



MyEducation BC and Information Policy issues

1. The promise of “big data”

“Big data will revolutionize learning” — Mark Van Rijmenam

The overall goal of big data within the educational system should be to improve student results. Currently, the answers to assignments and exams are the only measurements on the performance of students. During his or her student life, however, every student generates a unique data trail. This data trail can be analysed in real-time to deliver an optimal learning environment for the student as well as to gain a better understanding in the individual behavior of the student.

It is possible to monitor every action of the students. How long they take to answer a question, which sources they use, which questions they skipped, how much research was done, what the relation is to other questions answered, which tips work best for which student, etc. Answers to questions can be checked instantly and automatically (except for essays perhaps) give instant feedback to students.

“Data is the new oil” — Audrey Watters, Edtech critic

What does it mean if we view students (and their data) as a resource to be mined and extracted? What’s gained? What’s lost? What’s depleted? Who profits? Who benefits?

“The criminality of privacy” — *The Circle*. Dave Eggers’ novel is a “1984” for the 21st Century

We can store all this information in the nearly microscopic chip...it provides both locational tracking and education tracking? What if it’s all in one place?...For participating families, they’ll have constant and real-time access to everything—location, scores, attendance, everything. And it won’t be in some handheld device, which the kid might lose. It’ll be in the cloud, and in the child him- or herself, [a chip under the skin], never to be lost.

What are the conceptions of learning and education that are implicit in the promise of big data as described here?

How much data should we collect, store, link, search, and mine electronically in education?

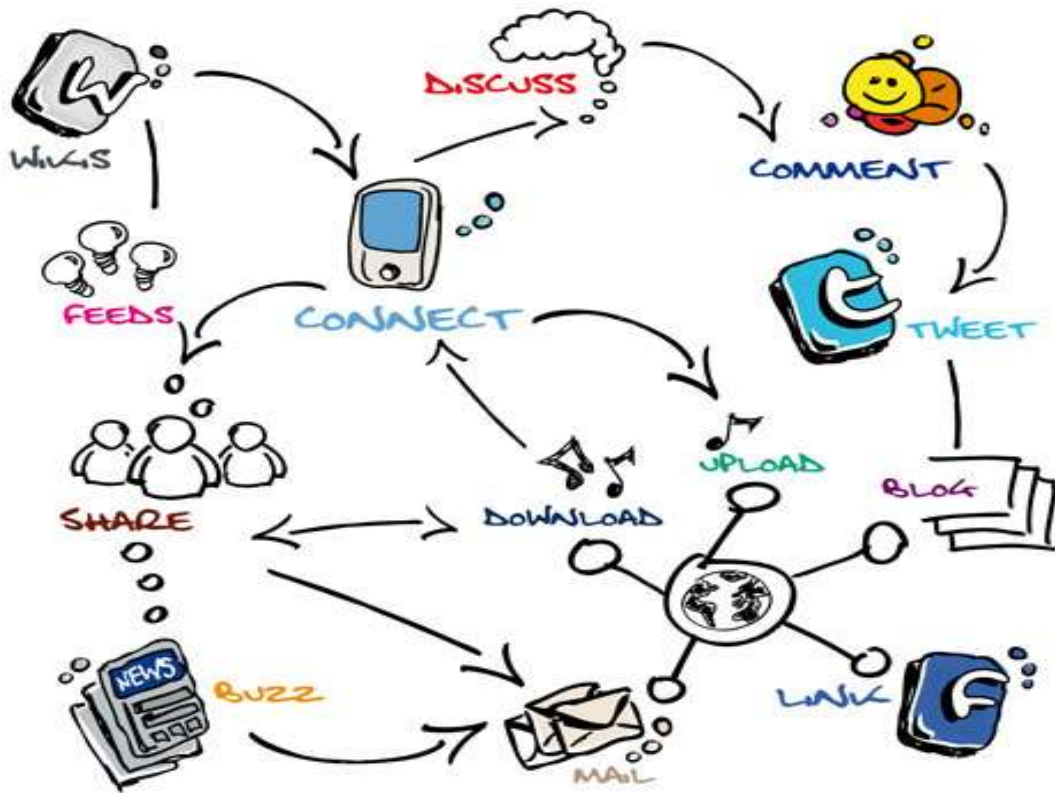
Some technology-promoters are consciously seeking to use big data for what they see as “creative destruction” of the existing systems. What conceptions and values are implicit in this perspective?

2. MyEducation BC as a BC education “cloud”

This is a slide from a Ministry of Education Powerpoint presentation about MyEducation BC called “MyEducation BC Top Ten Strengths.” Although it doesn’t name this as a cloud, that is what it would be—a physical place where all these kinds of data would be stored and accessed through MyEducation BC.

In a Ministry description of “MyEducation BC Functionality,” this cloud is described as “School/Teacher/Class/Group Pages”. It anticipates “Content Management and Distribution” and “Document Sharing and Collaboration.” In another document, a “Technology Transformation Plan” calls for “creating a teacher-led online community of practice where teachers can come to discuss solutions for classroom challenges, work together, evaluate successful learning tools, or find other professional support.”

This vision of MyEducation BC runs up against many challenges that flow from a centralized system that has teachers, parents, and students competing for access and processing and storage of data resources. If the access and data storage cannot even handle basics like attendance and reporting, adding more demands will further overload the system. Also, a single central database will be much harder and more expensive to develop further to take advantage of computing innovations. A single database for all education work also substantially increases the potential for use for purposes of surveillance of students and teachers.



What are the implications? Who “owns” the data put here by students and teachers? Who has access to how much of this big data? What data mining might be carried out and by whom? What are privacy considerations? How many resources would be required to provide this cloud for 600,000 students, 60,000 teachers and other school staff, 1 million-plus parents?

3. “Grooming students for a lifetime of surveillance” by Jessy Irwin [<http://modelviewculture.com/authors/jessy-irwin>]

A critical look at what happens in schools is not complete if it looks only at the explicit objectives and the formal curriculum. A deeper look will find there is, as well, a “hidden curriculum.” This consists of the organization and practices of the classroom and school that teach implicit messages about what is appropriate or inappropriate, what is implicitly valued versus the stated values.

Langdon Winner claims that “a social order is structured into the design of technology.”

Jessy Irwin describes values that students may be taught through an increasingly intensive of digitized recording of students:

Since 2011, billions of dollars of venture capital investment have poured into public education through private, for-profit technologies that promise to revolutionize education. Designed for the “21st century” classroom, these tools promise to remedy the many, many societal ills facing public education with artificial intelligence, machine learning, data mining, and other technological advancements.

They are also being used to track and record every move students make in the classroom, grooming students for a lifetime of surveillance and turning education into one of the most data-intensive industries on the face of the earth. The NSA has nothing on the monitoring tools that education technologists have developed in to “personalize” and “adapt” learning for students in public school districts across the United States....

By watching every move that students make while learning, we model to students that we do not trust them— that ultimately, their every move will be under scrutiny from others. When students recognize that they are being watched, they begin to act differently— and from that very moment they begin to cede one small bit of freedom at a time....

What would an analysis of the structure and content of MyEducation BC tell us about the “hidden curriculum” that is built into it—for both students and teachers, as well as for the expectations of parents?

Are questions and issues about how education is shaped by technology, the way that tools shape the task, being built into the implementation of MyEducation BC?

In particular, when decisions are made about what fields and sections of MyEd BC are to be used in the district and school, are these questions of hidden or unexpected consequences first examined? How can consideration of the hidden curriculum become a part of the process of implementation?

4. MyEducation BC—More than one million people with access

The plan for MyEducation BC calls for more than one million people to have access to portions of the database. Don't believe it? Think of how many people are in each of the roles that would have access to some or all of the database:

- School administrators—4,000
- School clerical staff and special needs support—10,000
- Counsellors—600
- Teachers—38,000
- Students, Grades 6 to 12—350,000
- Parents/guardians—1,000,000
- Independent school teachers, students, and parents/guardians (unknown)
- First Nations on-reserve schools teachers, students, and parents/guardians (unknown)
- Ministry staff (unknown)
- Researchers/data miners working on linking the data with other government databases
- Academic researchers

What are the implications for providing usernames, authentication of users, training and help for users, number of users who can be on at the same time, storing the amount of data?

As part of Government 2.0, the BC government plans to have all British Columbians have a single “Service Card” that will be the authentication and link for personal information in all government databases. Bill 11 provided the authorization for sharing education data on students from MyEducation BC with other agencies for purposes of research.

What might be privacy issues?

Oops! What could possibly go wrong? Part of a MyEducation BC message to users sent on August 27, 2014:

Dear schools, we have accidentally reset all passwords in MyEdBC. We apologize for this error. Please advise all of your users of this change....users should use the “forgot password” feature to reset their passwords.

5. The right to be forgotten

The European Union has adopted a requirement that has been called “the right to be forgotten.” It allows for an individual to have a search engine, such as Google, eliminate links in searches that lead to personal information that is not valid or something in the past with no current relevance. In response to this EU requirement, the Bing search engine has a form for EU residents to make a request that information be eliminated from the search if the results are “inadequate, irrelevant, not longer relevant, or excessive”.

At the 2015 BCTF AGM, a motion was passed without dissent to make the “right to be forgotten” a principle for student data in BC, particularly in the context of the ministry’s MyEducation BC data system.

The criminal justice system in Canada recognizes that for many crimes and accusations of crimes, children and youth should not have their identities made public, nor information about charges and convictions carried forward when they become adults. The principle behind this is that individuals should not be punished and have their life chances limited for actions committed as they are in the process of growing and maturing.

A massive growth in data on individual students is projected with the development of MyEducation BC, going well beyond the permanent record card that is currently required by Ministerial Order M0082/09. MyEducation BC will have not only demographic information, grades, and credits, but it is intended to provide a place for students to carry out work and hold a portfolio of their work through their K-12 career. This is described as “customizable content/collaboration pages for authorized users of MyEducation BC”.

Some of the additional types of data on students proposed for MyEducation BC:

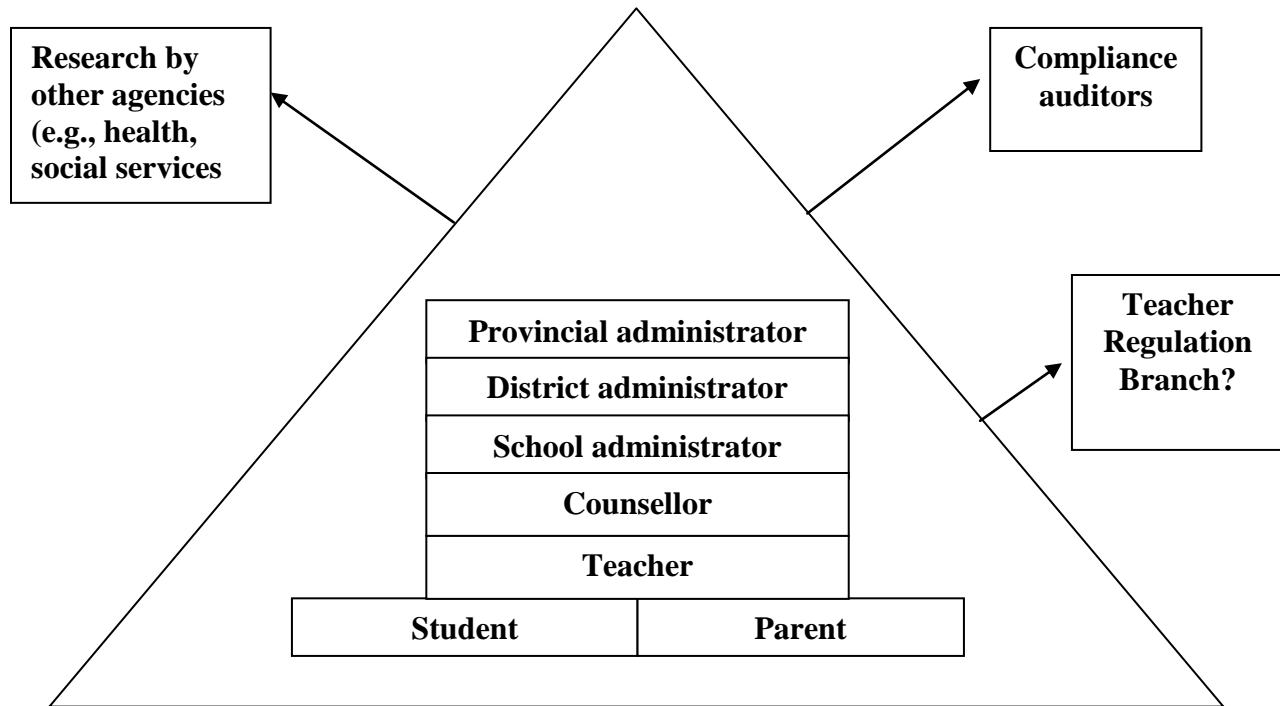
- An individual portfolio throughout a student’s K-12 career
- Defined and monitored Individual Education Plans for students with special needs
- Individual data on curricular competencies and core competencies
- A “cloud” for all student work, teacher plans and for learning resources developed by teachers.

The changes to data control included in Bill 11 allow data held in MyEducation BC to be shared for research purposes with other government agencies.

In some jurisdictions, students have been allowed to eliminate any of their electronically-stored work that they would not like to continue to be a part of databases.

In the context of this growing collection of data, what needs to be done to make “the right to be forgotten” better understood and put into practice in MyEducation BC and other places data on students is collected?

6. The hierarchy of access and control of information in MyEducation BC



Each level in the information hierarchy has access to information from the levels below.

The access for students and parents is described as allowing them to “view samples of work at any time.”

Access to researchers from agencies outside the education system is permitted by Bill 11.

What are some implications of this structure of access to information?

How might parents “viewing samples of work at any time” potentially affect the approach to pedagogy by the teacher? (“Every tool shapes the task.”)

How much can the school administrator change in the content of the data/reports on students placed in the file by the teacher?

There is a section of MyEducation BC that holds information about teachers. What information about teachers will be held in the “staff demographic information” functionality? Who will enter the information? How will that information be used?

7. “Every tool shapes the task”

Ursula Franklin reminds us that “every tool shapes the task.”

MyEducation BC is intended as a tool that will have a significant impact on the tasks carried out by teachers and students.

One of the central elements of the existing education system is reporting—to parents as well as to students. The form that reporting takes can/does shape what we do. It is important to analyze the impact of MyEducation BC to see what the options are and what the impact—intended and unintended—might be for each approach.

MyEducation BC is supposed to be consistent with the directions being taken in the new curriculum and core competencies. Some of the elements of this include:

- More focus on formative assessment that helps shape teaching decisions on an ongoing basis.
- Less focus on summative assessments.
- Rubrics or examples of levels of development.
- More collaborative work among students.
- The ability of parents and students to go into the individual record of the student to monitor on a daily basis where students are in the assignments.

MyEducation BC includes a grade book. How does this grade book fit with the aims of the education change taking place? What are the assumptions built into the grade book and reporting from it?

What are the assumptions about recording and reporting that parents can access on an ongoing basis?

How is the decision made about whether use of the MyEducation BC grade book is required? Who will make the decisions about which parts of MyEducation BC are used?

- Each classroom teacher?
- A staff committee?
- The principal?
- The district?
- Parents?
- Students?

How does each decision about what information elements in MyEducation BC will be used shape what happens in the classroom with the teacher and students?

8. Who “owns” the content of MyEducation BC?

Facebook claims ownership of everything that is posted on Facebook. Who “owns” the data posted in MyEducation BC?

This is a complicated question, as it is for much of what is posted online that is held in software that is stored on a server other than that of the person who created the content.

Some of the information in MyEducation BC is the type of information on students held in paper form as a Permanent Record Card, with specifications for how long (55 years), and conditions of storage of the information. Presumably it has been “owned” by the Ministry of Education, which authorizes what is to be kept and how. With this information increasingly kept in digital form, will the specifications change?

But what are the rules about information held in MyEducation BC that goes beyond the basics of the Permanent Record Card?

Besides keeping track of attendance, grades, and the like, the “functionality” of MyEdBC is well beyond the Permanent Record type data, including email among students, teachers, and parents, “Unique Pages for each school/teacher/class or group,” “Personal and Shared Content Folders,” and whatever might go in these folders. MyEdBC can be understood as an “education cloud”, which could have teacher-developed resources and professional discussions, as well as student content in a portfolio of their work from K to 12.

Who “owns” all of this—for example, the units and resources developed by a teacher that they have uploaded onto MyEdBC? What are the copyright provisions for MyEdBC? Who might make claims of ownership—the teacher of their work, the student of their work? Or would the copyright be owned by the school districts, which currently claim the rights on any work resources created by a teacher employed by the district? What claims for ownership might be made by the ministry if the work is included in the ministry-contracted MyEducation BC?

And what claims might be made by Fujitsu, which has a contract with the ministry to provide the services for MyEdBC, including providing the servers that hold all the data? The claims Fujitsu might make are suggested in ministry documents about implementation, which contain a “Confidentiality” clause that says:

This document contains information which is proprietary and confidential to Fujitsu Consulting (Canada) Inc. (including the information of third parties, including but not limited to, Follett of Canada Inc., submitted with their permission). In consideration of receipt of this document the recipient agrees to treat this information as confidential, to not use or reproduce this information for any purpose other than as an implementation, planning support resource for MyEducation BC, and not to disclose this information to any other person—for any purpose—without the express prior consent of Fujitsu Consulting (Canada) Inc. (and any applicable third party).

We did not seek approval to quote this, despite the demand made in the statement on the ministry document. This demand by Fujitsu demonstrates the importance of having issues of ownership clearly set out before teachers and students are asked to use MyEdBC as a form of cloud storage of their teaching and learning work.

What are the implications of using a ministry-owned, Fujitsu-operated cloud for BC education?

How do we get clarity on the issues of who has ownership and access to the information held in MyEducation BC?

What should the BCTF and locals be recommending to members about using MyEdBC beyond the demographic and reporting information that schools and districts are required to maintain?

9. Questions about MyEducation BC (MyEdBC) submitted to the Ministry of Education by the BCTF

Privacy Impact Assessments

1. Is the Privacy Impact Assessment on MyEducation BC available to the BCTF? [It is online, at <http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/support/myeducationbc/pia-myeducation.pdf>]
2. Is each district's Privacy Impact Assessment available to the BCTF? Please provide these.

Governance model and authority

3. What is the governance model for MyEducation BC? The MOU with districts assigns authority for making decisions, such as further development of MyEdBC, and allocation of further costs to a governance structure, but it is not defined in the MOU.
4. Can the BCTF have a copy of Appendix C of the MOU? The version we were sent did not include Appendix C.
5. What is the hierarchy of access to information in MyEducation BC within the education system? Is anyone, who is higher on the access level able to change the data posted by a person further down the hierarchy (e.g., can a school principal change marks or other elements of data entered by teachers)?

Content of MyEdBC as a “private cloud”

6. MyEdBC is projected to include student work, teacher lessons, communication among students, parents and teachers, curriculum resources developed by teachers, etc.
 - * Will students have access only to their own work? Will teachers have access to the work of students who are in their class, but the work is from other classes?
7. How will MyEdBC be developed to fit with the new curriculum, competencies and a variety of forms of assessment? How will the principles of “need-to-know” and “least-privilege” apply to the content of the MyEdBC cloud?
8. The ministry says that “A school district may only use personal information for the purpose or which it was obtained or compiled, or for a consistent purpose.” What are examples of “consistent purpose”? Various groups may have access to personal information: Ministry of Education, Social Services, and anyone else provided the information by the ministry—what is their limitation on use of personal information?

Student and parent access to MyEdBC

9. What is the timetable for expansion of access to MyEdBC to students and parents? What preparation is being made to inform teachers, students and parents about the plans, the rationale and the process?
10. What authentication process will be used for students and parents to access MyEdBC?

11. What data in MyEdBC is a “record”, as referred to in the School Act?
 - 9 (1) A student and the parents of a student of school age are entitled,
 - (a) on request and while accompanied by the principal or a person designated by the principal to interpret the records, to examine all student records kept by a board pertaining to that student, and
 - (b) on request and on payment of the fee, if any, charged under subsection (2), to receive a copy of any student record that they are entitled to examine under paragraph (a).
12. Will parents have access to their child’s work that is in the MyEdBC cloud? Is that a “record”? What if the student work is collaborative work with other students?
13. Who else will have access to portfolios and other elements of the private “cloud”, that is part of MyEducationBC?
14. Given the start-up problems when teachers began using MyEdBC, what are plans to ensure that adding students and parents to the access will have enough resources to handle these additional users?

Data on teachers

15. What data on teachers is held in MyEdBC? What is its purpose? Who has access to enter or to change data on teachers held in MyEdBC? Do teachers have access to see and correct whatever information about them is held in MyEdBC?
16. Will the Teacher Regulation Branch have access to data on teachers held in MyEdBC?
17. Will the Teacher Regulation Branch have access to all the information in the MyEdBC cloud?

Research and data matching

18. What types of research, not possible under previous rules, will now be possible to carry out?
19. What elements of data will be shared with researchers? Who will have access to the data and reports based on the data? Who will approve the release of data? What are the protocols and safeguards?
20. What elements of data will be shared with other agencies and other government ministries? What will be the process of considering requests for access and deciding on these?
21. How will individuals (or parents/guardians) whose data is being shared in any way be asked to give informed consent?
22. What are the parameters of “consistent with purpose” in the definition of how data can be used?
23. What are “school district records” in MyEdBC in the context of direction on the Compliance Audit Process in the past that “Ministry staff and contracted auditors assigned to compliance audits are authorized to have access to all school district records.” [memo to Superintendents, August 23, 2012]

Adequate bandwidth and computing resources

24. The Next Generation Network seems to be key to the implementation of MyEdBC. The timetable for full implementation of the upgrade in all districts is not until after BCeSIS is supposed to be closed. How are teachers in districts that have only limited bandwidth expected to be online simultaneously, in competition for access?

10. Message from the BCTF to parents about student data and MyEducation BC

Disasters with student data have been in the news recently. It has come to light that the Ministry has lost an unencrypted hard drive with information on 3.4 million students, teachers and, in some cases, parents from as far back as 1986. At the same time, a new student information system, MyEducation BC, is being implemented by the Ministry of Education.

The lack of required care for data brings to the surface important issues the education system as a whole needs to address. Parents need to know that the information about their children is accurate, protected, and accessible only to those who have legitimate access to that information.

Here are some important questions about student data and MyEducation BC:

1. What data is necessary to collect?

The first action in protecting data should be determining whether the data is necessary. New technologies make it possible to collect massive amounts, often called “big data.” That data can then be linked to other databases. All this connected data can be “data mined,” using algorithms to process it. A legitimate question is whether we want to collect massive data in the first place. And if we do, should we be linking it across databases?

2. What is MyEducation BC and what are some of the initial problems with it?

MyEducation BC is the new student information system that the Ministry of Education is implementing. The system has been in the news because of huge problems in making it work. It is operating very slowly—taking many minutes to enter a single piece of data. At the end of the first month of school, some students still didn’t have their timetables, and teachers did not have a class list of their students. The need to redo work by hand because of so many computer delays means that a great deal of teaching and learning time is being unnecessarily lost.

3. What other dangers are there in the data collection of MyEducation BC?

When MyEducation BC eventually gets to working properly, which it likely will at some future date, other data dangers will face parents, students, and teachers.

The plan for MyEducation BC calls for a mass of data to be collected and stored in the program. It is not just the usual—student demographics, courses taken, grades achieved, photos of students, parent/guardian contact information. The plan for the program is for students to upload projects and videos, teachers to provide formative assessment information about individual students, to have email within the system, to build portfolios of student work over the K-12 years, to hold individual education plans for students with special needs, and to record behaviour issues and discipline—all in a single database. This could raise a number of red flags for parents.

4. What are “data-based instruction” and “personalization”?

Those promoting the use of these new technologies claim that education could be improved through “data-based instruction.” There is much talk about “personalization,” which generally means using the computer to design a pathway through learning.

There are many questions about this approach, with evidence that this kind of “personalization” often produces isolation. True personalization should be about relationships of teacher and student working together on the education pathway for the student, rather than following what is really a standardization determined by computer algorithms.

5. Will MyEducation BC be linked to other databases?

An element of using “big data” is linking across databases with different types of information on the same person. One of the announced uses for MyEducation BC seems to link with the data from the integrated case management system in the Ministry of Social Development. This may be a long-term dream. However, the social services database has had technology problems similar to those in MyEducation BC from its first day online. Even if it were desirable, the time to make these huge, centralized databases provide limits, at least in the short run. Once again, the goal for collecting and linking all this data across databases may be to provide better services from government. However, the collection of this data raises other issues that should be the subject of public debate.

6. What concerns should parents have about data of their children and, in some cases the family, being linked to other databases?

There is a real possibility of linked data getting released inappropriately, with information that may not even be correct, because it hasn’t been verified. Lost hard drives and failure to encrypt are only a couple of dangers.

With more security measures in place than one can imagine, data from the National Security Agency in the U.S. was released publicly by a former employee, Edward Snowden. He simply downloaded it and released it on the internet. In British Columbia, police officers have been fired because they went looking for data on individuals, even though they had no right to it.

7. How many people will have access to MyEducation BC?

One million people! That’s right, one million!

Besides 40,000 teachers, counsellors, all administrators and support staff, the plan calls for every student from Grade 6 to Grade 12 and every parent and guardian to be able to get into MyEducation BC through a web browser. Access is supposed to be authenticated by a single “service card” that everybody in BC will have. This is the same card that will be used for medical services, driver’s licence, police incidents, social services, and any other provincial government services.

8. What other questions need to be asked about data and education?

Even if all the technical problems currently causing a data disaster are solved, many other important questions need to be addressed. The issues are important enough that a research project has been started on “big data.” BC Privacy Commissioner Elizabeth Denham says “This project will probe big-data surveillance and analyze its scope, effectiveness and implications.”

How much data do we want to be kept on our children?

How do we want data to be used to make decisions affecting important areas of our lives?

Do we agree with linking our personal data, health records, social services records, and educational data so they can be “mined” to determine important aspects of our lives?

Who do we want to have access to our data and how can access be protected from others?

These issues are not just about what data we keep on our children and how it gets used. They are fundamentally about the kind of society we want.

NOTES

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