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The "Voracious Appetite" of Online Learning

The greatest change in education during the first decade of the 21st century has been the expansion of online learning, as suggested in the title of a U.S. research report on its "voracious appetite".

Post-secondary education is furthest down the road of online learning. Ontario reports that 15% of its tertiary students are in distance education programs. Reports from the U.S. indicate that a third of students in higher education are taking at least one course by distance education.

A generation ago, getting a graduate degree required an extended period of on-campus courses. Now, particularly for programs in education and business faculties, it is common to take online masters programs.

Tony Bates, a professor emeritus at the University of British Columbia, has asked whether online learning will become the "food bank of education."

Bates isn't an opponent of online education. In fact, he has played an important role in the development of both programs and tools for this kind of education at the university level and believes that quality online education is possible, and even desirable.

The food bank analogy comes from concern that online programs won't get the resources needed for quality and that a cheap and inadequate version will become the only choice for students who cannot afford a higher quality education. It will become the "leftovers" of education for the marginalized, rather than an appropriate quality choice.

Dramatic expansion is taking place in the elementary and secondary schools — just a few years later than post-secondary. All the signs are that online learning will grow rapidly, particularly in an era of economic turmoil and a mistaken austerity response from governments of cutting education expenditures.

The development of online learning in K-12 is uneven in both the U.S. and Canada.

In some states, all secondary students are being required to take at least one course online to graduate, while other states have no programs of their own. The promoters of virtual K-12 schools in the U.S. are largely advocates for privatization and are anti-union. Jeb Bush (yes, the brother of George) is crusading against public schools and promoting online programs. Most of the virtual schools are non-unionized charter schools, with public funding going to schools run by for-profit companies.

The variation between provinces in Canada is also substantial, both in numbers of programs and student enrolment as well as in approach to administering and offering courses [see sidebar on Ontario, Alberta and British Columbia].

The British Columbia ministry of education reported that some 70,000 students (out of approximately 600,000 in the province) in K-12 took at least one course by Distributed Learning (DL) in 2010-11. One estimate of the total number of students in Canada in online programs for that school year was about 150,000, meaning nearly half of online students in the country were in the BC schools.

On a full-time-equivalent basis, about 2% of K-12 students were funded for DL in the public schools in BC. In BC's publicly-funded private schools, about 7% of students are in DL programs. Particularly in the private schools, DL is really a home school option. Parents putting children in private online education can use religious materials, which they cannot in a public school DL program.

Blended learning

One variation of online learning is described as "blended learning" or sometimes as "hybrid learning." It uses online tools and resources, but generally within a school setting. Ontario is carrying out a blended learning pilot.

Distributed Learning programs have the learners physically in a different place from the teacher. In contrast, blended programs have the students working online but attending in a common physical space, although not necessarily all the time. At least one approach to blending has the students connected through a Learning Management System (such as Moodle) linked to the internet. This allows students to submit work from anyplace — in the classroom, the school library, home, or out in the community where they have access to wireless or a smartphone.

The hope that fuels the blended approach is that it will capture the strongest aspects of online learning with the strengths of having students and teachers working together on a face-to-face basis. Some early research shows that unlike online learning alone, results are just as strong for blended programs as face-to-face and sometimes better.

Key issues from the research

Not a lot of research has been done in Canada on online elementary and secondary schooling. Any long term research is nearly impossible because of the rapid change in the area. Ministry policies in BC, for example, change from year to year, often responding to problems that pop up in the face of what is really a big experiment.

Another impediment to useful research is the problem of scale. Most of the online programs in K-12 are still relatively small. Programs that are successful on that basis may not provide the same results if they are expanded substantially. Large-scale expansion is often driven by financial, not educational objectives. Conditions for both students and teachers deteriorate, thus making invalid the research based on smaller, better funded programs.

Canada's federal system with provincial autonomy results in very different approaches being taken in different provinces. While some provinces have centralized policies and systems, oth-

Online learning glossary

Virtual school, online education, elearning--generally these are programs or courses offered through computer-based communications, often using the web.

Distance education--courses offered at a distance. This has been a common form of education offered for decades, mostly as correspondence courses through the mail, sometimes with teacher-student contact by phone or by video conference.

Distributed learning--a broad term that can include any learning where the teacher and the student are not at the same place, either online or other forms of communication.

Blended or hybrid programs--programs that include both face-to-face work by a student and teacher and the student doing part of a course through online learning. This may all happen in a classroom or some in a classroom and some of it at a distance.

ers have such variety within the province that it would take case studies to even describe practices, let alone results.

The National Education Policy Center (NEPC) in the U.S. has issued a report called "Online K-12 Schooling in the U.S.: Uncertain Private Ventures in Need of Public Regulation.", a survey by Gene Glass and Kevin Welner.

Some of the issues are quite different from those in Canada — at least for now. Canadian programs are still in the public system, with the exception of BC, which provides public funding for private schools that offer Distributed Learning programs. Those BC schools, however, must be non-profit institutions and most are run by religious organizations — including Catholic, Evangelical Christian, Sikh and Muslim.

In contrast, most of the online programs in the U.S. are run by private, for-profit companies, often as Virtual Charter Schools that are fully funded by the public, but without the same controls and requirements of the public schools. A *Wall Street Journal* article headlined "My teacher is an app" reports that "the companies hire teachers, provide curriculum, monitor student performance — and lobby to expand online public (sic) education."

The NEPC Glass and Welner report reviewed the limited research carried out in the U.S. on the "Effectiveness of Virtual

K-12 Education." Most of what they found was about part-time courses in science, math or technical courses. They conclude that:

> There exists no evidence from research that full-time virtual schooling at the K-12 level is an adequate replacement for traditional face-to-face teaching and learning. Yet to date, this lack of support appears to have exerted little or no influence on the proliferation of virtual K-12 schools. While existing research does not document harm, this evidentiary void raises cautions that should favor pilot programs and careful evaluations rather than large-scale expansion of the sector. (Glass and Welner, p. 6)

A similar lack of research on effectiveness in K-12 exists in Canada. One measure would be how many students complete the online course they are taking. In British Columbia, in response to a Freedom of Information request by the BC Teachers' Federation on how many of the 70,000 students funded for Distributed Learning completed their courses, the Ministry of Education said it did not have that information.

If the funding is less, then either the quality suffers or the teachers subsidize the program through deteriorating working conditions.

Glass and Welner noted instances of virtual schools essentially outsourcing instruction, in some cases because it is really home schooling and the parent is serving as teacher or, as in one case in Arizona, where the instruction was being given by low-paid workers in India.

The NECP report also addresses the issue of expenditures for K-12 Virtual Schooling. Policymakers see virtual schools as a way of reducing expenditures. It quotes one study that says that "on average, public virtual schools receive approximately 30% less funding than traditional schools."

Level of funding is an issue in Canada as well. Where virtual programs are integrated with the regular programs, as in Ontario, students bring the same funding. In B.C., however, where each district has a separate virtual school, students in the online programs bring $1,000 less per full time equivalent student. Those who work in the field believe that it should cost as much to provide a quality virtual education as it does one in a

face-to-face program. If the funding is less, then either the quality suffers or the teachers subsidize the program through deteriorating working conditions.

Glass and Welner identify "authenticity of student work" as one of the problematic issues in online schools. How does the teacher or administrator know that the student who signed up for the course actually did the work for the course? They report a situation where graduation rates at one school jumped from 46% to 64% over a two year period. An investigation concluded that during exams smartphones were being logged in to www.answers.com, www.calulateme.com, and www.myalgebra.com. Some charter schools were using the services of private companies like Kaplan and Pearson, who run their own online programs, to proctor exams.

The working conditions of teachers in online programs

The *Wall Street Journal* says that online education should reduce the need for teachers. Their rationale: "A teacher in a traditional high school might handle 150 students. An online teacher can supervise more than 250, since he or she doesn't have to write lesson plans and most grading is done by computer."

That may be a description of the work of teachers in the corporate run, non-union virtual charter schools in the U.S., but it is not the reality reported by teachers in Canadian public school online programs.

The unions that represent teachers in two provinces with significant numbers of students in online programs, Alberta and British Columbia, have done surveys of working conditions of teachers in these programs. The survey results reported by the Alberta Teachers Association were similar to those in BC and included these:

- Respondents were most satisfied with the professional autonomy found in DL environments and least satisfied with the large number of students they are expected to teach and the concomitant increased workload.
- People not involved in DL — including other teachers and administrators — and DL students themselves tend to regard DL as second-class education that lacks the rigour of regular classroom instruction.
- Many respondents reported that establishing bound-

aries between their professional and their personal lives is more difficult for them than for traditional classroom teachers. The absence of set hours and structures creates the expectation that DL teachers will teach more students, develop their own course content and keep their courses up to date.

- Funding doesn't take into account that students may register any time during the year, the low completion rate of DL students, and the fairly high number of home-schooled and special needs students using DL.
- Even though DL teaching differs significantly from traditional classroom methods, undergraduate teacher education programs currently offer limited preparation for teachers interested in DL instruction.
- DL teachers have relatively few opportunities for professional development in DL.
- DL students are increasingly diverse with respect to digital literacy, English skills, and academic, social, medical and emotional needs.

It's not for everyone

If there is one thing that most people who have taught online learning programs can agree on, it would be that online learning is not for every student. Autonomous, motivated learners with good reading skills are the ones most likely to succeed in online learning. Of course, they are most likely to succeed in any form of learning.

Approaches to offering Distributed Learning or online learning: a comparison of British Columbia, Ontario and Alberta

BRITISH COLUMBIA

The ministry created a system of competition among districts for students. A student can register in any program with no requirement for parent or school approval. Funding follows the student on a per course basis.

Each school district creates its own Distributed Learning School under a contract with the Ministry that identifies some requirements. Students can register for a course or full program in any school district offering a program. Access to signing up for a course or program is through an online registration system run by a non-governmental society.

Each district chooses or creates its own program--materials and learning resources, professional development (of which there is very little) and Learning Management System.

A provincial Open School offers curriculum and access to a Learning Management System, all on a cost recovery basis. It does not offer courses.

Accountability is almost exclusively through a financial audit process. An extensive amount of teacher time is spent on providing documentation of all contacts with students for the financial audit.

Funding for a DL students is $1000 less than for a student in a face-to-face program.

Students can take programs or courses from private (independent) schools which receive public funding to 50% of the amount of the provincial grant to the public schools in the district where the private school is located. Students from public schools can take DL courses offered by the private schools and have them count for credit on their public school transcript.

Provincial program quality standards have been developed. A quality audit based on the standards is optional and following any recommendations is optional as well. Initial government policy was that quality would be determined by the market as students chose

courses. Students do shop around looking for an easy program. No professional development on online education is offered by the province or by most school districts.

ONTARIO
Online programs are offered by school districts which can opt to offer them or not. They are intended for students in the district. Only if there are extra places in a course that is not full are districts allowed to register a student from another district.

School districts can opt in to using a provincial resources bank of teacher developed materials geared to the Ontario curriculum. They can also opt in to using a provincial Learning Management System.

Online students are funded on the same basis as students who are only in face-to-face programs.

The provincial ministry provides face-to-face professional development for staff of school boards participating in the provincial e-learning strategy. The province also offers webinars for professional development.

ALBERTA
Separate programs were created by school districts initially. Following from a distributed learning strategy adopted in 2008, it has moved to a centralized provincial plan the ministry says includes:

- Common pedagogical and technological standards
- Coordinated professional development for teachers and administrators.
- Centralized and coordinated content access, use and development.
- Student and teacher access to technology and technology support.

These elements are provided through the Alberta Distance Learning Centre with delivery of programs in five regions. However, the Calgary Board of Education is offering programs beyond their district which may introduce more competition to the system.

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ENDNOTES

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