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Managing Student Information in British Columbia

A common information system was the tool that turned information on performance into areas of action.

By Scott MacDonald

Keeping track of British Columbia's 670,000 students, from kindergarten to grade 12, spread across 2,000 schools served by 60 separate school boards, is a challenge. Factor in 348 independent schools, 131 band schools for First Nations, a separate Francophone Education Authority and students who do home schooling, and it can be an administrative nightmare of duplication or worst, lost records.

So when seven school boards looked at replacing their aging records and school management systems in 2002, they saw an opportunity to share one common system and radically change the way information is used, shared, and possibly understood. They approached the Ministry of Education about developing a common information system, looking for funding and facilitation.

They received both, and from the ministry's perspective, the timing was perfect. In 2001, the British Columbia government undertook an ambitious agenda to shift the way the province's education system is managed at all levels. The ministry wanted to establish clear standards for a high-quality education system that put student achievement at the center of all decision-making.

To do so, the ministry increased the autonomy of school boards so they were clearly responsible for making decisions to improve student achievement. A higher level of accountability for boards was introduced by requiring clear and specific plans to improve achievement at both the school and district level. Finally, the ministry made a commitment to provide more choice and flexibility in public schools, and more opportunities for parents to have input into the school system.

The foundation of all these changes would be accurate information about every element of school and district performance. A common student information system was an obvious fit with the approach. Information could be maintained across the province in a way that was comprehensive and consistent, and would help all levels of the system to manage for results.

From the province's point of view, a common information system would be the clear, articulated and sustainable tool that would turn information on performance into areas of action. It could much more accurately measure student achievement, which had become the education system's primary focus.

Until then, each district had its own system. When the ministry asked for new information to monitor and report on student achievement, each district and, in some cases, each school, had to individually tally the new numbers. With a common student information system, the reporting structure could be changed once, and it would apply across the board.

Students could move from school to school (even across the province) with their entire record intact and accessible. Better yet, students could pick and choose from courses across schools, boards, even take advantage of specialty online programs offered in another corner of the province. Instead of being hampered by administrative limitations, shared technology could provide unprecedented academic flexibility.

What meets the needs?

The province launched a competitive request for proposals process, and in 2003, Administrative Assistants Limited (AAL) of Burlington, Ontario developed the British Columbia Enterprise Student Information System (BCeSIS). School boards determined what the system must accomplish to meet their management and reporting requirements

The ministry's reporting requirements are a small subset of the information schools normally collect. Now, all 60 school boards and more than 120 independent schools have voluntarily joined BCeSIS, and the ministry expects to have all boards on line and working in the system by 2009.

One reason the program appeals to school boards is that control, responsibility, and decision-making lies firmly with them. Each participating district elects a representative to the Service Management Council, which in turn manages the expertise, shares resources and funding, and develops common solutions. If there's a problem with the system's capacity or inability to meet local reporting requirements, the council decides how to fix it. Votes are based on district size; the more students a district has, the more votes it has.

While the population is concentrated in the southwest corner of the province, and urban boards have a lot of influence on the council, rural boards can vote together to ensure the needs of smaller communities are also reflected.

Learning curves and challenges

BCeSIS is still in early implementation, and there have been steep learning curves. It's been especially challenging for the "early adopters," the boards that came into the system at the beginning. As these boards worked their way through the first business cycle of registration, enrollment counts, report cards, and year-end reports, they identified kinks to be ironed out.

For example, an error made when registering a student (the number of credits of a particular course, for example) follows the student throughout the entire cycle – and may not be revealed until the student discovers he or she doesn't have enough credits to graduate. Coordinators expect that by the time all boards are running the system, all issues will be resolved.

Another challenge is that in an integrated system, what would have been an isolated issue in a single school or district, now becomes an issue for the entire group. The advantage, however, is that one fix works for everyone.

Early adopters and smaller school boards sometimes find it a stretch to accommodate the larger system's technological and business demands. But the second and third wave of boards to join are benefiting from the "discoveries" currently being made. For example, as a result of initial feedback, the provincial team is changing its approach to training. Instead of loading everything into the beginning, the team now offers a second round of training once new users have better context, understanding, and capacity to work with the system.

The steepest learning curves, however, involve changing the way people do their day-to-day business. A province-wide system designed to provide large-scale information management isn't always an easy fit with the established business processes of school boards. For example, because this is a province-wide system, the student's record needs to exist only once. Schools

are accustomed to creating new files each time a new student arrives. Now they must find the existing record, register the student, and update the information. Schools that fail to follow this new process create duplicate records that must be merged at a later date, with great difficulty.

These issues are part of every transition, and the ultimate promise of a common information system will make the frustration and challenge worth it. Eventually, we can find out what, if anything, the 20 percent of students who did not graduate have in common. Will we identify a trend that starts in Grade 8? With the right information, we can make reasoned decisions on our students' performance -- decisions based on facts, not intuition.

Lessons learned

Now in the second year of this process, school boards have learned a lot about introducing a common student information system. Here's a summary of best advice to date:

- **There must be a real local ownership of the system.** The governance model must be driven by schools and boards. If there's a problem, the people using the system need to identify it, work it out, and resolve it. No one else will get it right for them.
- **Users must pay for the service.** BCeSIS users pay a monthly \$1 per student fee to use the system. Costs are shared between the province and the school boards. This helps build ownership and accountability into the process.
- **Use of the system must be voluntary.** Boards need to recognize the value in a common information system, and they should pay to use it. This will lead to a stronger feeling of ownership over the both the process and the system.
- **Allow boards to join the new system as management needs require and budgets allow.** Staggering sign-on means the entire system isn't on the same learning curve at exactly the same time. Also, early adopters will make the road a little easier for the future boards. A provincial framework has been established that ensures districts get the support and resources necessary to proceed aggressively if they are ready. Controlled training and data conversion resources are available and allocated when the board commits to the system.
- **The system must meet the end user's needs.** If it works for schools and school districts, provincial or state jurisdictions will get the data they need.
- **Customize the software to meet your requirements.** School boards determined their minimum software requirements, which helped ensure buy-in for the project and ensured boards could successfully use the product. Requirements ranged from new data elements to incorporating complex graduation requirements. Software development was required to meet special education requirements and enable schools to manage adult education.
- **School boards need to invest in data quality.** BCeSIS has forced boards to standardize and regularly clean up data to remove errors. Because a single record is maintained for each student and is shared by all boards, data quality is a top priority and must be constantly monitored. A comprehensive training program is required to ensure all users understand how to operate within a common system. A train-the-trainer model was used, along with web-based training and support from the project website.

- **Build in ongoing training.** As people use the system, they will have the context they need to learn more. Don't front-end load the training program and provide for continual upgrades to the system.
- **A shared, common system requires common standards.** British Columbia has a history of well-defined data standards and common processes that form the foundation for a common student information system. Since 1992, the province has given every student -- from kindergarten to university level -- a Personal Education Number (PEN). The province also has one common set of graduation requirements for all students, a common provincial curriculum, and provincially managed course codes. From this base, considerable effort was invested early to standardize additional data elements and determine common day-to-day business processes. This work was completed before any board began implementing the BCeSIS system.
- **Provide the necessary support:** Our project is supported by a dedicated provincial team that provides project management and technical support. The team is staffed by IT professionals, secondments from school districts, independent consultants, and staff from the Ministry of Education.
- **Protect students' privacy at all costs:** Training in common standards and processes for the protection of privacy and personal information is critical to the system's success. The BCeSIS project provides an ideal opportunity to ensure that all users of the system understand and respect their responsibilities with regard to protecting personal information. The government of British Columbia has freedom of information and protection of privacy legislation that is among the strongest of any jurisdiction in the world, and has worked with school districts, the service provider and the Office of the Information and Protection of Privacy Commissioner to ensure the right safeguards have been established.

Next steps

The ministry and boards are looking at expanding the general concept of common information systems to other service areas, including tracking capital assets, curriculum management, test and examinations management, financial management, human resources, library and education delivery systems.

If adopted, the new systems would follow the BCeSIS implementation and governance model, and would be shared among all schools and the ministry. Future directions will be determined by school boards. Participation will be optional and voluntary.

Ultimately, the BCeSIS system will help educators, administrators, and the ministry to have a much better understanding of student performance and how schools can better manage education delivery to support positive outcomes.

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