities to accomplish the goals of the instructors, web development specialists can focus upon creating a variety of learning objects that cater to a variety of learning styles to support the activities of the instructional designers, and so on. Each course designed in this manner is based on Gagné's nine events of instruction, and focuses on levels 4, 5 and 6 (i.e., analysis, synthesis, and evaluation) of Bloom's taxonomy (Friend & Johnston, 2005). (p. 407)

However, the authors are also quick to point out that "the FLVS model is not indicative of how most virtual school learning opportunities are designed" and "it is important to note that the FLVS is rather unique among virtual schools in this approach to rigorous course design" (Barbour & Reeves, 2009, p. 407). While not as extensive or as structured, most supplemental and almost all full-time K-12 online learning programs in the United States utilize a model where course developers are specifically tasked with the creation of the online learning content.

As distance education and, in particularly, distance education programs began to proliferate – and transition to an online delivery model – a second model of development began to emerge. In this second model, the Virtual School Teacher (i.e., the teacher responsible for the

actual delivery of the online content) became responsible for the development of the online course material – often as the students were enrolled in the course itself. This model is very much like what we often see with first year teachers, where they are developing the curricular materials they wish to use in the classroom with their students – in many instances only a week or a unit ahead of where their students are in the course. Under this model of online course development, the Virtual School Teacher is given access to the learning management system (LMS) at some point before the course begins and starts the process of creating online materials and finding existing resources before the school year or the semester/term begins. In most instances, the Virtual School Teacher is not able to develop more than a unit or two of online course materials before the students begin their online course and the Virtual School Teacher has to begin actually teaching. For the remainder of the semester/term or school year, this teacher performs both the role of the Virtual School Designer AND Virtual School Teacher; and in many instances their work as a Virtual School Designer is simply one stage ahead of where the students are in their online course. This second model is seen more often in Canada than in the United States, and it also seems to be the dominant model in British Columbia.

There are three main issues related to this second model of online course development. The first is the issue of ownership or copyright. Within the United States it has been generally accepted that if a Virtual School Teacher develops the online course material that the ownership of the material rests with the teacher (unless it was specifically stated in their contract that course development was one of their duties). Within the Canadian context it has generally been accepted that if the online course materials were developed during the “school day” or using technology provided by the K-12 distance education program, then it belonged to the program (obviously the definition of a “school day” in the distance education environment is a key – and problematic – caveat). In all other instances the materials belonged to the Virtual School Teacher

themselves, in much the same way curricular materials a classroom teacher might develop during the evenings at home belong to that teacher (and not the school where they are employed). At least this has been the model that has been utilized both almost all of the province-wide K-12 online learning programs, as well as the many of the district-based programs in the Eastern and Central Canadian provinces. These programs tend to specifically contract teachers to develop content, outside of the scope of their regular appointment, as a work-for-hire.

One exception to this model is School District No. 40 (New Westminster) in British Columbia. With regards to copyright, the collective agreement that this district signed with its local teachers union specifically stated:

Article D33 COPYRIGHT

D33.1 The ownership of and copyright to educational materials such as: teaching aids, films, outlines, notes, manuals, apparatus, which have been designed, written or constructed by teachers with materials, with funds, and/or technical or clerical assistance provided by the Board, is vested in the Board. If a teacher wishes, he/she may discuss details with the Board and an agreement will be reached to give copyrights to a teacher on the following conditions:

D33.1.1 that the Board retains the right in perpetuity and without penalty to use these strategies/materials and/or alter these strategies/materials for their use but not for the purpose of profit; and

D33.1.2 the Board may require that 10% of all royalties paid to, for or on behalf of the author, following such release of copyright by the Board to him/her, be repaid, retained or paid to the Board to defray the Board's costs of their development. (British Columbia Teachers Federation, 2006, p. 78)

While not specific to distance education, these clauses basically indicate that any educational materials created on school property or using school materials or resources the copyright of those materials rest with the school district unless some prior agreement has been put in place between the school district and the teacher (and even then the district requires full access to use the materials and may require a royalty). However, this situation appears to be the exception – at least within the K-12 distance education community. Finally, the new copyright legislation that came into effect in November further complicated this issue, as there are provisions that require the destruction of online lessons at the end of an online course (which raise questions about when

a course officially ends and whether this means that the Virtual School Designer must begin with a blank slate at the beginning of each semester).

The second main issue is the fact that in most instances teachers (including the Virtual School Teacher) have not been trained as instructional designers or web-based developers. Rice and Dawley (2007) found that “more than 31% of teachers reported receiving no training in online lesson design” (p. 26). For K-12 distance education programs that use this second model, the online curricular materials are often of lesser quality and fail to take advantage of all of the tools available to them in the online environment. To date there have been few studies that have examined the amount of time required to develop online curricular materials, we do have some industry-published materials that can provide some guidance. For example, Lean Forward (i.e., a provider of training products and e-learning solutions) released a white paper based on “data from 249 organizations representing 3,947 learning development professionals [who had] created learning used by 19,875,946 learners” (Chapman Alliance, 2010). These professionals estimated that to create one hour of training it took:

- instructor-led training (i.e., face-to-face instruction) – 43 hours
- basic e-learning (i.e., content pages, text, graphics, perhaps simple audio, perhaps simple video, test questions) – 79 hours
- interactive e-learning (i.e., basic e-learning more interactive exercises, liberal use of multimedia [e.g., audio, video, animations]) – 184 hours
- advanced e-learning (i.e., highly interactive, possibly simulation or serious game based, use of avatars, custom interactions, award winning caliber courseware) – 490 hours

While this is a single study (and focused entirely on corporate training environments), it does suggest that it takes approximately twice as long to design basic online learning as regular face-to-face instruction and approximately ten times as long to design advanced learning. Regardless of where the typical K-12 online learning course might fall on this continuum, it appears that online courses do take more time to create than typical classroom-based instruction – particularly

when the K-12 teacher (i.e., the Virtual School Designer) does not have a strong background in designing online content and the fundamentals of instructional design.

The third issue with the relying on the Virtual School Teacher to also act in the roles of the Virtual School Designer is the lack of available models or research to guide the course development process. At present, there have been two separate research initiatives that have examined the process of online course development for K-12 learners. The first was by Barbour and Cooze examining how developers could cater to multiple learner styles through online course design (Barbour & Cooze, 2004; Cooze & Barbour, 2005, 2007), and later a more general examination of perceptions of online course developers of effective web-based design for adolescent learners (Barbour, 2005; 2007). The second systematic examination of the process of online course development focused on creating a validated instrument to describe a K-12 online course (Keeler, 2003), and later how that instrument could be used to guide those developing online courses for K-12 students with disabilities (Keeler, 2004; Keeler & Anderson-Inman, 2004a; 2004b; Keeler & Horney, 2008). **Virtual School Teacher**

When discussing teaching in an online learning environment it is natural to begin with a comparison to teaching in the traditional classroom, as those both inside and outside the field of education have a basic understanding of what classroom teaching looks like. This is also a useful place to begin this consideration, as comparing the role of the teacher in the online environment to the traditional classroom is a good way to examine how the role of the Virtual School Teacher has changed from what most teachers were prepared for in their professional training. Kearsley and Blomeyer (2004) noted that certain basic requirements are shared with a traditional classroom teacher, but some elements need to be tweaked and specifically aimed at online

² See <http://openhighschoolcourses.org/> for information about the Open High School of Utah's open courseware initiative.

educators. Time management, creation of materials, understanding current technology and working with a student one-on-one is vital to success.

As one example, Easton's (2003) case study involved six higher education faculty members, 18 mentors and multiple students to help clarify the role of the online educator. While there are many similarities with the traditional classroom teacher, it is not possible to simply swap out one for the other. Online educators have to work differently to have positive communication and assessments. When using non-verbal communication, the online mentors noted that you must be aware of misinterpretation, especially with humor and sarcasm. Since the technology is new, considerable time is needed for teachers to become comfortable with it, making the work load a major concern. There was also a shift occurring from teacher-centered to student-centered learning.

Even in the absence of much research into K-12 online teaching, many K-12 online learning programs have begun to establish regulations to differentiate online teaching from face-to-face teaching. For example, when it was first created the province-wide K-12 online learning program in Newfoundland and Labrador limited their online teachers to a maximum of 100 students (which was later increased to 120 students). Presently, there is no official cap on the number of students an online teacher is allowed to have, but the provincial average for an online teacher with the CDLI is between 80 and 90 students. As a classroom-based high school teacher in that province, my school used a fourteen timetable with five one-hour classes a day. Teachers at my school were responsible for teaching in six of the seven slots, and with an average of 25-30 students per course I was responsible for 150-180 students (or approximately 50% more than what an online teacher in my province was responsible for).

Murphy, Rodriguez-Manzanares and Barbour (2011) examined the perspectives of 42 distance high school educators from across Canada on the topic of asynchronous and

synchronous online learning. While previous research had shown the importance of synchronous learning, the results showed that Virtual School Teachers had relied mainly on asynchronous (although much of that research was based on the CDLI in Newfoundland and Labrador), the Virtual School Teachers in this study preferred asynchronous learning because it allowed the students to progress at their own pace. Synchronous learning was seen mainly as a way to share directions and other basic functions by these Virtual School Teachers. It was also acknowledged that synchronous learning, when it did have depth and substantive content, could be a powerful tool for online learning.

Asynchronous Online Teaching. One of the biggest differences between classroom-based teaching and online teaching is the introduction or use of asynchronous (i.e., not in real time) teaching strategies. In most instances, asynchronous teaching that occurs in the classroom environment takes the form of things that we traditionally associate with seatwork or homework (e.g., students working on practice questions or activities and students completing assignments). In the classroom environment, when these activities take the form of seatwork the teacher is physically present to interact with the students as they run into difficulties that impede their progress. In the case of homework the teacher should have provided the students with sufficient instruction in the classroom, and the students also have the ability to interact with the teacher in person the following day at school. In the online environment much – in many instances most – of the actual instruction is provided in an asynchronous format.

Harms, Niederhauser, Davis, Roblyer, and Gilbert (2006) examined the shift online teachers needed to make when communicating with students in these asynchronous online environments. Based on their review of the research, the authors focused upon media richness theory, which discussed the importance of instant feedback, multiple cues, language and focus. Virtual School Teachers lose many aspects of non-verbal communication, as well as tone and a

lack of face time. Due to these limitations in the asynchronous environment, Virtual School Teachers must be willing to learn new technologies to bring the fundamentals of communication found in traditional classrooms to the online course environment.

As specific training for Virtual School Teachers has slowly taken shape over the past two decades, the creation of standards and best practices have begun to evolve. iNACOL released Smith (2009) did examine the opinions that 49 Virtual School Teachers had of current online teaching standards as outlined by both the Southern Regional Education Board (SREB) and the National Education Association (and the iNACOL standards were largely adopted from the SREB standards). The data showed that, generally speaking, the standards aligned with the perceptions of Virtual School Teachers. The results also acknowledged that the standards did not consider the many roles Virtual School Teachers were forced to undertake from instructional design to technological support to pedagogical practices in the K-12 online learning environment. For example, DiPietro, Ferdig, Black, and Preston (2008) noted that a pedagogical shift was needed to move from a traditional classroom to the online environment. The authors further believed that Virtual School Teachers needed a fundamental understanding of new technologies to help determine software and resources, as well as online classroom management – skills not often taught in teacher preparation programs. In a follow-up study, DiPietro (2010) found that in the online learning environment the Virtual School Teacher was primarily responsible for “connecting with students, fluid practice, engaging students with the content, managing the course, and supporting student success” (p. 333). In and of themselves, these are all skills that should be taught within any teacher education program. However, what is required of a Virtual School Teacher to undertake each of these skills is very different than what would be required of a face-to-face classroom teacher to perform the same functions.

To date, the largest single examination of asynchronous online teaching has been conducted by Kerry Rice as a part of her book, *Making the Move to K-12 Online Teaching: Research-Based Strategies and Practices*. Rice is a scholar of K-12 online learning, with most of her research focusing on the practice of K-12 online teaching and the professional development provided to Virtual School Teachers. This particular book is designed for practitioners as a guide for both the Virtual School Designer and the Virtual School Teacher, with many research-based strategies and guidance accessible to the practitioner (Rice, 2011). Unfortunately, much of the research that supports the pedagogy suggested by Rice is based on studies conducted with adult populations. While this does not discount the advice provided by Rice (as it is the most comprehensive and detailed guide for K-12 online teachers), there are significant differences in how adolescents and younger children learn compared with their adult counterparts.

Synchronous Online Teaching. Synchronous or real time instruction is a method of online delivery that is used by only a small percentage of K-12 online learning programs, and in most instances used for a minority of the students learning time (Barbour, 2011). Murphy and Rodríguez-Manzanares (2009a) studied the importance of synchronous learning in K-12 distance education environments. Based on the opinions of 42 distance teachers, the authors believed that learner-centeredness was important to personalizing the distance education experience and in forming a relationship with the student. However, these Virtual School Teachers felt that this was difficult to accomplish solely with asynchronous learning. In the asynchronous environment, the onus to foster the student-teacher relationship would often fall upon the student.

Murphy and Coffin (2003) examined the importance of synchronous communication using interviews with one teacher and 20 students. Their findings pointed to the teacher making informed decisions on the best practice for communicating with the students based upon the situation. It was also mentioned that without proper professional development on how to use

available technologies, teachers might not see the results desired. Further, Nippard and Murphy (2007) studied synchronous learning using 12 recordings from various secondary online courses. Their results indicated that the audio function of the online classroom tools helped communication by allowing the teacher to use tone and other conversational conventions, which was amplified in importance due to the fact that the face-to-face aspects of the interaction were missing. The audio function was critical to creating a social presence to help foster a stronger classroom suited for learning.

In addition, Murphy and Rodríguez-Manzanares (2009c) examined motivation in distance learning at the high school level. The findings from the study signaled that communication was vital to student learning (similarly to the traditional classroom environment). However, due to the complex nature of distance learning, communication and forming relationships were harder to accomplish because of the lack of face-to-face time. The authors suggested that the importance was heightened in distance learning environment in Canada due to the geographic reach of many of the K-12 online learning programs (often based on the boundaries of a given province or territory). Finally, Murphy (2010) studied the impact of synchronous learning in a sixth grade second-language classroom. Based on data collected from 92 students and four teachers, Murphy noted serious problems with multi-tasking between supporting a face-to-face class and online learning. Between scheduling, explaining the software and technical glitches, the educators were sorely lacking in time and resources. Appointed student leaders helped relieve some of the burden. While the teachers themselves did not mention a need for professional training, Murphy suggested technological, pedagogical and management training would be invaluable to the teachers.

Learner-Focused Pedagogy. Regardless if the instruction was delivered in an asynchronous or synchronous environment, a focus on student-centered learning or learning-

focused pedagogy is prevalent throughout the published research. For example, Rice (2011) stated that online classrooms needed to focus on student-centered learning, which was often a shift from the traditional teacher-centered structure of a face-to-face classroom. As Rice described it, the instructor should become more of a facilitator than a controlling force, or a “guide on the side” (p. 74). The online classroom needed to have both the physical and psychological presence of the Virtual School Teacher, which was why she stressed the importance of opportunities for collaboration and the creation of an online community. Rice felt that this was a gap that must be overcome by the Virtual School Teacher in order to have a successful online classroom.

Murphy and Rodriguez-Manzanares (2009b) specifically explored learner-centered pedagogy with 13 Virtual School Teachers from across Canada. The teachers in this study noted that making a connection was important, but this connection was difficult to accomplish due to the lack of normal interactions the teacher would have with the student in the online environment, at least in comparison to the traditional brick-and-mortar school environment. The non-verbal types of communication, often taken for granted in a face-to-face classroom, have little opportunity to be practiced in the online environment. To find success, it was suggested that learner-centered philosophies needed to replace teacher-centered methods traditionally found in face-to-face classrooms. However, the authors noted that few teacher training programs prepared Virtual School Teachers with these skills, as such professional development was required.

Virtual School Site Facilitator

The Virtual School Facilitator is known by a variety of terms, depending on the jurisdiction and even the type of K-12 online learning. For example, in Newfoundland and Labrador the role is performed by the Mediating Teacher or, more recently, the Mediating Team (which comprises of teachers performing the roles of Coach, Technical, and Administrative). In

the New Zealand context, the term eDean is often used. Throughout the United States the term Facilitator is dominant in the supplemental environment, while the term Learning Coach is commonly associated with the full-time K-12 online learning environment. Regardless of the term used to describe that individual physically present with the student while they undertake their online learning, the limited amount of research into the Virtual School Facilitator has found that this individual has a critical role on students' success in K-12 online learning.

Barbour and Mulcahy (2004) were the first to explore the role of the Mediating Teacher with the supplemental K-12 online learning environment in the CDLI in Newfoundland and Labrador. Their findings indicated that these Mediating Teachers provided amounts supervision, administrative functions and technical troubleshooting. The authors also reported that the “dirty little secret” in both this form of K-12 online learning, and its audiographics predecessor, was that school-based teachers also provided significant amounts of content-based assistance or tutoring; which attributed significantly to the level of success these programs had experienced. Further, in their evaluation of the statewide, supplemental ACCESS Alabama K-12 online learning program, Roblyer, Freeman, Stabler, and Schneidmiller (2007) found that Virtual School Facilitators “directly working with students day by day [were] key to the success of the virtual school program” (p. 11).

The duties of the Virtual School Facilitator often vary from one K-12 online learning program to another. In the initial stages of its development, the CDLI provided all participating schools with a memo that outlined the duties of the Mediating Teacher:

- supervising distance learning students while they engage in online activities;
- monitoring the progress of distance learning students, including accepting e-mail notification from the e-teacher which express concern regarding the failure of a student to submit assignments, exams, etc. on time;
- following-up with such students to ensure future compliance;
- accepting grades and reports from the e-teacher and ensure that these get entered in the students term/end of year report cards;

- providing limited assistance to students who encounter difficulty in using asynchronous communication tools (chat, discussion threads, e-mail, etc., web browser, and learning management system);
- including online students on the teacher's class list and as such follow-up on absences from class as would be the case with other students in that class whom the m-teacher instructs directly;
- meeting, as requested, with the e-teacher, web-based initiatives facilitator, high school program specialist;
- in consultation with the CDLI, Virtual Teachers Centre of the [Newfoundland and Labrador Teachers Association] and the School District, assisting staff colleagues in acquiring skills necessary for accessing web-based professional development opportunities;
- participating in district pilot course implementation team meetings upon request; and
- participating in provincial in-services and forums upon request. (CDLI, 2003)

That same memo also indicated that Mediating Teachers should not perform the following functions:

- providing regular instruction or tutorial assistance; and
- providing technical troubleshooting related to the CDLI workstation, network hardware or the operating system, as this was to be performed through a central help desk. (CDLI, 2003)

Barbour and Mulcahy (2004) examined the duties and time commitment of five Mediating Teachers during the CDLI's initial year of operation. The authors found that Mediating Teachers performed most of the required roles outlined in the CDLI's memo, as well as the technical and instruction aspects the memo indicated were not part of the Mediating Teacher's responsibilities. The authors also found that the duties of the Mediating Teacher required between one and three course slots to undertake (often depending on the individual teachers subject matter expertise and technical knowledge). Interestingly, in a follow-up to this initial study, Barbour and Mulcahy (2009) found that the amount of time teachers devoted to their Mediating Teacher duties had actually increased (potentially due to the increase in the number of students enrolled in the CDLI who did not possess the independent learning skills required to be successful in the K-12 online learning environment).

In one of the most systematic research endeavours into any aspect of K-12 online learning, the National Research Center on Rural Education Support at the University of North Carolina-Chapel Hill examined the effects of systematic training on the Virtual School Facilitators. The training program that was provided as a part of this research initiative included topics such as issues for the first day of school, how to talk about and support online assignments, potential student fears, helping to develop time management skills, assisting with the problem of too much work, what to do when students become disengaged, and how to ease students who are worried about their grades (Irvin, Hannum, Farmer, de la Varre, & Keane, 2009). The results of this study found that students attending schools where the Virtual School Facilitator undertook the training were retained at a higher rate than students attending schools where the Virtual School Facilitator did not participate in the training (Hannum, Irvin, Lei, & Farmer, 2008). Effective Virtual School Facilitators were described as having being individuals who had “a good, working relationship, who were consistently responsive in their interactions with the teacher, and engaged with and interested in their students” (de la Varre, Keane, & Irvin, 2010, pp. 202–203). The researchers also found that the Virtual School Facilitator was important in sharing the teacher presence with the Virtual School Teacher in the online learning environment, increasing the students sense of community and decreasing the sense of isolation felt by students (de la Varre, Keane, & Irvin, 2011).

The allocation of school-based personnel to perform the role of the Virtual School Teacher was actually envisioned in the original recommendations that created the CDLI indicated that “mediating teachers would be assigned to distance education classes as part of their normal teaching assignments” (Sparkes & Williams, 2000, p. 76). As the use of K-12 online learning has evolved and proliferated in Newfoundland and Labrador, more recent reports have provided specific recommendations for the allocation of teachers to the role of the Virtual School

Facilitator. For example, the *Education and Our Future: A Road Map to Innovation and Excellence* recommended the allocation of one teaching per school for each 175 students to support the delivery of CDLI courses (Shortall & Greene-Fraize, 2007). One of the only other jurisdictions that had set aside any allocation for the role of the Virtual School Facilitator was the Province of British Columbia. In the *2011 State of the Nation: K-12 Online Learning in Canada* report, Tim Winkelmann described how the Government of British Columbia allowed schools that had students participating in supplemental distributed learning were eligible to receive 0.125 of a Full-time Equivalent for the local or school-based support of their students engaged in distributed learning (Barbour, 2011b). This support block has since been withdrawn by the Government as a cost cutting measure.

Teacher Preparation and Training

One of the themes common throughout our discussion of the three roles of the teacher in the virtual school environment has been the lack of preparation many professionals have prior to their experience in the online learning environment. The research has stressed time and again the importance of professional development specific to the skills needed for teachers in online learning context. However, even when training is offered, there are hurdles for the teachers who are involved in that professional development (e.g., a lack of encouragement from the administrators, technical challenges, inadequate time, inappropriate professional development contexts, etc.).

The importance of adequate teacher training in the online learning environment has been a long known fact. For example, the systematic evaluation of the Virtual High School (VHS) – one of the oldest supplemental K-12 online learning programs in the United States – consistently referred to the importance of professional development to the success of both their Virtual School Designers and Virtual School Teachers. Elbaum and Tinker (1997) described the

emphasis placed on professional development by programs like the VHS and the CyberSchool in Eugene, Oregon. In their first three annual evaluations, the SRI International team chronicled the VHS professional development program – among other things (Espinoza, Dove, Zucker, & Kozma, 1999; Kozma, Zucker, & Espinoza, 1998; Kozma, Zucker, Espinoza, McGhee, Yarnall, Zalles, et al., 2000). In the second year evaluation, 87% of teachers found the professional development to be effective (as opposed to 75% from the year before). In their final evaluation report, Zucker and Kozma (2003) described in great detail the 26-week graduate-level online course for Virtual School Designers and the 15-week online course for Virtual School Teachers working with courses that were already created. The course for Virtual School Designers required each participant to create the first 9 weeks of their VHS course as a part of their professional development before the course could be offered. Each program had at least 10 hours of work each week. While the process was intensive, the network of effective teachers it created was worth the effort and surveys from teachers who had completed the training each year indicated that it was viewed as successful.

More recently, Aronson and Timms (2003) noted that teachers who excelled in a face-to-face classroom could not simply rely on the same pedagogies in the online learning environment. The authors further outlined a variety of different tools and media that were used in the online environment, including synchronous and asynchronous methods of delivery. Aronson and Timms concluded that teachers must be properly trained to understand which technique best fits each situation. They also described how some K-12 online learning programs required online training for all their teachers, noting the Florida Virtual School and the Illinois Virtual High School for their model-the-model technique of training teachers completely online. Davis, Roblyer, Charania, Ferdig, Harms, Compton, and Cho (2007) also agreed that teachers involved in the K-12 online learning environment needed specific professional development to become

highly effective designers, teachers, and facilitators. Traditional professional development methods often ignore the media and technology expected from virtual classes, so it was recommended that professional development be taught by experts in the field, tailored to the need and context of the specific teacher role.

One of the difficulties is that at present there are few examples of effective teacher training initiatives. For example, as a part of a national survey of teachers involved in K-12 online learning in the United States, Rice and Dawley (2007) found that less than 40% of online teachers reported to receiving any professional development before they began teaching online. Further, Kennedy and Archambault (2012) found that less than 2% of universities in the United States provided any systematic training in their pre-service or in-service teacher education programs. Simply put, the professionals that undertake the roles of Virtual School Designers, Virtual School Teachers, and Virtual School Facilitators often receive no preparation from their university studies, and significant numbers of these professionals also receive no training from their K-12 online learning programs prior to having to design, deliver or support students in the K-12 online learning environment. Finally, the training programs that are provided are often not based upon research (largely due to the fact that an inadequate amount of research-based practices currently exist).

The Relationship of Teachers' Unions with K-12 Online Learning

The relationship that teachers' unions have with K-12 online learning varies significantly depending on the jurisdiction, often based on the legislative and political realities of the jurisdiction in question. Further, to date the primary sources of information on these relationships come from North American – and specifically Canadian and American – contexts. In this section we trace the reaction and response of teachers' unions to K-12 online and blended learning in various jurisdictions.

Canada

As a geographically large and sparsely populated nation, Canada has long embraced the use of distance education at the K-12 level. The first correspondence programs began shortly after World War I (Dunae, 2006), and by the second half of the twentieth century most provinces were providing some form of distance education to students (often located in the rural and remote northerly portions of the provinces). Like distance education in other sectors, following the use of correspondence education were experiments into the use of educational radio, instructional television, audiographics/telematics, and eventually online learning (Brown, Sheppard, & Stevens, 2000). By the year 2000, the Canadian Teachers Federation (2000) estimated that there were nearly 25,000 K-12 students were enrolled in distance and online courses. At about this time, the Canadian Teachers Federation was just beginning to wrestle with what online learning meant for the teaching profession and its members. Summarizing the main issues based on the experiences of those in higher education, O'Haire, Froese-Germain, and Lane-De Baie (2003) indicated:

Online education raises a number of issues for the work of university faculty including: ownership of content for online courses (intellectual property rights); the exclusive right of university academic staff members who develop online course material to deliver that material; workload issues; compensation issues related to the preparation and delivery of online courses (online courses require greater preparation time); faculty involvement in decision-making related to the appropriate choice of technology used and the approval of online courses; and the need for access to appropriate training. (p. 21)

As evidenced in our discussion around teaching in the K-12 online learning environment, many of these issues are still quite prevalent and unresolved.

At present, K-12 distance education and online learning has grown to include almost 250,000 students nationally (Barbour, 2012). While the level of activity in most provinces remains in the range of 1% to 3% of all K-12 students, there are some jurisdictions where as many as 10% to 15% of all K-12 students will take one or more online courses. In many of these

provinces this level of involvement is growing each and every year. For example, as a part of his second annual *State of the Nation: K-12 Online Learning in Canada* report, Barbour (2009) reported there were approximately 50,000 students in British Columbia involved in distance education. In his fifth annual report, Barbour (2012) reported there were now approximately 88,000 students in that province. Even with this level of growth, in each of the annual *State of the Nation: K-12 Online Learning in Canada* reports, Barbour has indicated that there is still significant levels of K-12 distance education being delivered by methods other than online learning (Barbour, 2009; 2010; 2011b; 2012; Barbour & Stewart, 2008).

Within the Canadian context teachers unions have remained cautiously supportive of K-12 distance education and online learning initiatives (Barbour, 2012). In most jurisdictions, it appears that K-12 distance education programs have continued to operate within the traditional K-12 education system – using certified teachers who work under conditions that are often comparable to their face-to-face counterparts. This operating within the traditional K-12 education system is likely the main reason that teachers’ unions have been supportive of these K-12 distance education and online learning initiatives. It should be noted that there are detractors that claim teachers’ union already have too much influence on school policies and these policies put teachers ahead of students (Zwaagstra, Clifton, & Long, 2007), including potentially blocking future growth of K-12 online learning (Bennett, 2011). These views appear to be in the minority within the Canadian context, pursued by a small number of neo-liberal individuals and organizations.³

While teachers’ unions have been generally supportive, these organizations have also raised concerns and begun to explore issues related to working conditions of online teachers – particularly in jurisdictions where K-12 distance education and online learning has grown

³ See the United States sub-section for a more detailed discussion of this neo-liberal perspective, as it is much more prevalent in the American context

significantly. In the following sections, we describe examples of teachers' union response to K-12 distance education in specific jurisdictions.

Newfoundland and Labrador. K-12 distance education has a long history in the province of Newfoundland and Labrador, with an extensive audiographics and then online program having been developed over the past two decades. Since 2000 the province-wide distance education program has been the CDLI. The CDLI offers a variety of courses mainly for high school students. A much smaller selection exists for the middle school level, focusing mainly on technology and French as a second language. In their 10 years of existence, the CDLI has helped Newfoundland and Labrador more than double the level of distance learners to a consistent enrollment of approximately 1,500 students annually.

The Newfoundland Labrador Teachers Association (NLTA) has been working closely with the CDLI on a number of initiatives. For example, in the NLTA's *Biennial Report (2009 – 2011)* a handful of action items dealing specifically with the relationship between the union and the CDLI were discussed. One of these action items was a review of the online professional development program, the Virtual Teacher Centre (VTC), which was cancelled by the Department of Education. The VTC was a teacher professional development portal created through provincial government grants, and eventually integrated into the CDLI in 2002 (Newfoundland and Labrador Department of Education, 2002). Due to teacher support of the program, the NLTA had moved forward with the review. As a part of the review, there were recommendations that the NLTA make an effort to ensure teachers had proper resources and support for the curriculum. Both recommendations have been since been acted upon.

Further, the NLTA (2011) recommended expanding the VTC.

- The VTC continues to upgrade and improve services to teachers through its peer sharing on the collaborative community networks.

- Work continues with school districts, CDLI, NLTA and the Department of Education on the promotion and utilization of synchronous and asynchronous technologies for professional learning. New webinars are being developed and delivered through education action plans, professional development and the VTC. The VTC is also moderating a series of webinars for assistive technologies in association with the Department of Education. These sessions will focus on teacher use of technologies specifically for students with physical and intellectual exceptionalities.
- The VTC is working with districts and the Department in an effort to continue to grow the utilization of *Elluminate* technologies for web conferencing as a practical alternative to travelling for meetings. More of this will continue to unfold as the year progresses.
- The VTC has a new version of its community server platform as of February 2011. This means we are poised to continue expanding our services over the coming years.
- Work continues in the area of promoting technologies and communities of practice for professional learning continues with the Department and school districts. The most recent of these is the partnership to support a group called Student Success Teachers, a group of teachers hired to work with students at risk. The VTC supports the sharing of ideas and anecdotal reporting through blogs, discussion forms and the media centre.
- The Coordinator of the VTC regularly writes submissions for *The Bulletin* to inform teachers of technology issues and to promote the use of technology.
- Personnel from CDLI and the VTC will be examining the latest Microsoft collaboration products (*MS Exchange*, *MS SharePoint* and *MS Sync*) for their potential use as provide-wide communication/collaboration tools.
- The Physical Education Special Interest Council continues to lead the way on the VTC by having all Physical Education teachers involved in a network of collaboration that extends province wide. Other special interest councils are encouraged to follow suit in using the VTC to collaborate with peers across districts. (p. 13)

These recommendations clearly illustrate a commitment to the growth of the online professional development community and continuous collaborative efforts between the NLTA, the CDLI, local districts, and the Department of Education.

Nova Scotia. Like Newfoundland and Labrador, the Nova Scotia Department of Education maintains a province-wide K-12 online learning (i.e., the Nova Scotia Virtual School [NSVS]). The Department, through both the NSVS and other legacy programs, offer traditional correspondence education courses (primarily to adult students) and online courses for high schools, as well as a blended learning model for the classroom. The online courses, offered

through NSVS, are a partnership between the Department and the individual school boards where the Department designs and offers the courses using online teachers hired by the individual school boards.

The Nova Scotia Teachers Union (NSTU) is heavily involved with distance education. The NSTU contract is by far the most detailed of all the Canadian provinces with regard to distance learning. Eleven different provisions under *Article 49: Distance Education* give specific guidance on how online education should be administered (Nova Scotia Minister of Education & The Nova Scotia Teachers Union, 2010). An examination of each of these clauses reveal that the main concerns of the NSTU appear to have been ensuring that distance education teachers have comparable workloads to their face-to-face counterparts, adequately and regular training to teach in the distance education environment, and input on the future development of K-12 distance education in the province.

49.01 – All distance education courses provided to public school students shall be taught by certified teachers under contract with a School Board in a form approved under this agreement.

This clause requires that all distance education teachers are certified by the province, and thus members of the union and entitled to the full protections and benefits outlined in the contract.

One such protection is outlined in provision 49.02.

49.02 – The participation of a teacher in a distance learning course, an instructor in the transmitting site or as a partner in the receiving site, shall be part of the teacher's regular assignment and shall not infringe upon the teacher's access to marking and preparation time, lunch periods, days pursuant to Article 25.05, School Year, or other such times provided to classroom teachers in the school.

Distance instruction – both from the Virtual School Teacher and the Virtual School Facilitator – cannot be an additional responsibility. It must be included or considered within the overall context of the teachers' employment. This provision ensures schools to view the preparation and teaching time commitment of distance education as an equal to face-to-face education.

49.03 – The School Board shall provide that each school participating in a distance education course will ensure that a student supervision plan is in place. This plan shall include:

- (i) The name of the teacher or teachers responsible for ensuring that the students in the distance education class are supervised;
- (ii) A schedule of the times when supervision is needed;
- (iii) That in the event that supervision is not available, it is incumbent upon the principal to have delegated the responsibility to another teacher;
- (iv) The designation of a specific locale for distance education students;
- (v) The establishment of clear procedures to deal with transmission difficulties and/or technical/maintenance problems.

This is another provision that ensures schools provide distance learning with similar provision for the pastoral care of students afforded to face-to-face learning. Basic responsibilities, such as designating teacher supervision and a location for the class, are put squarely on the shoulders of administration; not the teacher or the student.

49.04 – Each receiving site shall designate a teacher to coordinate distance education within the school. The role of the coordinating teacher shall be:

- (i) To make resources available, when needed, and designate a place where resources are to be stored;
- (ii) To monitor student progress with the understanding that the distance education teacher is responsible for student evaluation;
- (iii) To coordinate the availability of tutorial help for students when requested;
- (iv) To ensure that student assignments and evaluations are sent to the delivery site and distributed when returned;
- (v) To maintain regular contact with the teacher delivering distance education;
- (vi) To maintain accurate registration records for distance education students;
- (vii) To coordinate evaluation schedules under the direction of the distance education teacher;
- (viii) To assist in dealing with parental enquiries and concerns as they arise.

This assignment shall be part of the co-ordinating teacher's regular assignment and shall not infringe upon the co-ordinating teacher's access to marketing and preparation time, lunch periods, days pursuant to Article 25.05, School Year, or other such times provided to classroom teachers in the school year.

This fourth provision designates a teacher leader to help run the distance program at the school.

As with 49.02, the assignment cannot simply be added on to the teachers' existing responsibilities. It must be factored into his/her overall teaching load. Further, the specification of this position gives the program at each school a leader that can be responsible for the program's overall implementation.

49.05 – The School Board, if requested, will convene a meeting of parents at the receiving sites before September 30th in each academic school year. The distance education teacher of the course(s) at his/her discretion will have an opportunity to address the parents via technology.

There are two issues addressed in provision 49.05. First, a School Board is allowed to conduct only one meeting of parents in August or September, and only if requested. This provision prevents School Boards from forcing parent meetings multiple times throughout the year.

Second, the distance education teacher has the option to interact with the parents using the distance learning technology, helping to avoid traveling to the student site (and also providing the parents with a sense of the technology that their children are using themselves).

49.06 – (i) Where existing video and audio transmission technologies are being utilized for distance education in schools, the maximum number of students enrolled in a distance education course at all sites should not exceed twenty-two (22) students, unless the School Board can demonstrate to the Union the feasibility of increasing the number to a maximum number of twenty-five (25) students. The maximum number of sites shall not exceed five (5).

(ii) In the event new technologies are used in the delivery of distance education courses, the parties agree to meet to determine the appropriate number of sites, student numbers, and other related educational issues.

This sixth provision puts a soft cap of 22 and a hard cap of 25 students on all sites. The nature of distance learning requires teachers to interact with students, often more frequently than in the face-to-face environment to ensure student understanding. In a traditional classroom a teacher has access to additional information, such as visual cues, to gauge student learning. Many of these cues are not available to the Virtual School Teacher. By limiting the class size to 22, the instructor has a better chance of conferencing with each distance learner individually.

49.07 – Teachers participating in distance education programs shall be provided with access to ongoing professional development in distance education. Consideration shall be given to providing professional development activities as part of in-service days pursuant to Article 25 of this Agreement. Necessary costs for School Board approved professional development activities shall be paid by the School Board and may be claimed subject to Article 60 Professional Development Fund of this Agreement.

As distance learning relies upon technology, which is often changing, distance educators need very specific training and often more regular training with these potential tools. Provision 49.07 provides funding from the local school board to ensure that teachers have access to these professional development opportunities.

49.08 – Distance education courses shall be scheduled during the students’ instructional hours.

Provision 49.08 is consistent with Provision 49.02, assuring the contractual school day and school year is maintained for distance learning educators.

- 49.09 – (i) Teachers in schools which transmit distance education courses shall have the option to request a distance education assignment.
- (ii) A notice of assignment involving distance education shall be subject to assignment provisions in the Local Agreement.

Assuming no conflicts with the local agreement, any teacher is allowed to teach a distance learning course. This provision ensures preferential treatment is not given to certain teachers.

49.10 – A standing Distance Education Committee consisting of two (2) representatives from the Department of Education, two (2) representatives from the Nova Scotia School Boards; Association and four (4) representatives from the Union shall be established to address issues surrounding distance education. The Committee must meet no less that twice a year and provide an annual written report to the parties bound by this agreement.

Provision 49.10 provides equal input to all of the various stakeholders involved with distance learning. The creation of a joint committee shows a commitment to collaboration between the parties, a necessary move to help promote success.

- 49.11 – (i) The parties recognize that there are distance education course(s) which meet the requirements of the Public School Program but which do not meet the requirements of Article 49.01. In such cases the Distance Education Committee may, by unanimous approval, authorize the offering of the course(s) by School Board to public school students.
- (ii) Where approval has been given pursuant to (i), the Committee shall annually review the approval of the offering of the course(s)
- (iii) Where a request is made by a School Board pursuant to (i) and/or where a review is being conducted pursuant to (ii), the requesting School Board must provide information as requested by the members of the Committee.

Finally, Provision 49.11 provides the collaborative group of stakeholders the ability to approve the use of distance education courses beyond those that are a part of the official offerings by the Department of Education or any of the local school boards.

Ontario. The use of online learning in the Province of Ontario began around 1994-95 with the introduction of district-based programs. By 2001 a number of these district-based programs came together to form the Ontario eLearning Consortium, a collaborative effort to offer online courses and a variety of resources. In the mid-2000s, the Ministry of Education centralized many of the online learning activities (e.g., a standard learning management system, standardized course content, etc.). However, school districts were still responsible for administering and staffing their own programs. Recently, the Ministry has opened up their online learning resources to all teachers and schools – allowing for districts to create blended learning programs.

The Ontario Secondary School Teachers' Federation (OSSTF), one of the four affiliates that make up the Ontario Teacher's Federation (and the province's largest teachers' union), drafted two policies at their annual meeting in 2004 that remain in effect as of 2012. *Policy 8.20.12* requests "clear indicators for evaluating the quality of secondary school credit courses offered online" to be developed by the Ministry of Education, while *Policy 8.20.13* requests the Ministry to "ensure that all students in publicly-funded schools should have equal access to online credit courses," including covering the costs for enrollment and offering computers to those in need (OSSTF, 2012-13, p. 13-14). This is not to say that the OSSTF has not been cautious in its approach to K-12 online learning. Like many Canadian teachers' unions, the OSSTF expressed some concern that the job of an online teacher remains equivalent to that of a face-to-face teacher, at least in terms of workload and quality of life issues. These concerns were

outlined in *Working Conditions Bulletin #1.4/07-08*, which was circulated to local branches as part of their collective bargaining handbook in 2007-08.

Alberta. Alberta has a long history of distance of distributed learning with the largest provider of distance education (i.e., the Alberta Distance Learning Centre [ADLC]) having been in operation since 1926. At present, in addition to the traditional paper correspondence and online learning offered by the province-wide ADLC, there are more than 20 public and private distance education programs (primarily based at the district-level). As the use of information communications and technology in the classroom in general has proliferated in Alberta schools, the Alberta Teachers Association (ATA) has passed several broad technology policies. However, by 2007 the ATA drafted *Policy 16.A.20*, which stated “distributed learning can augment and enrich traditional delivery methods for K–12 students and has the potential to extend learning opportunities for some Alberta students within the school setting” (ATA, 2007, ¶ 20). The union also revised *Policy 16.A.17*, which more strongly stated that “teachers must have primary involvement in the development and selection of instructional materials used in distributed learning and must receive adequate time and compensation for the work involved” (ATA, 2007, ¶ 17).

With these policies, it appeared that the ATA was establishing a clear position that while the union believed in the potential of and supported the use of distributed learning, professional educators needed to be primarily responsible for the development of the distributed learning content. Further, professional educators should also be provided with the time and/or additional compensation to create this distributed learning content. The government of the day indicated that they felt teachers did have a say in the distributed learning design process, but it was up to local school districts to govern how distributed learning occurred within their individual jurisdictions (Alberta Ministry of Education, 2007).

More recently, the ATA commissioned a study entitled *A Study of Teachers' Workload in Distributed Learning Environments: Flexibility, Accessibility & Permeable Boundaries* (McRae, & Varnhagen, 2008). The study employed an online survey and focus groups to address four research questions:

1. How can distributed learning in Alberta be improved to enhance your working conditions?
2. In regards to distributed learning and your working conditions, what specifically should the ATA be advocating for on your behalf?
3. How should technology be used to support distributed learning?
4. What advice would you share with educators who are about to teach in a distributed learning environment for the first time? (p. 3)

Although the exact number of distributed learning educators in Alberta was not known, the study received 232 responses (which was deemed significant enough to illustrate trends). The responses were mixed (ATA, 2011). The majority of respondents indicated their distributed teaching experience was positive. Further, they appreciated the job security, level of responsibility and support from their schools. However, when the respondents were asked to focus on more specific issues the results became generally negative. For example, respondents felt that distant learning was viewed with less respect than teaching in a traditional classroom (i.e., a second-class type of education). This lack of respect was illustrated through the lack of funding for the technology needed or for the development of converting the curriculum to a distant learning environment. Finally, the respondents were also concerned with large class sizes and a lack of professional development opportunities specifically for distant teaching. The study itself was a good illustration of the willingness of the teachers' union to be involved with understanding of distance learning, and also an example of how the union was concerned with issues related to the equity of workload and quality of life for distance learning teachers.

British Columbia. The use of distance education at the K-12 level in Canada began in British Columbia. Over the past decade, British Columbia has become the most regulated

jurisdiction for K-12 distributed learning; as well as the jurisdiction with the highest level of activity. With such a large proportion of K-12 students engaged in distributed learning, it is not surprising that the British Columbia Teachers Federation (BCTF) has been the most active Canadian teachers' union with regards to their exploration of K-12 distance education. As early as 1999, distance learning teachers joined with the Hospital Homebound Provincial Specialist Association (PSA) to form the Educators for Distributed Learning (EDL) PSA.⁴

Beginning in 2002, the BCTF began to release research reports (often based on surveys that it had conducted with its membership) on a variety of issues related to the state of distance learning in the province. These reports have included:

- *Developments with Distributed Learning* (Kuehn, 2002) - an initial report that had more questions than answers. These inquiries included questions related to professional development, evaluations, teaching conditions, and funding. The most significant information in the report came in the form of the Ministry of Education's requirements that differentiated home schooling and being schooled at home, which boiled down to having a certified teacher or a parent being responsible for the education of the student. This distinction was made to help clarify funding issues, ensuring that distance learners received more per pupil funding than their homeschooled counterparts.
- *Distributed Learning in B.C., 2002-03* (Kuehn, 2003) – As an extension of the previous year's report, the overall theme of this report was to discuss the BCTF's support for distributed learning in general, but without competition between various programs. The BCTF believed that school districts would fight for students, focusing more on the funding than with the education of the students. Other broad issues that were raised included limiting the size of distributed classes and the desire for policies concerning teacher work conditions and defining how distributed learning should be delivered.
- *Online Education is Not the Same as Home Schooling* (Kuehn, 2004) – This report appeared to be in response to concerns that had been raised in the public about certain actions within the K-12 online learning community in the province. In the report, the BCTF reminded the public of the Ministry's distinction between homeschooling and distributed learning. The BCTF also raised familiar concerns about competition for funding being the main motivation for some K-12 distributed learning programs, using examples from

⁴ It should be noted that while distributed learning instructors are members of the BCTF, the EDLPSA includes only those educators that choose to be a part of the EDLPSA. Also, there are a small number of distributed learning markers employed in the traditional correspondence/paper-based distributed learning model that are not unionized employees.

throughout the province. Based on one specific example, the BCTF underscored their concerns with teacher workload.

- *Distributed Learning in British Columbia Schools 2006 – 07* (Kuehn, 2006) – The focus of this report was the newly introduced Bill 33 and the creation of LearnNowBC. The BCTF policies towards distributed learning remained the same (i.e., a positive experience with union involvement), but a new push was made that focused on working conditions. It was announced that the BCTF would begin to spearhead research regarding distributed learning educator working conditions in 2007.
- *The Working Conditions of BC Teachers Working in Distributed Learning: Investigating Current Issues, Concerns, and Practices* (Hawkey & Kuehn, 2007) – Based on data collected in November 2006 to January 2007 from an online survey and a follow-up focus group interview, a total of 123 distributed learning teachers expressed their views. The findings indicated that class size ranged from 1-69 students in the elementary environment and 1-179 in the secondary environment. However, not all teachers were allocated 100% of their time to teach online (meaning that some teachers may have taught 1-179 in addition to their regular classroom load, minus a single section allocated for their online teaching). Further, some educators were in blended classes, while others worked with multiple grade levels throughout the day. Regardless of the actual class size, more than half of the teachers responded they were unsatisfied with their class size and workload. Respondents were generally satisfied with their workspace, both at home and at school (even though there was no universal standard amongst school districts); as well as with their level of technical support. Most educators felt they were trained for the job, but the results indicated that most of these teachers were self-taught or relied upon colleagues, as they had minimal training from their district. Finally, one of the most troubling findings was the view that distributed learning was second class learning compared to the traditional classroom environment, and distributed learning teachers felt as though their peers looked down on them as less than equal.
- *Distributed Learning 2010 Survey: DL Working Conditions* (Kuehn, 2010) – In 2010, the BCTF conducted a follow up to their 2007 research with an informal survey of distributed learning working conditions. Distributed learning teachers expressed many of the same positive sentiments towards issues such as workspace and resource development. However, some issues appeared to have worsened, with increased concerns workload and the wide range of grades taught over the course of the day. Almost all respondents listed workload as the number one issue for distributed learning educators; which was related to class size (e.g., some teachers indicated they worked with over 200 students a day). A final issue that was examined was the lack of distributed learning teachers actual involved in the EDLPSA. For example, only 44.9% of the 147 teachers surveyed were even aware of the existence of the EDLPSA, and only 14.2% indicated that they were members of the PSA.

Given that the level of K-12 distributed learning activity continues to increase, these issues will continue to be brought to the forefront in British Columbia.

United States

The use of K-12 online learning in the United States has been growing at an incredible pace. Whether fully online or blended courses, all 50 states offer some level of K-12 distance learning (Watson, Murin, Vashaw, Gemin, & Rapp, 2011); with estimates of the number of students being served by K-12 online learning programs ranging from two to four million students (Ambient Insights, 2012; Wicks, 2010). To fully understand the landscape of K-12 online learning in the United States and the response from teachers unions to its growth, the reader must understand the educational reform movement in the United States and its underlying ideology. Over the past decade, online learning – in particularly full-time online learning in the form of cyber charter schools – have become part of the educational reform push for increased school choice that has been supported largely by a neo-liberal ideology that is currently dominating the political discourse in education.

As a group, neo-liberals can be described as “deeply committed to markets and to freedom as ‘individual choice.’ ” (Apple, 2001, p. 11). Further describing neo-liberals, Apple cites McChesney (1999):

Neo-liberal initiatives are characterized by free market policies that encourage private enterprise and consumer choice, reward personal responsibility, and entrepreneurial initiative, and undermine the dead hand of the incompetent, bureaucratic and parasitic government, that can never do good, even if well intended, which it rarely is.

Essentially, neo-liberalism is “capitalism with the gloves off” (McChesney, 1999). In an article entitled *Doing Things the ‘Right’ Way: Legitimizing Educational Inequalities in Conservative Times*, Apple (2005) describes neo-liberals as:

Neo-liberals are the most powerful element within the alliance supporting conservative modernization. They are guided by a vision of the weak state. Thus, what is private is necessarily good and what is public is necessarily bad. Public institutions such as schools are ‘black holes’ into which money is poured—and then seemingly disappears—but which do not provide anywhere near adequate results. For neo-liberals, there is one form of rationality that is more powerful than any other—economic rationality. Efficiency and an ‘ethic’ of cost-benefit analysis are the dominant norms. All people are to act in ways that maximize their own personal benefits. (p. 273)

He continues, “underpinning this position is a vision of students as human capital. The world is intensely competitive economically, and students – as future workers – must be given the requisite skills and dispositions to compete efficiently and effectively” (p. 273). Essentially neo-liberals are about providing students (and parents) with choice in their educational experience. This choice is based on a belief that principles of the free market, such as competitiveness, will only serve to improve all providers of education. Further, public institutions – like the government and teachers’ unions – can’t be trusted to act in the best interests of the individual.

The exponential increase in the level of K-12 online learning, coupled with favourable charter school legislation in many states, has provided opportunities for for-profit companies to leverage the estimated \$507 million K-12 online learning market (iNACOL, 2010). In their examination of the practice of K-12 online learning, Glass and Welner (2011) found six for-profit companies provided the majority of K-12 online learning content and that privatization was prevalent with the number of for-profit cyber charters schools growing.

Against this neo-liberal backdrop, the general union response – at least from the National Education Association (NEA) and the American Federation of Teachers (AFT) (i.e., the two largest teacher unions in the United States) – has focused on basic, broad policies related to higher standards. For example, in 2000 the AFT created 14 standards of good practice for distance learning based on a survey of 200 of its distance learning members:

1. *Faculty must retain academic control.*
2. *Faculty must be prepared to meet the special requirements of teaching at a distance.*
3. *Course design should be shaped to the potentials of the medium.*
4. *Students must fully understand course requirements and be prepared to succeed.*
5. *Close personal interaction must be maintained.*
6. *Class size should be set through normal faculty channels.*
7. *Courses should cover all material.*
8. *Experimentation with a broad variety of subjects should be encouraged.*
9. *Equivalent research opportunities must be provided.*
10. *Student assessment should be comparable.*
11. *Equivalent advisement opportunities must be offered.*
12. *Faculty should retain creative control over use and reuse of materials.*
13. *Full undergraduate degree programs should include same-time, same-place coursework.*
14. *Evaluation of distance coursework should be undertaken at all levels. (AFT, 2000, pp.5-13)*

These 14 points placed a strong focus on teacher input, as well as encouraging teacher design and control of materials. The AFT pushed for similar standards for distance learning as found in traditional classroom environments (e.g., class size, assessment). Interestingly, two of the standards (i.e., standards 5 and 13), advocated for in person meetings – suggesting that education should never occur solely online. The rationale provided indicated a belief that nothing could supplant the benefits of face-to-face interactions in a classroom.

This view was consistent with the position of the NEA. Distance learning should “supplement – not supplant” existing education policies (NEA, 2002-2013). While the NEA was initially supportive of K-12 online learning – even proposing standards for quality online courses and urging policymakers to create additional frameworks that allowed for the development of online learning with appropriate oversight (NEA, 2006), the organization has recently switched its focus to blended learning (NEA, 2011). The NEA defined blended learning as “face-to-face instruction with a licensed teacher and technology-based instruction that best meets the educational needs of the student” (p. 1). In support of blended learning, the NEA offered seven policy recommendations.

1. Clearly define the “blended learning” model as one combining online resources and technology with face-to-face instruction by a licensed teacher.
2. Increase federal, state, and local resources, along with public/private partnerships, to fully fund equipment purchases/leases/upgrades, maintenance, technical support, training/professional development, evaluation, and staffing to support the full use of technology in public schools, colleges, and universities.
3. Ensure that students have access to and instruction in technology, as well as the responsible and ethical use of technology, especially in places where they are not otherwise available.
4. Provide every school classroom, office, teacher workroom, and library/media center with affordable, high speed, seamless, and equal access to the Internet.
5. Develop an acceptable use policy (AUP) to address the appropriate use of the Internet, for example, parental permission, proper citation and compliance with copyright laws, and privacy and information protection.
6. Revise, create, and implement state standards, learning objectives, and assessments using technology for all content areas that reflect 21st century expertise and the power of technology to improve learning.
7. Design, implement, and evaluate technology powered programs and interventions to ensure that students progress seamlessly through our P-16 education system and emerge prepared for college and careers.

Within the NEA’s blended learning brief, the teacher was charged with creating student-centered lessons, being comfortable with online communication, and understanding how to teach through various online platforms. Further, the NEA felt it was critical to ensure the proper initial training and ongoing professional development for the blended teacher was provided

Opponents of unions view these policies as putting the teachers ahead of the students. Ultimately, detractors believe technology – and specifically online learning – will lead to the undoing of unions (Moe & Chubb, 2009; Sand, 2011). In their 2009 book, *Liberating Learning: Technology, Politics, and the Future of American Education*, Terry Moe and John Chubb outlined their view that public education was a monopoly with strong political conviction to block change and keep the status quo. There was no incentive for teachers or their unions to want technology to find its way into the classroom. The reason, they believed, was simple – the rise of cyber schools and technology forced a chain reaction of events that negatively impacted teachers’ union. The creation of cyber charter schools posed a multi-faceted threat. For example,

charter and private schools are rarely staffed with union members (12% and 4%, respectively). The creation of cyber charter schools would not only lead to an increase in the number of non-unionized teachers, but also drastically decrease the overall number of teachers needed. The authors felt that distance learning would allow for larger class sizes with no negative impact on student achievement. Cyber charter schools also made it feasible for teachers to be dispersed geographically, which made it difficult for unions to rally local units. Finally, as cyber charter schools entered the landscape it would increase the competition with traditional, brick-and-mortar public schools. If the student achievement results for cyber charter schools were comparable (or, as experience has shown, if the perception that these cyber charter schools offered a personalized learning experience or twenty-first century learning opportunities), students and parents would leave the traditional public school system in favour of these cyber charter schools. All of these elements would combine to weaken teachers' union and its political clout, leading to an eventual natural death.

Over the past two to three years there has been some closer examination of this largely unchecked expansion of cyber charter schools; and the motivations, tactics, and ideology behind that expansion (Hubbard, & Mitchell, 2011; Innovation Ohio, 2011; Ryman, & Kossan, 2011). For example, Layton and Brown (2011) reported that K12, Inc., the largest provider of online resources in the United States, “gave about \$500,000 in direct contributions to state politicians across the country, with three-quarters going to Republicans, according to the National Institute on Money in State Politics” between 2004 and 2010. At the same time, the K12, Inc. run Ohio Virtual Academy with over 9,000 students had an on-time graduation rate 48% lower than the state average. Defenders of teachers' unions have also accurately pointed out that contract policies are solely created to protect teacher rights, not to block progress in any area – including K-12 online learning (Ravitch, 2010).

The following sub-sections examine specific examples of how teachers' unions have reacted to K-12 online learning (in most instances cyber charter schooling) in three individual states.

Pennsylvania. Cyber charter schools have a long history in Pennsylvania, with the first cyber school opening in 1998. Currently, over 28,000 K-12 students attend virtual charter schools, with many more taking online courses through their local school district. These numbers were not reported separately from district enrollment, so an exact tally is unknown (Watson, et al., 2011). In the past, the district was held responsible for the student's funding when a student left for a charter school, with the state reimbursing part or all of the costs to the district. This practice by the state was eliminated in the 2010-2011 school year, however, local districts are continuing to fight to retrieve former students due to this inequitable funding. In 2011, the Center for Research on Education Outcomes (CREDO) reported, "100% of cyber charters performing significantly worse than their traditional public school counterparts in both reading and math" (CREDO, 2011, p. 20). As one example, the Agora Cyber Charter – one of the oldest and largest virtual charter schools in the state – was being threatened with having its charter revoked due to not meeting growth standards set by the state (Layton & Brown, 2011).

With districts creating their own online schools, teachers' unions have had the opportunity to become involved in the process. For example, the Pennsylvania Learners Online (PALO) is a venture between six districts to create a tuition-free cyber charter. PALO, which is staffed by union teachers, collective bargained with the local NEA affiliate. It is believed that this was the first cyber charter school in the United States to undertake this process. Not surprisingly, the PALO union contract is very similar to what would be found in a traditional brick-and-mortar school agreement (Pennsylvania Learners Online Regional Charter School

(PALO) & PALO Education Association, 2010). There are some differences in appropriate areas, such as required hours and work site.

Article VI A. Work Week – The work week shall consist of forty-one (41) hours and fifteen (15) minutes which includes a thirty (30) minute duty-free lunch per day. Live classes will be scheduled by the Employer. Bargaining Unit Members will have flexibility in scheduling additional instructional time based on student needs with approval of the Employer.

Article VI B. Work Site – Bargaining Unit Members may be required to work at a site, specified by the Employer up to forty (40) days in a school year, unless otherwise specified in an improvement plan. The Employer will provide a minimum of fifteen (15) days notice, if possible. The days will include required IEP meetings, professional development days, PSSA testing, department meetings and scheduled observations. The days will not include conference or professional development session attendance requested by the Bargaining Unit member, but will include such sessions which require attendance as per direction by the Employer. (PALO et al., 2010, p.4-5)

As noted in the contract, PALO set the live class instruction time for each teacher. These sessions, however, do not have to be run from the physical school location. Teachers were required to come to the physical school up to 40 days in the school year, which was made up of 200 days. The 40 days were mainly for meetings, observations, and other activities that should be done face-to-face. The rest of the school year, and the majority of the actual teaching, was done by the teacher at an off-campus location.

The NEA viewed this move as a positive trend (Flannery, 2010), as the union contract protected teachers. PALO, which was first opened in 2001, only became unionized in 2009.

Wisconsin. Wisconsin offers many options for students looking for online education, including 27 cyber charter schools, the Wisconsin Virtual School (i.e., a state mandated online academy focused on grades 6-12), the Wisconsin eSchool Network (i.e., a consortium of eleven school districts), and the Wisconsin Center for Academically Talented Youth (i.e., a blended learning program for talented and gifted youth). Wisconsin was also the epicenter for the battle over online learning (i.e., cyber charter schools) and union involvement.

In 2004, the Wisconsin Education Association Council (WEAC) led a court battle to close cyber charter schools for violating state law. The WEAC lawsuit claimed the cyber charter schools were enrolling non-residential students, taking money away from other school districts, and utilizing uncertified teachers (WEAC, 2004). Named in the lawsuit was the Wisconsin Virtual Academy (WIVA), which was based in Ozaukee County but accepted students from around the state. The legal issue was that the funding for the school came from taxpayers located in other districts. There was also the concern that the WIVA instructional model required that parents were responsible most of the instruction, and not certified teachers. If parents were the primary instructors, then funding for WIVA should be consistent with homeschooling funding, which was significantly less than a student enrolled in a public school.

The WEAC lawsuit claimed that these three issues were in violation of the state's own *Education Act*. Proponents of the cyber charter schools were baffled, claiming the union wanted to shut down a successful school. The message, consistent with the beliefs of Moe and Chubb described earlier, was that the teachers' unions were trying to stop progress due to their fear of losing jobs and political clout. By 2007, the battle became a heated debate on a national stage. In December of 2007, an appellate court ruled in favor of the teachers' unions, stating that WIVA did indeed violate state laws.

The court urged the government to work on new bills that would update the current legislation to reflect the realities of online education and, by January 2008, work had commenced at the legislative level. Two bills were being introduced, *Assembly Bill 697* and *Senate Bill 396*. The Republican-supported *Assembly Bill 697* eliminated the requirement that an online instructor needed a teaching certificate and that a student must be a resident of the school district where the online school was located, while the Democratic-supported *Senate Bill 396* was more consistent with the wording of the legal decision and the existing legislation (Lazich, 2008). Later in 2008,

the legislature came to a compromise on a virtual schooling bill that allowed WIVA to remain open and receive nearly \$6,000 funding per pupil; required that only certified teachers were instructing students (Hetzner & Walters, 2008). The legislation also introduced a statewide cap on cyber charter school enrollment. In 2011, the government lifted this enrollment cap.

California. California has significant number online opportunities at both the K-12 level and in higher education. It was within this higher education context that the California division of the AFT has become active in the field of online learning. The University of California was exploring cheaper, alternative ways for students to earn credits as a response to their discontent over large tuition hikes. The university began to research the possibility of distance learning as a way to increase the number students that could be served by each faculty member. Fearful of a loss in university teaching jobs, the AFT initially called for an outright ban of online courses. The union later reached a compromise with the university that would see the two sides meet if there were any changes made to the employment of an AFT member (Rogers, 2011).

This university and the AFT each interpreted this new agreement differently, causing even more angst. For example, the president of the union claimed that if an online course threatened the employment of a member, the union would have the power to shut the online class down. However, the university strongly disagreed; believing the union has the right to discussion but little authority beyond that consultation (Kolowich, 2011). Clearly this remains a divisive, and potentially unresolved issue.

International

Like in Canada and the United States, countries from all around the world were embracing online and blended learning. In 2011, iNACOL released its *Online and Blending Learning: A Survey of Policy and Practice of K-12 Schools Around the World* (Barbour, Brown, Waters, Hoey, Hunt, Kennedy, Ounsworth, Powell, & Trimm, 2011). The generalities of the

report showed countries developing policies at a national level, with local authority figuring how to implement them. Urban settings around the globe provided the most online opportunities for students, with special needs students being the highest segment of that online population. However, in many jurisdictions distance learning was still viewed with significant skepticism. There also appeared to be a level of apathy from governments on the international stage that clearly impacted the development of online programs in those jurisdictions.

The iNACOL report also highlighted that specialized teacher training and certification was not required for online instruction in most jurisdictions. With only 11% of countries requiring a specific license, and 25% requiring specific training, to teach online. Most of the surveyed nations indicated that general education standards for the preparation of teachers were also fine for online teachers. Yet, the majority of countries also reported their teachers had taken professional development focused on online training. Union involvement was not referenced in most of these countries outside of Canada and the United States.

Brazil. In Brazil teachers' unions took a strong stance against online education. It was the position of teachers' unions that distance learning led to anti-social behavior, as face-to-face interact was removed from the education experience. In the primary, secondary, and undergraduate levels, the teachers' union took the position that all education should be delivered in traditional, face-to-face formats. In fact, higher education was the only area where distance learning has been allowed in Brazil.

New Zealand. Like Canada and the United States, New Zealand has a long history with distance education and online learning. However, the growth many K-12 online learning options has been slow due to poor Internet infrastructure and a lack of vision and leadership from the government (Barbour, et al., 2011). In 2005, the New Zealand Post Primary Teachers' Association (PPTA) submitted adjustments to the draft e-learning framework proposed by the

Ministry of Education (PPTA, 2005). In their document, the PPTA offered adjustments to the proposed six principles to reach the vision that “all learners will use ICT confidently and creatively to develop skills and knowledge they need to achieve personal goals and to be critically aware citizens capable of participating actively in the democratic process and global community” (p. 2).

1. Embrace a learner centred culture
2. Be guided by and share effective practice
3. Exploit opportunities for collaborative learning
4. Be innovative
5. Be affordable and sustainable
6. Encourage a critical perspective

In these principles, the PPTA argued that for a teacher to be successful with distance education, they need time to prepare for individual tailored lessons, specific professional development, and a smaller teacher-to-student ratio. The teachers’ union stated that the workload for a distance learning teacher could be deceptive. The ability to know and understanding the curriculum, and be able to make it work in the online environment, was a time intensive process and collaboration needed to be encouraged by providing teachers with time to work together.

The six principles were designed to help guide the six main objectives set forth by the Ministry:

1. *Capability and capacity*
2. *Infrastructure, systems and standards*
3. *Learning resources and curriculum materials*
4. *Families, whanau and communities*
5. *Research and evaluation*
6. *Administration and support*

As a part of these six objectives, the PPTA called for a school coordinator, as well as an extra three hours of non-contract time given for each hour of online teaching. Laptops should be provided for online teachers. Curriculum and appropriate resources should be made available to educators online.

The PPTA followed up their 2005 brief with a more detailed document in 2009 (PPTA, 2009). This more recent report noted that in the six years between the two documents, the Virtual Learning Network (an overall terms used to describe the variety of mainly regional e-learning programs) had more than tripled the number of students involved. The 2009 document listed eight major issues that still need to be addressed:

1. *Student management systems and learning management systems*
2. *Copyright*
3. *Laptops*
4. *The digital divide*
5. *Technical support*
6. *Health and safety*
7. *Power*
8. *Teacher workload*

As is evidenced from this list, the unresolved issues in New Zealand are quite consistent with the concerns raised about online learning in Canada.

Trends Concerning the Union Response

Generally speaking, teachers' unions have been supportive of online and blended learning. With the exception of Brazil, where teachers' unions were strongly opposed to any form of distance learning. The remaining examples of teachers' unions see distance learning as an opportunity for students – with some reservation. However, it would also be inaccurate to paint it as simply a black and white issue.

Jurisdictions with collective bargaining and open dialogue have seen distance learning flourish. As Canada continues to increase the level of distance education and online learning, teachers' unions have fought for standards and accountability measures for their members and the distance programs that employed them. In the rare instances of collaboration within the United States, progress can be noted as well. When the rights of teachers are protected and modifications made to reflect the increased workload, there is an acceptance of online education among the union members.

However, in areas that don't allow or value the chance to collectively bargain with distance education programs or distance education issues, there is a clear sense of hostility. Teachers' unions feel that quality of life of their members decrease as the workload from the online environment increases. Further, for those who are pursuing a neo-liberal ideology, online learning has become a tool for union busting (most often through the use of cyber charter schools). In these instances, the reaction has been for teachers' unions to go on the offensive, leading to public fights in courts and sparking animosity between all groups involved. Teachers' unions that have attempted to become involved with shaping policy are often portrayed as acting against the interests of students, and routinely ignored.

Finally, it should be noted that despite the fast pace and wildly different directions online learning has moved in, there is still a surprisingly small amount of research that points to the

success of students in the online learning environment – most of which is methodologically limited, skewed or flawed (see Barbour [2013] for a summary). Yet governments continue to pursue policies that are designed to increase the level of K-12 online learning.

References

- Alberta Ministry of Education. (2007). *Government response to 2007 ATA resolutions*. Edmonton, AB: Government of Alberta. Retrieved from <http://education.alberta.ca/media/815121/governmentresponseto2007ataaresolutions.pdf>
- Alberta Teachers' Association. (2007). *Various policies*. Edmonton, AB: Author. Retrieved from <http://www.teachers.ab.ca/About%20the%20ATA/Governance/PolicyandPositionPapers/Policy/Educational%20Policy/Pages/Technology%20and%20Education.aspx>
- Alberta Teachers' Association. (2011). *The impact of digital technologies on teachers working in flexible learning environments*. Edmonton, AB: Author.
- Ambient Insight. (2012). *2012 Learning technology research taxonomy: Research methodology, buyer segmentation, product definitions, and licensing model*. Monroe, WA: Author. Retrieved from http://www.ambientinsight.com/Resources/Documents/AmbientInsight_Learning_Technology_Taxonomy.pdf
- American Federation of Teacher. (2000). *Distance education: Guidelines for good practice*. Washington, DC: Author. Retrieved from http://www.umsl.edu/technology/frc/pdfs/guidlines_for_good_practice_DL.pdf
- Apple, M. W. (2001). *Educating the 'right' way: Markets, standards, God, and inequality*. New York: Routledge.
- Apple, M. W. (2005). Doing things the 'right' way: Legitimizing educational inequalities in conservative times. *Educational Review*, 57(3), 271-293.
- Aronson, J. Z., & Timms, M. J. (2003). *Net choices, net gains: Supplementing the high school curriculum with online courses*. San Francisco, CA: WestEd. Retrieved from http://www.wested.org/online_pubs/KN-03-02.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.jofde.ca/index.php/jde/article/view/30>
- Barbour, M. (2009). *State of the nation: K-12 online learning in Canada*. Vienna, VA: International Association for K-12 Online Learning. Retrieved from http://www.inacol.org/research/docs/iNACOL_CanadaStudy_200911.pdf
- Barbour, M. (2010). *State of the nation: K-12 online learning in Canada*. Vienna, VA: International Association for K-12 Online Learning. Retrieved from http://www.inacol.org/research/docs/iNACOL_CanadaStudy10-finalweb.pdf
- Barbour, M. K. (2011a). The promise and the reality: Exploring virtual schooling in rural jurisdictions. *Education in Rural Australia*, 21(1), 1-20.
- Barbour, M. K. (2011b). *State of the nation study: K-12 online learning in Canada*. Vienna, VA: International Council for K-12 Online Learning. Retrieved from http://www.inacol.org/research/docs/iNACOL_CanadaStudy_201111.pdf

- Barbour, M. K. (2012). *State of the nation study: K-12 online learning in Canada*. Victoria, BC: Open School BC/Vienna, VA: International Council for K-12 Online Learning. Retrieved from http://www.openschool.bc.ca/pdfs/iNACOL_CanadaStudy_2012.pdf
- Barbour, M. K. (2013). 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., Brown, R., Waters, L., Hoey, R., Hunt, J., Kennedy, K., Ounsworth, C., Powell, A. & Trimm, T. (2011) *Online and blended learning: A survey of policy and practice of K-12 schools around the world*. Vienna, VA: International Association for K-12 Online Learning. Retrieved from http://www.inacol.org/research/docs/iNACOL_IntnlReport2011.pdf
- Barbour, M. K., & Cooze, M. (2004). All for one and one for all: Designing web-based courses for students based upon individual learning styles. *Staff and Educational Development International*, 8(2/3), 95–108.
- Barbour, M. K., & Mulcahy, D. (2004). The role of mediating teachers in Newfoundland's new model of distance education. *The Morning Watch*, 32(1–2). Retrieved from <http://www.mun.ca/educ/faculty/mwatch/fall4/barbourmulcahy.htm>
- Barbour, M. K., & Mulcahy, D. (2009). Beyond volunteerism and good will: Examining the commitment of school-based teachers to distance education. In I. Gibson et al. (Eds.), *Proceedings of the Annual Conference of the Society for Information Technology and Teacher Education* (779–784). Norfolk, VA: AACE.
- Barbour, M. K., & Reeves, T. C. (2008). The reality of virtual schools: A review of the literature. *Computers & Education*, 52(2), 402–416.
- 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://www.inacol.org/research/docs/NACOL_CanadaStudy-lr.pdf
- Bennett, P. W. (2011). *The sky has limits: Online learning in Canadian K-12 public education*. Toronto, ON: Society for Quality Education. Retrieved from <http://www.societyforqualityeducation.org/parents/theskyhaslimits>
- British Columbia Teachers' Federation. (2006). *Collective agreement: Provincial and local consolidation working document between British Columbia Public School Employers' Association (BCPSEA)/Board of Education of School District No. 40 New Westminster and British Columbia Teachers' Federation (BCTF)/ New Westminster Teachers' Union (NWTU) (The "Local")*. Vancouver, BC: Author. Retrieved from <http://bctf.ca/WorkArea/DownloadAsset.aspx?id=23191&libID=23182>
- Brown, J., Sheppard, B., & Stevens, K. (2000). *Effective schooling in a telelearning environment*. St. John's, NL: Centre for TeleLearning and Rural Education. Retrieved from http://web.archive.org/web/20041027051254/http://www.tellearn.mun.ca/es_report/index.html
- Canadian Teachers' Federation. (2000). *Fact sheets on contractual issues in distance/online education*. Ottawa, ON: Author.

- Center for Research on Education Outcomes. (2011). *Charter school performance in Pennsylvania*. Stanford, CA: Author. Retrieved from http://credo.stanford.edu/reports/PA%20State%20Report_20110404_FINAL.pdf
- Centre for Distance Learning and Innovation. (2003). *The responsibilities of the mediating teacher*. St. John's, NL: Author.
- Chaplain Alliance. (2010). *How long does it take to create learning*. Sandy, UT: Chapman Alliance LLC. Retrieved from <http://leanforward.com/cost-to-create-elearning/>
- Cooze, M., & Barbour, M. K. (2005). Learning styles: A focus upon e-learning practices and pedagogy and their implications for designing e-learning for secondary school students in Newfoundland and Labrador. *Malaysian Online Journal of Instructional Technology*, 2(1). Retrieved from <http://pppj.usm.my/mojit/articles/pdf/April05/02-Michael%20Barbour.pdf>
- Cooze, M., & Barbour, M. K. (2007). Learning styles: A focus upon e-learning practices and their implications for successful instructional design. *Journal of Applied Educational Technology*, 4(1). Retrieved from http://www.eduquery.com/jaet/JAET4-1_Cooze.pdf
- Davis, N. E. (2007, February). *Teacher Education Goes into Virtual Schooling. Paper presented at the FIPSE Comprehensive Conference*. Retrieved from <http://ctl.iastate.edu/~tegivs/TEGIVS/publications/VS%20Symposium2007.pdf>
- Davis, N. E., Roblyer, M. D., Charania, A., Ferdig, R., Harms, C., Compton, L. K. L., & Cho, M. O. (2007). Illustrating the “virtual” in virtual schooling: Challenges and strategies for creating real tools to prepare virtual teachers. *The Internet and Higher Education*, 10(1), 27-39. Retrieved from <http://ctl.iastate.edu/~tegivs/TEGIVS/publications/JP2007%20davis&roblyer.pdf>
- DiPietro, M. (2010). Virtual school pedagogy: The instructional practices of K-12 Virtual School Teachers. *Journal of Educational Computing Research*, 42(3), 327–354.
- DiPietro, M., Ferdig, R. E., Black, E. W., & Preston, M. (2008). Best practices in teaching K-12 online: Lessons learned from Michigan Virtual School teachers. *Journal of Interactive Online Learning*, 7(1). Retrieved from <http://www.ncolr.org/jiol/issues/getfile.cfm?volID=7&IssueID=22&ArticleID=113>
- Dunae, P. A. (2006). *The homeroom: Correspondence education*. Nanaimo, BC: Malaspina University. Retrieved from <http://www.mala.bc.ca/homeroom/content/topics/programs/corresp.htm>
- Easton, S. (2003). Clarifying the instructor's role in online distance learning. *Communication Education*, 52(2), 87–105.
- Elbaum, B., & Tinker, R. (1997). *A review of secondary netcourses and virtual schools*. Concord, MA: Concord Consortium. Retrieved from <http://archive.concord.org/publications/review.html>
- Espinoza, C., Dove, T., Zucker, A., & Kozma, R. (1999). *An evaluation of the Virtual High School after two years in operation*. Arlington, VA: SRI International. Retrieved from <http://ctl.sri.com/publications/downloads/evalvhs2yrs.pdf>

- Ferdig, R. E., Cavanaugh, C., DiPietro, M., Black, E. W., & Dawson, K. (2009) Virtual schooling standards and best practices for teacher education. *Journal of Technology and Teacher Education*, 17(4), 479-503.
- Flannery, M. E. (2010, March). *Identity crisis: Maybe “unionized charter school” is not a contradiction in terms*. Washington, DC: National Education Association. Retrieved from <http://www.nea.org/home/38152.htm>
- Friend, B., & Johnston, S. (2005). Florida Virtual School: A choice for all students. In Z. L. Berge & T. Clark (Eds.), *Virtual schools: Planning for success* (pp. 97-117). New York, NY: Teachers College Press.
- Glass, G., & Welner, K. (2011). *Online K-12 schooling in the U.S.: Uncertain private ventures in need of regulation*. Denver, CO: National Education Policy Center. Retrieved from <http://nepc.colorado.edu/publication/online-k-12schooling>
- Hawkey, C., & Kuehn, L. (2007). *The working conditions of BC teachers working in distributed learning: Investigating current issues, concerns, and practices*. Vancouver, BC: British Columbia Teachers’ Federation. Retrieved from http://bctf.ca/uploadedFiles/Publications/Research_reports/2007ei01.pdf
- Hannum, W. H., Irvin, M. J., Lei, P.-W., & Farmer, T. W. (2008). Effectiveness of using learner-centered principles on student retention in distance education courses in rural schools. *Distance Education*, 29(3), 211–229.
- Harms, C. M., Niederhauser, D. S., Davis, N. E., Roblyer, M. D. & Gilbert, S. B. (2006). Educating educators for virtual schooling: Communicating roles and responsibilities. *The Electronic Journal of Communication*, 16(1-2). Retrieved from <http://ctlt.iastate.edu/~tegivs/TEGIVS/publications/JP2007%20harms&niederhauser.pdf>
- Hetzner, A., & Walters, S. (2008, January 25). *Funding deal reached for virtual school*. *Milwaukee Wisconsin Journal Sentinel*. Retrieved from <http://www.jsonline.com/news/education/29592819.html>
- Hubbard, B., & Mitchell, N. (2011). *Online K-12 schools failing students but keeping tax dollars*. I-News Network. Retrieved from <http://www.inewsnetwork.org/special-reports/online-k-12-schools/>
- Innovation Ohio. (2011). *Ohio e-schools: Funding failure; coddling contributors*. Columbus, OH: Author. Retrieved from <http://innovationohio.org/wp-content/uploads/2011/05/IO.051211.eschools.pdf>
- International Association for K-12 Online Learning. (2007a). *National standards for quality online courses*. Vienna, VA: Authors. Retrieved from <http://www.inacol.org/resources/nationalstandards/NACOL%20Standards%20Quality%20Online%20Courses%202007.pdf>
- International Association for K-12 Online Learning. (2007b). *National standards for quality online teaching*. Vienna, VA: Authors. Retrieved from <http://www.inacol.org/resources/nationalstandards/NACOL%20Standards%20Quality%20Online%20Teaching.pdf>

- International Association for K-12 Online Learning. (2010). *Fast facts about online learning*. Vienna VA: Authors. Retrieved from http://www.inacol.org/press/docs/NACOL_fastfacts-lrOct2010.pdf
- International Council for K-12 Online Learning. (2011a). *National standards for quality online courses*. Vienna, VA: Authors. Retrieved from http://www.inacol.org/research/nationalstandards/iNACOL_CourseStandards_2011.pdf
- International Council for K-12 Online Learning. (2011b). *National standards for quality online teaching*. Vienna, VA: Authors. Retrieved from http://www.inacol.org/research/nationalstandards/iNACOL_TeachingStandardsv2.pdf
- Irvin, M. J., Hannum, W. H., Farmer, T. W., de la Varre, C., & Keane, J. (2009). Supporting online learning for Advanced Placement students in small rural schools: Conceptual foundations and intervention components of the Facilitator Preparation Program. *The Rural Educator*, 31(1), 29–36.
- Johnston, S. (2004). Teaching any time, any place, any pace. In C. Cavanaugh (Ed.), *Development and management of virtual schools: Issues and trends* (pp. 116-134). Hershey, PA: Idea Group, Inc.
- Kearsley, G., & Blomeyer, R. (2004), Preparing K-12 teachers to teach online. *Educational Technology*, 44(1), pp. 49-52. Retrieved from <http://home.sprynet.com/~gkearsley/TeachingOnline.htm>
- Keeler, C. G. (2003). *Developing and using an instrument to describe instructional design elements of high school online courses*. Unpublished dissertation, University of Oregon, Eugene, OR.
- Keeler, C. (2004). *Assessment in online environments: A cross-school description of secondary courses*. A paper presented at the annual meeting of the American Educational Research Association. San Diego, CA. Retrieved from <http://web.archive.org/web/20111029070619/http://coe.nevada.edu/ckeeler/Papers/AssessmentPresentation.ppt>
- Keeler, C. & Anderson-Inman, L. (2004a). *Instructional design elements of high school online courses: An instrument*. A paper presented at the annual meeting of the American Educational Research Association. San Diego, CA. Retrieved from <http://web.archive.org/web/20110720105222/http://coe.nevada.edu/ckeeler/Papers/InstrumentPaper.doc>
- Keeler, C. & Anderson-Inman, L. (2004b). *A cross-school description of instructional design and delivery elements of high school level online courses*. A paper presented at the annual meeting of the American Educational Research Association Annual Meeting. San Diego, CA. Retrieved from <http://web.archive.org/web/20110720105222/http://coe.nevada.edu/ckeeler/Papers/CrossSchoolsPaper.doc>
- Keeler, C. G., & Horney, M. A. (2007). Online course designs: Are special needs being met? *American Journal of Distance Education*, 21(2), 61–75.
- Kennedy, K., & Archambault, L. M. (2012). Offering pre-service teachers field experiences in K-12 online learning: A national survey of teacher education programs. *Journal of Teacher Education*, 63(3), 185–200.

- Kolowich, S. (2011, October 11). The lecturer's filibuster. *Inside Higher Ed*. Retrieved from http://www.insidehighered.com/news/2011/10/11/university_of_california_lecturers_union_says_it_can_block_online_programs
- Kozma, R., Zucker, A., & Espinoza, C. (1998). *An evaluation of the Virtual High School after one year in operation*. Arlington, VA: SRI International. Retrieved from <http://ctl.sri.com/publications/downloads/evalvhs1yr.pdf>
- Kozma, R., Zucker, A., Espinoza, C., McGhee, R., Yarnall, L., Zalles, D., et al. (2000). *The online course experience: Evaluation of the Virtual High School's third year of implementation, 1999-2000*. Arlington, VA: SRI International. Retrieved from http://ctl.sri.com/publications/downloads/VHS_Online_Experience.pdf
- Kuehn, L. (2002). *Developments with distributed learning*. Vancouver, BC: British Columbia Teachers' Federation. Retrieved from http://bctf.ca/uploadedfiles/publications/research_reports/2002ei03.pdf
- Kuehn, L. (2003). *Distributed learning in B.C., 2002-03*. Vancouver, BC: British Columbia Teachers' Federation. Retrieved from http://bctf.ca/uploadedfiles/publications/research_reports/2003ei02.pdf
- Kuehn, L. (2004). *Online education is not the same as home schooling*. Vancouver, BC: British Columbia Teachers' Federation. Retrieved from <http://www.bctf.ca/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=8430>
- Kuehn, L. (2006). *Distributed learning in British Columbia schools 2006 -07*. Vancouver, BC: British Columbia Teachers' Federation. Retrieved from http://bctf.ca/uploadedFiles/Publications/Research_reports/2006ei01.pdf
- Kuehn, L. (2010). *Distributed learning 2010 survey: DL working conditions*. Vancouver, BC: British Columbia Teachers' Federation. Retrieved from <http://bctf.ca/uploadedFiles/Public/Issues/Technology/DL-WorkingConditionsOct2010.pdf>
- Layton, L., & Brown, E. (2011, November 26). Virtual schools are multiplying, but some question their educational value. *Washington Post*. Retrieved from http://www.washingtonpost.com/local/education/virtual-schools-are-multiplying-but-some-question-their-educational-value/2011/11/22/gIQANUzkzN_story.html
- Lazich, M. (2008). *Saving our virtual schools*. Madison, WI: Government of Wisconsin. Retrieved from <http://legis.wisconsin.gov/senate/lazich/Pages/pa-show.aspx?id=Saving+Our+Virtual+Schools>
- McChesney, R. (1999). *Rich media, poor democracy*. New York: The New Press.
- McRae, P., & Varnhagen, S. (2008). *A study of teachers' workload in distributed learning environments: Flexibility, accessibility & permeable boundaries*. Edmonton, AB: Alberta Distributed Education and Technology Association. Retrieved from <http://www.adeta.org/files/file/ATADLStudyExecSummaryOctober2008.pdf>
- Moe, T., & Chubb, J. (2009). *Liberating learning: Technology, politics and the future of American Education*. San Francisco, CA: Jossey-Bass.

- Murphy, E. (2010). Online synchronous communication in the second-language classroom. *Canadian Journal of Learning and Technology*, 35(3). Retrieved from <http://www.cjlt.ca/index.php/cjlt/article/view/539>
- Murphy, E., & Coffin, G. (2003). Synchronous communication in a web-based senior high school course: Maximizing affordances and minimizing constraints of the tool. *American Journal of Distance Education*, 17(4), 235-246.
- Murphy, E., & Rodríguez-Manzanares, M. (2009a). Learner-centredness in high-school distance learning: Teachers' perspectives and research-validated principles. *Australasian Journal of Educational Technology*, 25(5), 597-610. Retrieved from <http://www.ascilite.org.au/ajet/ajet25/murphy.html>
- Murphy, E., & Rodríguez-Manzanares, M. (2009b). Teachers' perspectives on motivation in high-school distance education. *Journal of Distance Education*, 23(3), 1-24. Retrieved from <http://www.jofde.ca/index.php/jde/article/view/602>
- Murphy, E., & Rodríguez-Manzanares, M. (2009c). Sage without a stage: A cultural historical activity theory perspective on e-teaching in web-based, high-school classrooms. *International Review of Research in Open and Distance Learning*, 10(3). Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/579/1300>
- Murphy, E., Rodríguez-Manzanares, M., & Barbour, M. K. (2011). Asynchronous and synchronous online teaching: Perspectives of Canadian high school distance education teachers. *British Journal of Educational Technology*, 42(4), 583–591.
- National Education Association. (2006). *Guide to teaching online courses*. Washington, DC: Author. Retrieved from <http://www.nea.org/assets/docs/onlineteachguide.pdf>
- National Education Association. (2002-2013). *NEA on distance education*. Washington, DC: Author. Retrieved from <http://www.nea.org/home/34765.htm>
- National Education Association. (2011). *An NEA policy brief: Blended learning*. Washington, DC: Author. Retrieved from <http://www.nea.org/assets/docs/PB36blendedlearning2011.pdf>
- New Zealand Post Primary Teachers' Association. (2005). *PPTA submission on the draft (e)Learning framework for the schools sector*. Wellington, NZ: Author.
- New Zealand Post Primary Teachers' Association. (2009). *ICT task force: Connected secondary schools*. Wellington, NZ: Author.
- Newfoundland Labrador Department of Education. (2002, December 18). *Department of Education, NLTA sign memorandum of understanding*. St. John's, NL: Author. Retrieved from <http://www.releases.gov.nl.ca/releases/2002/edu/1218n02.htm>
- Newfoundland and Labrador Teacher's Association. (2011). *Biennial report 2009 – 11*. St. John's, NL: Author. Retrieved from http://www.nlta.nl.ca/files/documents/ann_rprts/2011biennialrprt.pdf
- Nippard, E., & Murphy, E. (2007). Social presence in the web-based synchronous secondary classroom. *Canadian Journal of Learning and Technology*, 33(1). Retrieved from <http://www.cjlt.ca/content/vol33.1/nippard.html>

- Nova Scotia Minister of Education & The Nova Scotia Teachers Union. (2010). *Provincial contract agreement*. Halifax, NS: Authors. Retrieved from <http://nstu.ca/images/pklot/TPA%202010-2012.pdf>
- O'Hare, N., Froese-Germain, B., & Lane-De Baie, S. (2003). *Virtual education, real educators*. Ottawa, ON: Canadian Teachers' Federation.
- Ontario Secondary School Teachers' Federation. (2012-13). *OSSTF Policy Statements*. Toronto, ON: Author. Retrieved from <http://www.osstf.on.ca/adx/asp/adxGetMedia.aspx?DocID=603,534,442,365,Documents&MediaID=1719&Filename=policystatements-en.pdf>
- Pennsylvania Learners Online Regional Charter School (PALO) & PALO Education Association. (2010). *Collective bargaining agreement*. Homestead, PA: Authors.
- Peterson, P. (2010). *Saving schools: From Horace Mann to virtual learning*. Cambridge, MA: Belknap Press of Harvard University Press.
- Ramsey, C., & McCaughey, M. (2012). Copyright for academics in the digital age. *Academe*, 98(5), 10-17.
- Ravitch, D. (2010). *The Death and life of the great American school system: How testing and choice are undermining education*. New York, NY: Perseus Books Group.
- Rice, K. (2011). *Making the move to K-12 online teaching: Research-based strategies and practices*. Boston: Pearson.
- Rice, K., & Dawley, L. (2007). Going Virtual: The status of professional development of K-12 online teachers. Boise ID: Boise State University. Retrieved from <http://edtech.boisestate.edu/goingvirtual/goingvirtual1.pdf>
- Roblyer, M. D., Freeman, J., Stabler, M., & Schniedmiller, J. (2007). *External evaluation of the Alabama ACCESS initiative phase 3 report*. Eugene, OR: International Society for Technology in Education.
- Rogers, A. (2011, November 30). The California teachers union is close to banning online courses at state schools. *Business Insider*. Retrieved from <http://www.businessinsider.com/teachers-union-blocks-a-move-toward-modernization-2011-11>
- Ryman, A., & Kossan, P. (2011). The race to online: Arizona experiments with virtual K-12 schools. Will they work for your child? *Arizona Republic*. Retrieved from <http://www.azcentral.com/news/education/online-school/>
- Sand, L. (2011). Disrupting class. *City Journal*, 23(1). Retrieved from <http://city-journal.org/2011/cjc1114ls.html>
- Sawchuck, S. (2011, December 5). Minneapolis union will help authorize charter schools. *Education Week*. Retrieved from http://blogs.edweek.org/edweek/teacherbeat/2011/12/minneapolis_union_will_authori.html
- Shortall, B., & Greene-Fraize, N. (2007). *Education and our future: A road map to innovation and excellence*. St. John's, NL: Queen's Printing for Newfoundland and Labrador. Retrieved on from <http://www.ed.gov.nl.ca/edu/pub/TACReport.pdf>

- Smith, R. D. (2009). Virtual voices: Online teachers' perceptions of online teaching standards. *Journal of Technology and Teacher Education*, 17(4), 547-571.
- Sparkes, R., & Williams, L. (2000). *Supporting learning: ministerial panel on educational delivery in the classroom*. St. John's, Newfoundland and Labrador: Queen's Printer.
- Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2011). *Keeping pace with K-12 online learning: An annual review of policy and practice*. Evergreen, CO: Evergreen Educational Consulting. Retrieved from <http://kpk12.com/cms/wpcontent/uploads/KeepingPace2011.pdf>
- Wicks, M. (2010). *A national primer on K-12 online learning, version 2*. Vienna, VA: International Association for K-12 Online Learning. Retrieved from <http://www.inacol.org/research/bookstore/detail.php?id=22>
- Wisconsin Education Association Council. (2004). *WEAC challenges legality of "virtual" charter school*. Madison, WI: Author. Retrieved from http://www.weac.org/news_and_publications/education_news/2003-2004/wiva.aspx
- Wood, C. (2005). Highschool.com: The virtual classroom redefines education. *Edutopia*, 1(4), 31-44. Retrieved from <http://www.edutopia.org/high-school-dot-com>
- Zwaagstra, M., Clifton, R., & Long, J. (2007). *Getting the fox out of the Schoolhouse: How the public can take back public education*. Halifax, NS: Atlantic Institute for Market Studies. Retrieved from <http://www.aims.ca/site/media/aims/TakeBack.pdf>
- Zucker, A., & Kozma, R. (2003). *The Virtual High School: Teaching generation V*. New York: Teachers College Press.