I am once again honoured to welcome you to another edition of our IBM K-12 newsletter.

At the beginning of each new school year, the need to “Know Thy Student” and “Support Every Student” is never truer and never more difficult as teachers welcome a new cohort of students into their classrooms. At IBM, our K-12 Educational Team is dedicated to assisting teachers, principals and district staff with easier access to student data through data platforms and robust, reliable and safe infrastructures to support the learning of every student.

Top of mind for every executive — whether in education or business — is cybersecurity. The statistics on external and internal security problems are simply shocking. We have found that in our 10 Essential Security Practices workshops, the largest breaches are due to human error. Read about how several districts are creating a solid security posture and working with all staff to increase their cybersecurity defences.

Artificial intelligence (AI) was the theme for this year’s Executive Conference held in Silicon Valley, attended by over 150 Canadian education leaders. Greg Luterbach’s blog reveals his learning and experience in San Jose.

I encourage you to sit back and read through our newsletter and reach out to us for more information or to discuss how we might be able to assist your district in ensuring your digital investments are enhancing the learning experience for staff and students.

Sincerely,

Anne Saftich
K-12 Education Chief Education Officer
IBM Canada

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HIGHLIGHTS

British Columbia
West Vancouver School District
West Vancouver has implemented SCCM for imaging, inventory reporting, software deployment and device management. The district is also building a new Windows 10 image for all schools to be deployed in the fall.

Southeast Kootenay School District
The IT Team in Southeast Kootenay has implemented off-premise Disaster Recovery and are now utilizing their existing Commvault backup solution in the Azure Cloud. Southeast Kootenay is also one of the first districts to install the Palo Alto Networks Traps solution for advanced endpoint security.

Kootenay Lake School District
Recent whiteboarding and design discussions with the school district IT Team has resulted in delivery of System Center Configuration Manager for workstations and server management. To support this architecture and other educational initiatives, Active Directory is being redesigned according to common leading practice methodologies. This revamped Active Directory structure is also meant to support future initiatives, including 1D automation, which will reduce staff administrative cycles in adding, removing and modifying user accounts, while also providing a more accurate synchronization between MyEducationBC, HR, and Active Directory. Finally, the Active Directory changes will support future modern device management projects leveraging Microsoft Intune for security, management and compliance applications.

Vernon School District
Our team performed a Data Centre Assessment to refresh the existing hardware in concert with the district’s long-term strategy of moving to the cloud. This includes a new SAN and ESXi hosts to reduce the datacentre footprint and migration services from their old environment.

Delta School District
IBM K-12 is co-developing with Delta a new 3-year technical roadmap, following the previous roadmap that was successfully implemented over the past 5 years. Delta and IBM are also collaborating on a data centre hardware refresh, backup solutions, educational devices and support best practices.

Burnaby Schools
After a joint review with their IT and Education Leadership Teams, Burnaby began their 3-5 year technology infrastructure refresh with renewed emphasis on teaching and learning with technology. Data centre, instructional device usage and management, wireless, Office 365, and cloud are all part of the journey. Burnaby also has one of the pilot schools, Cariboo Hill SS, that will run the Post-Secondary Palo Alto Academy in K-12 for students interested in cybersecurity as a possible career.

Coquitlam School District
One initiative the IBM K-12 Team has assisted Coquitlam with is finding a replacement for their long-standing system for Continuing Education and Summer Programs. Our Education Consultant did a market analysis for Adult Education Registration systems and recommended Augustos’s Lamens solution, which Coquitlam has now implemented.

Sea to Sky School District
IBM K-12 and Sea to Sky SD are currently reviewing the district’s backup solution to provide options for extending it into the cloud. Sea to Sky wants to remove the complexity of onsite backup and move their data to a less expensive and flexible environment in the cloud.

Saanich School District
A Cloud Assessment Review and an Educational Technology Roadmap were completed with the IT and Teaching and Learning Teams in Saanich. Many areas will be refreshed in phase 1, including a move to Office 365, AD services and a new data centre infrastructure. Phase 2 will focus on backup, disaster recovery, client devices and optimization of the current IT environment.

Alberni School District
Alberni School District and the IBM K-12 Team are migrating their existing network infrastructure from Cisco to Meraki network technology. Providing this single pane of glass in a centralized managed environment frees up the IT Team to enhance end-user enablement and further improve accessibility across the district.

Alberta
Elk Island Public Schools (EIPS)
EIPS and IBM engaged in a comprehensive IT Optimization exercise. The goal was to review all aspects of the current IT infrastructure and build a roadmap that will support greater efficiencies and services to their schools. IBM is also helping EIPS as they complete their WIN10 deployment.

Saskatchewan
Northwest School Division (NWSD)
This school division is really leveraging cloud strategies to manage their IT environment. A long time CISCO partner, the division has begun the journey to embrace Meraki Cloud Strategies for their school switching, wireless technologies and school surveillance systems. Leveraging the Meraki dashboard will significantly assist the IT Team in monitoring, management and support of their schools in an efficient, customer service model.

Manitoba
Pembina Trails SD
In partnership with the Leadership Team at Pembina Trails, IBM K-12, acting as trusted advisor, will support the implementation of their Standards for Success in Literacy (SSL) project. Co-planning for this exciting initiative included developing and monitoring key success criteria data.

Red River Valley SD (RRVSD)
RRVSD will be completing a new fibre WAN project in 2018. IBM will help the division leverage this investment as RRVSD moves forward with wireless, security, and data centre migration work.

Sunrise School Division (SSD)
This spring, the IBM K-12 Teaching and Learning Consultants reviewed the current use of education technology in Sunrise, and provided recommendations and guidance for the effective use of digital resources moving forward. The resulting plan provided detailed recommendations on how to ‘tuck technology’ successfully into a set of key practices that support their four district priorities.

Ontario
Algonquin & Lakeshore Catholic School Board (ALCONSDB)
ALCONSDB had an aging data centre that was up for a major refresh. Our IBM K-12 Cloud Team performed a Cloud Readiness Assessment which included a cloud roadmap and a cost-benefit analysis. With this information, and being a VMDore shop, ALCONSDB decided they were ready to move their entire Data Centre into the IBM Cloud. With IBM and ALCONSDB working closely together, this leading-edge project should be complete by Aug 2019.

Waterloo Region District School Board (WRDSB)
Waterloo Region is also moving to the cloud after working with the IBM K-12 Cloud Team on a Cloud Readiness Assessment.

Algoma District School Board (ADSB)
Looking to put a Disaster Recovery (DR) plan in place, Algoma came to IBM K-12 for guidance and also engaged us to conduct a Cloud Readiness Assessment. A detailed analysis of ADSB’s IT environment determined which systems could be migrated to the cloud and which cloud services could be added to augment the existing on-premise environment. The final report, which detailed the recommended cloud architecture, indicated that migrating Backup and DR to the cloud would bring the most value.

Sudbury Catholic District School Board (SCDSB)
It was time to review and validate the structure, roles and responsibilities of their IT department, so Senior Management went in search of an independent 3rd party who could help them with a thorough evaluation. Based on our strong industry knowledge, IBM K-12 was engaged to conduct an IT Organizational Review for the Board. After 5 days of interviews with the Director, Superintendents, IT, HR, Principals and students, the focus turned to IT operations, process, policies, governance, and personnel. In the end, IBM provided the Board with an assessment of their current state, as well as recommendations on how to improve efficiencies and service levels and reduce cost.

Greater Essex County District School Board (GECDSB)
GECDSB wanted to assess their overall cloud posture and whether moving applications to the cloud made sense for them. They engaged with IBM K-12 in a Cloud Readiness Assessment which entailed a detailed analysis of their entire IT environment. Our findings showed that moving DR made good business sense and that it was also worth the investment to revitalize their data centre.
Their data centre refresh was completed this summer and IT is moving DR to the cloud this fall.

Bruce Grey County District School Board (BGCDSB)

BGCDSB has begun their data journey with IBM Watson and Compass for Success. The Leadership Team believes that the world of advanced cognitive analytics or even artificial intelligence has the potential to provide new insights on how districts can best serve their students. They also realize that much of the data required to provide these new insights was not being captured digitally and stored in an organized and consolidated fashion.

To move them forward on this data journey, they are working with IBM K-12 and Compass for Success to implement an enterprise-wide data platform that will provide everything from advanced Watson Analytics for district insights, to dashboards of key indicators for the senior team, their principals, and over time, all their educators.

York Catholic District School Board (YCDSSB)

In order to reduce workload and improve service, YCDSB is engaging IBM in two key projects. Firstly, IBM will design and implement ID Automation to automate the creation, modification and overall lifecycle management of Student User IDs and Student User groups in MS Active Directory. Secondly, the IBM K-12 Technical Team will customize and deploy their Self-Service Password Portal, which will allow end users to reset their own passwords and unlock their IDs with the expectation of fewer calls to the Help Desk and better use of classroom time.

Leadership for Effective Change

In their efforts to improve teaching and learning and increase student achievement and growth, all school districts deal with change as part of their fabric. Whether it’s new curriculum implementation, changes in assessment, or the inclusion of technology in learning, change is the only constant.

The IBM K-12 Education Team has connected with the Edmonton Regional Learning Consortium (ERLC) to co-create and deliver a three-part series for the consortium’s divisional teams of school and system leaders. This workshop will provide these educators with strategies, processes and approaches to plan for the successful implementation of any change initiative in their division.

Individualized Coaching

The series is unique in that it is designed to ensure learning through individualized coaching support. Divisional senior team members, principals and vice-principals, and other system leaders will work through strategic planning for their selected change initiative, relative to their own context. Between each of the face-to-face sessions, there will be a ‘coffee-break’ session for every participant. They will meet with at least one other colleague and an IBM Education Consultant to discuss their change journey as they work on their plan and initiative between modules.

During this series, leaders will enhance their skills with proven, powerful, and practical strategies to support their school systems as they move forward with the implementation of new curricula, new professional practice standards or other district-specific change initiatives. Additionally, participants will receive an IBM-approved digital credential which can be added to their personal portfolio. The sessions are scheduled from October 2018 to February 2019.

What devices do students and teachers need to support their learning? How many do they need? Where should they reside? Does it vary by grade or subject? What role should “Bring Your Own Device” policies play in addressing some of these issues?

If you are asking or being asked these questions and are not sure how to address them, IBM’s K-12 Education Consultants are here to help. Our team has worked with school divisions to co-create access models, identify the resources best suited to their digital toolkit, and support the learning experience envisioned for their students and staff.

IBM’s Access Model and Digital Toolkit Selection Methodology, based on leading education practices, allows the school or division to make difficult decisions in a more informed, balanced, efficient and effective manner.

This engagement leads a group of key stakeholders through an analysis and decision process which will:
- identify the major needs and uses for the teacher and student device “toolkits”
- identify software, digital resources and/or apps for teachers and students
- articulate specific access models to support the identified learning environments (i.e. classroom, learning commons, labs, common areas, etc.)
- determine the possible types and features of devices for teachers and students
- use a proven methodology to select the most appropriate specific devices.

You will benefit from this engagement with:
- a broader acceptance of the device recommendation as multiple stakeholders are involved
- greater stakeholder involvement also leads to a deeper understanding and consideration of what the devices will be used for, minimizing the risk of selecting inappropriate devices
- the ability to minimize and standardize the requisite components of the digital toolkit (device, applications, peripherals) based on this deeper understanding of usage requirements
- a dramatic reduction in the time to reach consensus and move forward with the implementation of devices.

Instead of spending months or years to reach a consensus, reach out to our team for assistance.

“Working with the IBM Canada K-12 Education Team around a device selection process for our district was extremely valuable. Having an external voice lead these conversations helped to create clarity and purpose to the ‘Why’ behind our Ed Tech device decisions. The IBM Team not only helped us to build consensus in a timely manner and ensured that all of our stakeholders had an opportunity to have a voice in the process, they also focused all our conversations through the lens of supporting student learning and our district’s education plan.”

Todd Manuel, Assistant Superintendent of Education
School District No. 67 (Okanagan Skaha)

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CONFUSION REIGNS ABOUT SELECTING DISTRICT DEVICES

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Further Research:
•  use a proven methodology to select the most appropriate specific devices.
•  the ability to minimize and standardize the requisite components of the device “toolkit” (device, applications, peripherals) based on this deeper understanding of usage requirements.
•  a broader acceptance of the device recommendation as multiple stakeholders are involved.

“ERLC is excited to work with IBM Canada K-12 Education in this joint venture to build skill sets related to managing change in educational environments. Schools systems are continuously learning and improving in order to meet the needs of today’s learners, as well as learners of the future. In these rapidly evolving environments, educational leaders are thrust into a position of leading ongoing, complex change. Developing a strong change management skillset is essential for realizing sustainable, systemic change. We are thrilled that IBM Canada K-12 Education will be providing this unique learning opportunity to leaders across our region.”

Lisa Blackstock
Executive Director, ERLC
Helping Educators
Use Data to Improve
Student Achievement

Know our learners

Monitor our progress

Respond to their needs

More and more districts across Canada are using educational data to identify learning challenges, develop more effective action plans and monitor progress. By informing their practice with data, principals and teachers are better able to (a) know their learners, (b) respond to the individual needs of their learners, and (c) track the effectiveness of their various responses.

An effective data management and advanced analytics solution can provide benefits at the district, school and classroom levels. These benefits would help you to:

- identify individual learning needs
- measure student progress with precision
- inform personalized and differentiated teaching and learning
- evaluate program and instructional effectiveness
- guide curriculum development
- direct resource allocation
- promote accountability
- support every child in their learning journey.

Many of the above benefits are realized because today’s K-12 industry leading data solutions can provide educators with educational data that are more:

- timely (monthly, weekly or even daily) thereby providing more leading indicators, and accommodating effective formative assessments.
- granular and specific (at the subject level, the big idea level, the strand level or even right down to the individual expectation or standards level)
- comprehensive (as they can connect all data sets in the district, not just the student information system and some traditional assessment systems).

These solutions provide multiple insights. They can impart the ability to understand where students currently are, to predict how students will likely perform later, and to optimize their success (i.e. from hindsight to foresight).

As the leading provider of enterprise-level K-12 data platforms, Compass for Success (Compass) helps school districts use evidence from all data sources in a timely, granular and comprehensive manner. IBM K-12 Education has partnered with Compass to assist districts with this data-informed decision making.

Together, we provide a comprehensive toolkit that includes supporting implementation and effective-use services. The toolkit is architected to merge all data sets within a school district – including student information systems, local and provincial assessments, special education applications, various diagnostics tools, and many other existing systems of record or data sets. By providing a consolidated view of the district’s information, it eliminates the silos of data that exist today in many educational organizations. This enables data from many areas and sources to be considered as possible drivers or contributors to student performance. By subsequently applying advanced analytics, Compass can provide answers and insights to critical questions that districts have and highlight interdependencies that typically were not possible before. And if they were possible, the time needed to provide them now is dramatically reduced.

It saves staff endless hours of work and makes the information more timely and effective.

The Compass toolkit is continually enhanced. It now offers online dashboards for teachers, principals and parents. As an all-encompassing system, where tools are all connected to every data set in an “all-in-one” easy to access place, Compass provides tools such as:

- school and district improvement planners
- gradebook
- customized assessments
- on-the-fly analysis
- grouping, monitoring, alerting, intervention tracking
- collaboration and communication tools
- forums and resources.

To complement this toolkit and help ensure the implementation results in system-wide adoption and effective use, IBM K-12 Education has developed a series of supporting service offerings. These range from data health checkpoints, strategic planning for data, implementation and training services, and ongoing effective-use services. We would be delighted to assist you and your district on your data journey.

Dr. Christina van Rarameul, Faculty of Education, Lakehead University,
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Every two years, IBM Canada K-12 facilitates a briefing for senior leaders in K-12 Education, which offers a greater learning environment and opportunity for peer collaboration and networking. February 2018 was no exception as IBM welcomed approximately 150 senior leaders – including Superintendents, Directors of Instruction, IT Managers and Principals – from 43 School Districts across Canada, to San Jose, California. There was so much anticipation for this event that IBM increased the number of seats to accommodate the high demand, resulting in our largest class ever.

This year’s Leadership Forum focused on Artificial Intelligence (AI) innovations which are making a serious impact on the way we live, work, learn and play. The Forum highlighted a variety of job career changing technologies and how, as educational leaders, we can better understand, experience, and help prepare our future workforce (students) for satisfying careers with essential skills.

In February, I spent about 48 hours in California’s Silicon Valley with 150-200 leaders from school divisions across Canada. The event was a leadership forum organized by IBM Canada’s K-12 Division. They held this event every two years and the focus is on emerging technologies that are believed to impact education. This was the first time I attended this event and the theme was around artificial or augmented intelligence (AI). I must say while the sessions were very interesting, I’m not sure of the imminent impact on schools, but I saw the impact on all our lives. Being IBM, there was plenty of talk about Watson. For most of us, Watson was the computer that won Jeopardy back in 2011, but that technology has improved drastically since then. As computing power, connectivity and bandwidth have improved, so has the relevance of AI. New algorithms have been created to support experiential learning of systems based on experience. The field has grown through concepts like machine learning, deep learning, reinforcement learning and neural networks. Learning about how companies are using these technologies to make a positive difference in the world was very inspiring.

We met 14-year old Canadian Tanmay Bakshi who fell in love with computers at five, released his first iPhone app at nine, and now at just 14 years old is working with IBM on artificial intelligence. He is a teen artificial intelligence superstar who challenges us to teach coding to all students. He shared examples of tools he built to improve the world (e.g. depression identification). Part of the discussion also was about the use of technology to positively impact the world. Tanmay’s examples were just a few of how people are using AI to make a difference in the world. He is a very impressive young man.

We also heard about a group that is supporting parent-child maker evenings across the globe to broaden exposure about design thinking and the maker movement. This same group leads Technovation Challenge which invites teams of girls from all over the world to learn and apply the skills needed to solve real-world problems through technology. We met four high school students who are Technovation ambassadors from the Silicon Valley area who all participated in the global competition. Through their participation they learned to code, market, and pitch a solution for a real world challenge their community is facing. One Grade 12 student shared that she and her friends needed to pick a college but wanted to know campus crime stats first. These stats are not readily available, so they built an app to help expose those numbers so other students could make informed decisions.

We also heard from a panel of Canadians working in the sector in Silicon Valley. They are proud Canadians but felt that for them to succeed they needed to be embedded in a culture of innovation, risk taking, and competition. They felt that Silicon Valley was the home of that culture and that in Canada people were more focused on why something could not work, rather than how to make it work. They all had early exposures to technology, but I was pleasantly surprised when each talked about the importance of competencies such as grit, creativity and communication. We also heard about how AI is being used to address human resources (or talent management) challenges to best place and support people in roles they can be successful in.

Lastly, we heard about Amazon’s innovation culture via a VP of Web Services. She shared various strategies used by the company to provide excellent customer experiences. She shared insights into their culture which helped me understand how Amazon can be so nimble and innovative. Their “two pizza” teams – any team working on a product or innovation should be small enough to be fed by two pizzas – and use of design thinking protocols are examples of how they continue to build a culture where innovation and informed risk taking is delivering countless innovations, including Amazon’s Go store, which is a check-out free, no cashier store in Seattle. It was a whirlwind trip, but good professional learning for me.

As a leading pioneer in the digital business revolution, Sandy Carter, Amazon VP Web Services (Sandy Carter – Amazon VP Web Services) emphasized the importance of diversity in AI because a lack of diversity can lead to bias in machine learning. Their education programs indicate that students have increased their confidence in finding jobs in computer science or AI fields and they discussed how young women are being encouraged to see the many career opportunities in technology fields.

The Design Experience (Sandy Carter – Amazon VP Web Services) as a leading pioneer in the digital business revolution, Sandy focuses on Enterprise Workloads to help companies with innovation. Amazon puts an emphasis on culture and uses a variety of strategies to create optimal teams, such as focusing on team sizes.
One highlighted innovation was the Amazon Go Store.

and diversity, to maximize innovation and customer experience.

What is Fortune 500: The Future of Work (Richard Jhang – IBM Chief Innovator & Technology Strategist)

Richard advises IBM and IBM’s key clients on strategic / disruptive technologies and innovative business/operating models. He discussed how he leads the Applied AI and Automation Strategy Practice – a specialty group that focuses on helping clients reimagine and reengineer their businesses with machine intelligence.

The Curiosity Machine & Technovation Challenge
(Madhavi Bhasin + Student Innovator Panel)

Iridescent is a company who aims to empower marginalized youth, especially girls, through engineering and technology to become innovators and leaders. The all-girl, student innovator panel shared their experience with the program, their design projects, and their plans for their future in STEM (Science, Technology, Engineering, Mathematics).

AI: The Art of the Possible (Debbie Landers – IBM VP Cognitive Solutions)

Debbie works with clients to find innovative and new ways to grow and transform their businesses by leveraging IBM's investments in Cognitive Computing (Watson) and Cloud.

Debbie created discussion around today’s unprecedented industry disruption caused by digital transformation affecting organizations of all sizes. Debbie spoke about employee gaps in expertise and skills. Ultimately, the notion of humans working with machines, or augmented intelligence, is emphasized over the notion of human vs machines.

Collaboration with AI & Analytics (Aarti Bokar – IBM VP Management & Design for IBM Watson Talent)

Aarti explored how organizations of the future will expect to be talent-centric and AI-powered. A deep dive through IBM Watson and business solution examples demonstrated how machine intelligence can help augment human capabilities to find the right job, find the right employee and train for the right next job.

Digital Credential & Future Workforce (David Leaser – IBM Senior Program Executive, Innovation and Growth Initiatives, IBM Training and Skills, Peter Janzow – Pearson VUE: Senior Director Business and Market Development, Open Badges Lead, Dr. Sean Gallagher – Northeastern University, Kelli Jordan – IBM Talent Leader New Collar Initiatives)

This panel was informative in sharing an inside look at HR and talent strategies as well as critical skills for the evolving workforce. Higher education is not the only pathway for success. Credentials are opportunities for practical recognition of skills and workforce development.

As SchoolConnect (SC) continues to increase its market share in Canada, the SchoolConnect Team has been hard at work enhancing SC to meet the evolving needs of districts. Following a phased-in introduction of v6.5, the team is now working on delivering the following services.

AD Health Check: Administrators can now easily check the health of their active directory from a new graphical user web interface and dashboard.

Self-Service Password Reset Management Improvements: Users can now use a PIN-only option, rather than requiring a password when resetting their password. In addition, administrators can now obtain more details on user activities from enhanced security logs.

Home Drive Cloud Migration Tool: This new tool will allow IT Departments to easily migrate their on-premise home drives to the cloud. Administrators can also optionally upload changes from home drives to the cloud. This is a key building block in the team’s development goal of removing the dependency of on-premise home drives.

SchoolConnect Cloud: The team has begun developing SC for native cloud integration. This extensive effort will result in the ability for SC to natively use the cloud equivalents for the current on-premise resources. Among the examples, Azure Active Directory can be used directly rather than on-premise Active Directory; OneDrive would replace on-premise home drives.

SchoolConnect User Group Meeting: Every July, we host a SchoolConnect user group meeting in Markham to tell clients what trends we’re seeing in the K-12 industry, what we developed over the last 12 months, and what we plan on working on for the next 12 months. We then ask, “Have we got this right and what should be prioritized / de-prioritized?”

A quick summary of the feedback from the meeting includes:

• strong interest in our tool to migrate data from on-premise user directories to Google cloud and leverage the new Google File Stream service (SC Drivesync)
• strong interest in the new custom user type feature
• little interest of moving away from on-premise Active Directory being the primary user directory for the boards (vs AADP & Google). Our clients believe AD will still be required for the next 4-5 years due to all the systems leveraging it for authentication
• printing is still in great demand…even from boards using Chromebooks and Google Classroom
• districts are still challenged with managing drive shares for teachers and administrators and will need assistance enabling this in the cloud
• general acknowledgement that automating administrative ID provisioning is painful due to poor and untimely information from the HR systems
• there’s little interest in giving teachers Chromebooks.

Staying up to date with SchoolConnect upgrades minimizes help desk support calls. To schedule a v6.6 upgrade, please call 1-888-66-LEARN, or open a support ticket via our web helpdesk at k-12support.ca. SC 6.6 will be available on November 1, 2018.

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LEADING DISTRICTS RAISING THE BAR ON SECURITY

School districts now realize that it is not a matter of IF their computer networks will be hacked, but WHEN they will be hacked.

The Central Okanagan (SD 23) and Abbotsford (SD 34) school districts in BC are aware that we are in an era of continuous breaches where reported attacks have been increasing year after year. These proactively minded districts have noted that in the last year alone, security incidents increased by 64%!

K-12 school districts are increasingly becoming targets because of:

• lack of time, human resources, and the financial commitment needed to develop a well-defined security program
• numerous other day-to-day priorities result in reactive mode when dealing with security issues
• a culture of “It's IT’s job!”
• insufficient or inadequately trained resources to develop a Security Aware Culture
• an ever-changing threat landscape: Ransomware, Phishing, Malware
• new technologies such as mobile and BYOD have created unprecedented risks.

These school districts realized they needed both a systemic and systematic approach to address these challenges. They wanted to take a more proactive position to better optimize their resources and defend their organizations against evolving threats.

But where to begin? What are leading practices? What level of cybersecurity is appropriate for school districts? How do we continue to build a culture of awareness?

To address these questions and take steps to raise the bar on cybersecurity within their districts, they called upon the IBM Canada K-12 Security Team.

We led each district through a 2-day workshop designed for a cross-functional team composed of Senior Leaders and Department Managers from both academia and administration.

Structured around IBM’s Cybersecurity 10 Essential Practices (10 EP), this workshop provides an opportunity to identify the current security posture in each of these 10 Essential Practices based on established rubrics. The workshop does a deep dive into each Essential Practice through a focus on five capabilities from Technology and Process through Organization, Metrics and Governance. And it helps set security goals for the next 12 to 24 months.

To that end, the workshops addressed questions such as:

• what are my district’s current security exposures and risks
• what security capabilities are needed to mitigate those risks
• what are appropriate governance structures and processes for a school district
• are my district’s security Policies and Administrative Procedures aligned with today’s challenges
• what technology and metrics are required to inform decisions
• what is the roadmap to help my district achieve our security objectives
• how can the district effectively communicate security to all users?

Following the 10 EP workshop, IBM provided each district with a comprehensive report, outlining their current security postures in each of the 10 Essential Practices, as well as summarizing each district’s security goals over the next two years.

The roadmap, provided to each district, broke down their goal attainment into small, implementation projects with timelines, resource requirements, and budget considerations outlined for each project.

While the executive teams from both districts have committed to implementing the projects described in their reports, time and resource limitations are a challenge. As a result, both districts have leveraged the IBM-K-12 Security Team to lead them through the completion of the first few projects. These initial projects are focused on establishing governance structures and processes, aligning policies and administrative procedures with their security goals, establishing metrics and key performance indicators to measure success, as well as taking steps toward the development of a district-wide culture of awareness.

While cybersecurity breaches may not be entirely avoidable, these leading BC school districts have taken very significant steps to raise their security postures.

By framing security management systems around proven core best practices and establishing an effective governance structure, these districts are now well-positioned to map security initiatives to their strategic vision and goals.

“What was very important for our district to get a clear understanding of where we were with respect to IT security and where we needed to be in the near future”.

Jon Rever, Assistant Superintendent Central Okanagan School District

“‘The most valuable part of the IBM report was the detailed roadmap for attaining our target security levels.’”

Ray Velestuk, CFO/Secretary-Treasurer Abbotsford School District

“As a school district, we are focused on developing innovative learning environments that are enhanced using technologies that deepen learning. Implementing a district-wide Privacy and Security Framework based on IBM’s 10 Essential Practices is critical to keeping our staff and students safe and protecting them from cyber-attacks and privacy breaches, allowing everyone to stay focused on learning.”

Jon Rever, Assistant Superintendent Central Okanagan School District

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How Cybersecure is your Staff?
Today’s cyber threats are evolving at an unbelievable rate. The number of reported data breaches and security incidents increases each year, with 30% of those incidents related to human error as a contributing factor. For school districts, the lack of security awareness is the largest gap we have found in our 10 Essential Practices for Security Assessment. Unfortunately, most district personnel still believe the responsibility for security lies solely with the IT department. Creating a Risk-Aware Culture
It’s clear that as part of your security strategy, you need to develop a security awareness program. This promotes a risk-aware culture and changes staff behaviors at all levels, so that they are more mindful of security as they use technology and work with data. The culture change is founded on the premise that security belongs to everyone. Every staff member plays an important role in keeping your data safe.

IBM K-12 Education has partnered with Wombat Security, a leader in Cybersecurity Awareness Training. Together we offer a comprehensive security awareness managed service that allows districts to address the “human-side” of security vulnerabilities and remediate them before they are exploited.

The solution allows districts to:
1. assess staff to detect where weaknesses exist by a combination of knowledge assessments and simulated attacks
2. educate staff through interactive training modules to remediate those vulnerabilities
3. reinforce and maintain that security posture on an ongoing basis by reminding staff of what they learned through security awareness materials
4. measure progress to demonstrate reduced risk and validate the effectiveness of the security awareness program.

The managed service includes licenses for staff to access the cloud-based Wombat security education platform, as well as related K-12 services that include:
- deployment planning
- customization of the training modules with district preferences and branding requirements
- management of training modules, simulated attacks and knowledge assessments
- communication plan for staff
- reporting.

Districts are recognizing that all staff contribute to the security of their systems and are taking steps to ensure that strong cybersecurity awareness becomes the reality in practice and in culture.

How it works
The DDSB is already in the midst of distributing 10,000 Chromebooks to older students on a one-to-one basis, with a goal of every Grade 7 and 10 student in the board receiving one by the end of this school year. Starting this month, carts of six Chromebooks will be provided to about one third of the DDSB’s Grade 2 to 6 classrooms.

Amanda Paterson, education officer for technology, media and libraries with the DDSB, says younger students often use the technology for things like group work or like digital storytelling — creating slideshows, comic strips or puppet shows.

A new school board report says 10 years ago, DDSB elementary schools typically had four desktop computers and one printer in each classroom — the computers were used for “a fraction of the day.” That was followed by a move to computer labs or carts of laptops for classes to share.

The report says these setups aren’t ideal, because use of technology becomes “an event,” as opposed to part of everyday learning. Paterson notes younger students don’t necessarily need their own Chromebook to carry throughout the day or take home — but says it’s important to have them easily accessible in the classroom.

“Whenever it makes sense to support the learning, the devices are there and ready,” she says.

The report says the cost of a computer lab with 29 desktop computers is equivalent to the cost of about 90 Chromebooks. The DDSB is also piloting use of “mifi” devices for classes to share.

Paterson explains that their use in the classroom is equivalent to an Internet hot spot you can sign out and take home, “It’s an Internet hot-spot you can sign out and take home,” Paterson explains.

Durham school board rolls out new tech including ‘mifi’ devices for students without internet at home
About one third of the DDSB’s Grade 2 to 6 classrooms are getting carts of Chromebooks.

The Durham District School Board is continuing a major rollout of new technology this fall, with plans to make Chromebook laptops part of everyday learning for kids as young as Grade 2, and pilot the use of “mifi” devices for students who don’t have Internet at home.

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**IBM Canada K-12 Education**

**Your team for educational solutions**

If you have suggestions or comments about this newsletter, please send an email to Anne Saftich, IBM K-12 Chief Educational Officer, at asaftich@ca.ibm.com.

We look forward to hearing from you!

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### Table: Territory, Client Manager, Inside Sales Support Representative

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<thead>
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