

## Agenda

### Targeting Technology for Maximum Student Benefit

*presented by the  
SFU Faculty of Education  
Centre for the Study of Educational Leadership and Policy*

*Add Wireless access information*

*Add “Twitter conference hashtag: #bcedsfu”*

- 8:00 Coffee
- 8:30 Welcome and Introductions: Robin Brayne
- 9:00 Keynote: Chris Kennedy
- 10:00 Table Discussion and Generation of Panel Questions
- 10:20 Coffee
- 10:40 Keynote: Brian Kuhn
- 11:40 Table Discussion and Generation of Panel Questions
- 12:00 Lunch
- 1:00 Keynote: Kris Magnusson
- 2:00 Table Discussion and Generation of Panel Questions
- 2:20 Panel Discussion: Bruce Beairsto
- 3:00 Closing Comments: Dan Laitsch
- 3:15 Adjourn



CENTRE FOR THE STUDY OF  
EDUCATIONAL LEADERSHIP  
AND POLICY (CSELP)

## Contact Information for Speakers

*Perhaps add pictures?*

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## **Why do we want to increase and improve the use of technology in education?**

There is a perception across the Western world that students will not be adequately prepared for the future if we simply continue to do what has been successful in the past. This is not because standards are falling—they are not—but because the world is changing so rapidly.

There are two parts to the concern. First, those who have traditionally been successful in the school system need to be better prepared to face the future. Second, we cannot continue to fail those who have not traditionally been successful in the school system.

The definition of this problem originates with a study prepared for the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1996. *Learning: The Treasure Within*, commonly known as the Delors Report, concluded that the complex issues facing the world at the end of the second millennium required students to be not only proficient in the traditional academic curriculum but to also have the personal skills needed to thrive in a world of diversity, dilemma and disruption. They called the desired educational outcomes in terms of four “pillars”—learning to be, learning to know, learning to do and learning to live together.

These became known as “21<sup>st</sup> Century Skills” and since then that label has been used to describe a great number of specific sets of learning outcomes that share the same general characteristics. Broadly speaking, it means augmenting the traditional 3Rs with greater attention to outcomes such as critical thinking, creativity, communications, collaboration and global citizenship. These skills and attitudes are included in the Mandate for the School System (OIC 1280/89), which was written in 1989 in response to the 1998 report of the Sullivan Royal Commission on Education, but now it is intended to give them greater prominence in the school curriculum.

Although there are many specific versions of 21<sup>st</sup> Century Skills around the world, they all have the same basic nature and purpose—to enhance education outcomes by augmenting academic knowledge with personal skills and habits of mind that will better prepare students, and ensuring that all students receive this benefit by providing greater support for those who have traditionally not found schools to meet their needs.

These broader and higher standards will require increased levels of student engagement. Diligence is not sufficient for the transformational ideals of 21<sup>st</sup> Century Learning. Students must be genuinely committed to their learning, and must take greater personal responsibility for it.

In order to increase student engagement, educators are seeking ways to “personalize” learning so that students understand its relevance to them and can, in age appropriate ways, formulate and answer their own questions through the curriculum. Choice is one strategy for creating Personalized Learning, but more fundamental changes in educational practice are also required.

Technology can play a significant role in personalizing learning, but it is important to understand that technology is neither the reason for nor the solution to this issue. It is simply a tool that can be used well or poorly. The question, therefore, is: How should teaching and learning change to deepen students’ engagement so that they will achieve the enriched goals of 21<sup>st</sup> Century Learning, and how can technology help us to make the changes?

## What is the BC Education Plan and how does technology fit into it?

The recently released BC Education Plan is our province's version of the vision of personalizing learning to achieve 21<sup>st</sup> Century Learning goals. In releasing the plan, the Ministry has described it as a compass rather than a map—in other words, it is a work in progress—and has invited all stakeholders to participate in a dialogue to determine how the goals that it describes can best be achieved.

The BC Education Plan can be found at <http://www.bcedplan.ca/>.

The challenge which it addresses is:

*Most people agree that British Columbia's education system is a good one. Teachers are skilled, facilities are sound and students succeed. Yet an education system designed in the very different circumstances of an earlier century can't possibly always meet the challenges students face – both now and in the future.*

The opportunity it foresees is:

*We need to build on the many strengths of our existing education system while modernizing education so it can adapt and respond to students' needs. And we need to involve British Columbians more directly in discussions and decisions about education.*

*Working with our education partners, and in consultation with the public, we will get from good to great as we bring personalized learning into classrooms. And we invite all British Columbians to get involved in this exciting transformation.*

The five key elements of the plan are:

- 1) Personalized learning for every student*
- 2) Quality teaching and learning*
- 3) Flexibility and choice*
- 4) High standards*
- 5) Learning empowered by technology*

It is the fifth element—using technology to improve learning—that is the focus of this conference. The Plan describes its intentions for technology as follows.

*BC's Education Plan will encourage smart use of technology in schools, better preparing students to thrive in an increasingly digital world. Students will have more opportunity to develop the competencies needed to use current and emerging technologies effectively, both in school and in life. Educators will be given the supports needed to use technology to empower the learning process, and to connect with each other, parents, and communities. Schools will have increased Internet connectivity to support learners and educators.*

## **What is the focus question for this conference?**

Much of modern life is being transformed by technology. In education it can enable more 'personalized' learning that responds to the unique interests and abilities of students, thus improving student engagement and outcomes.

Technology consumes scarce resources of time, attention and funding. Therefore, it is important that it is used in ways that are most effective in enhancing achievement of priority learning goals.

### *Our Strategy for Discussion*

To provoke thinking about how and with whom technology can best be used to improve learning, our morning speakers have been asked to respond to the following artificially constrained scenario.

*Imagine that you have a budget to support the educational use of technology in a school district that has previously constructed all the necessary technical infrastructure but has not yet introduced a plan for the use of technology to support learning. Your budget is one-third of what you would ideally require to do all that you feel would be effective given the rate at which staff and students can learn to effectively employ technology.*

*Provide a way of thinking about the broad array of potential uses of technology in education including a conceptual overview of the options that you believe have been shown to be most important for improving student outcomes through 'personalizing' their learning in ways suggested by the BC Education Plan.*

*Describe how you would use the resources at your disposal over a 5 year period to initiate technology use in a way that would maximize both immediate and eventual benefit for students in a sustainable and generative fashion. Include a rationale for what you choose to do and to defer.*

In any particular district, technology implementation must consider a wide range of local factors within the school system and its community in addition to the theoretical issues that are the focus of this scenario. Examples would include the prior history of experience in the district, the knowledge and skills of the staff, the current inventory of hardware and software, the state of the district network and the budget. However, our scenario intentionally ignores those considerations in order to allow us to focus our attention on the ideal goals and strategies that can provide a vision that is relevant across the province. Local strengths and constraints can then be considered in light of this vision.

One significant issue that the province, and each district individually, must address is the need to provide the necessary infrastructure to support the effective use of technology by teachers and students. While this important technical issue will not be addressed at this conference, some introductory remarks are provided on the next page.

## **What is the essential infrastructure for Technology?**

Traditionally "technology" has meant desktop and laptop computers. In recent years it has evolved to include digital mobile devices such as handhelds, smartphones and tablets

Computers and digital mobile devices have very limited value for education as standalone devices. A robust network infrastructure is essential to creating high value for teaching and learning. Infrastructure may be thought of as the proverbial three-legged stool – the network, technical support and professional learning

### *The Network*

The BC Ministry of Education supplies a wide area network (WAN) to connect schools and Districts together and to the Internet. The WAN brings internet service to the building but an internal network must be provided to connect individual devices within the building.

There are two methods of connecting to the WAN: wired and wireless. A wired connection is required for desktop computers, peripherals, and network equipment and optional for laptops. Wireless connections are, however, preferred for laptops and necessary for mobile devices. These are available through WiFi and 3G/4G. A WiFi network is operated by the district within a building. A 3G/4G network is a for-fee service from a cell phone company that allows connection to the network from anywhere but incurs an additional cost.

The network also includes file and printer servers, document and file storage and backup, and the required systems software to operate, monitor, protect, and maintain the infrastructure.

### *Technical Support*

Computers, digital devices, the software they run and the network they use all require technical support. When technology fails, educators and students face frustration and lost learning opportunities. Having a sufficient number of trained technical people available to install, maintain, and repair computers, mobile devices, printers, software, and the network in a timely fashion, is essential to the success of educational technology.

### *Professional Learning*

Hardware, software and networks don't teach – people teach, and teaching in a way that utilizes the potential of technology to enrich and personalize learning requires both mastery of the tools and changes to basic pedagogy. Without ongoing support for professional learning, investment in computers, peripherals, mobile devices, the network and technical support is largely wasted.

Capital and operational costs of the required infrastructure are a significant part of the overall budget for educational technology. Once the core inventory of computers, peripherals, mobile devices and networking has been established in a district, approximately one-third of the overall technology budget will be required to sustain hardware and software, one-third for networking and technical support and one-third for professional learning. You can't go wrong investing in better infrastructure, but you can easily go wrong if you don't.

Two-sided page for participants to take notes on Chris' presentation to be inserted

Two-sided page for participants to take notes on Brian's presentation to be inserted

Two-sided page for participants to take notes on Kris' presentation to be inserted

Response form to be inserted (for participants to tear off and return at end of conference)

===End of Agenda Package===

**Additional Materials to be Prepared**

- *Table question submission form for each round of table discussions*
- *Information page or booklet about CSELP*